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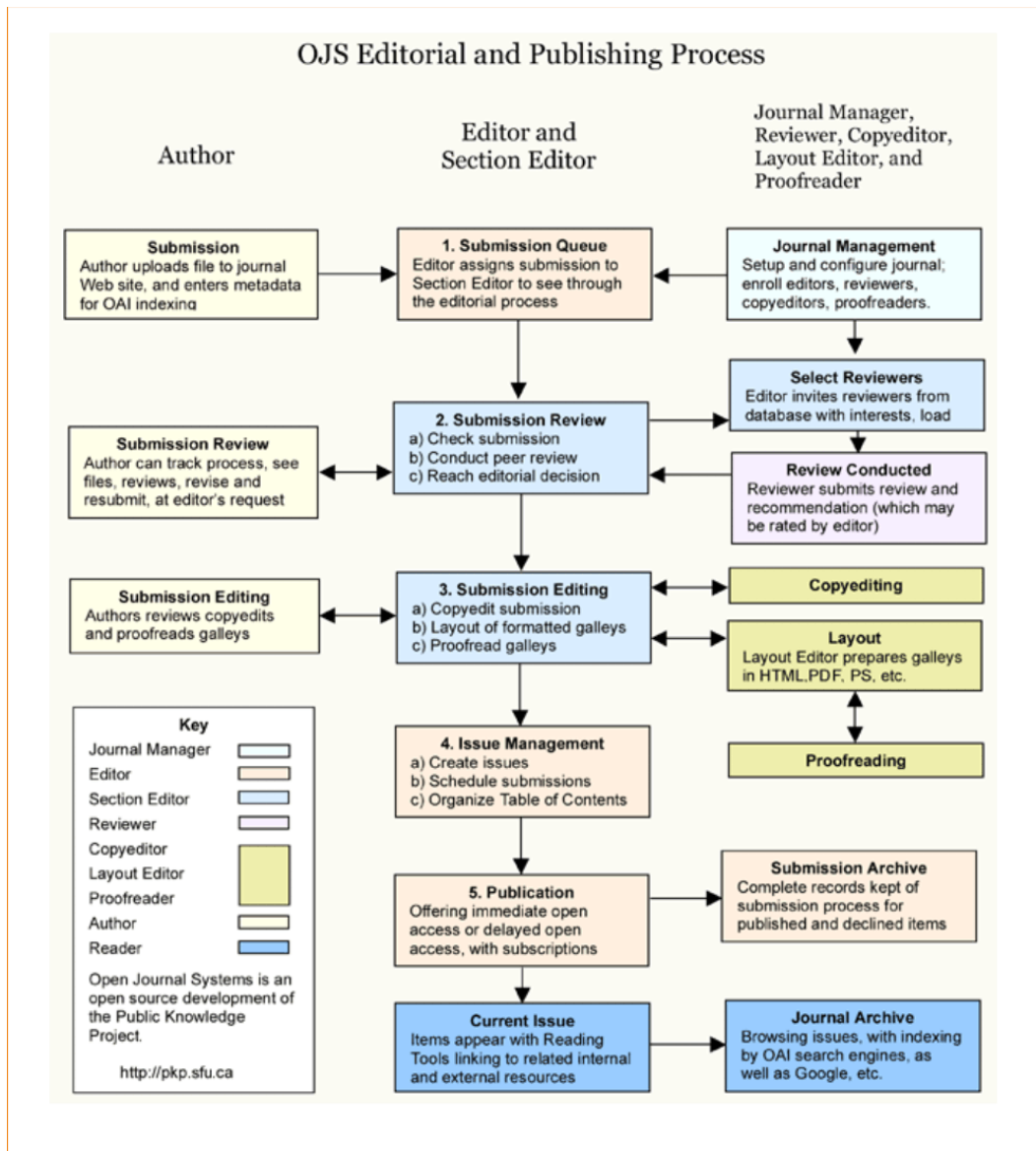
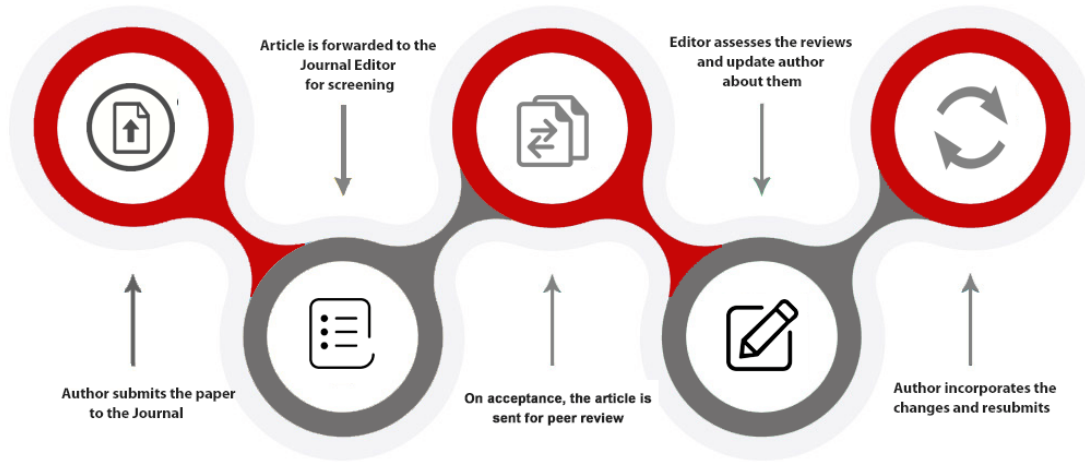
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# Micro Franchising: A Business Approach to Increasing Self Employment & Fighting Poverty in South Africa

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## ABSTRACT

**Purpose:** This study aims to investigate how microfranchising can be used as a tool for increasing self-employment and to fight poverty in Thohoyandou.

**Design/methodology/approach:** A qualitative research approach was employed with a sample of eight participants that comprised microfranchise businesses in Thohoyandou. The convenience sampling technique was adopted to select the participants. Primary data was gathered through in-depth interviews using a structured interview guide.

**Findings:** The study's findings established that microfranchising tools such as business in a box, comprehensive training, employment creation, good marketing mix, improved asset base, improved standard of living, increased economic growth and market gap help reduce social ills.

**Practical implications:** The research managed to unravel the strategies that can be adopted to enhance microfranchising in increasing self-employment and alleviating poverty.

**Originality/value:** There are limited studies on microfranchising in South Africa.

**Paper type:** Research Paper

**Keyword:** *Microfranchising, self-employment and poverty alleviation*

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## I. INTRODUCTION

This study focuses on microfranchising as a business approach to fighting poverty in Thohoyandou, Limpopo Province, South Africa. Larsen, Hannibal, and Evers (2022) define microfranchising as a tool that provides the same basic concepts of franchising, which is traditional franchising, but mostly focuses on providing employment for low-income individuals who cannot afford to operate their business through traditional franchising business. Microfranchising is a reproduction of traditional franchising, wherein the franchisor sells their business concept, trademark, brand license and operational system to the microfranchisee (Lartego & Mathiassen, 2020). A study by Erceg and Kukec (2017) describes microfranchising as a business tool and a business model that uses the methods tested of traditional franchising toward small and medium businesses to empower low-income individuals.

According to Naatu and Alon (2019), microfranchising is the type of franchising whose objective is not to profit but to promote microentrepreneurs and support microenterprises that can be adopted, managed, and afforded by those individuals who are not affording the traditional franchise. Similarly, Camenzuli and McKague (2015) define microfranchising as a small business that is tested and can be managed by low-income entrepreneurs supported by microfranchisors. Erceg and Kukec (2020) indicate that microfranchising is an approach used to ensure that poor people reduce the poverty they are currently living in and enable them to operate their businesses.

This was also supported by Webb and Fairbourne (2016), who argue that microfranchising provides support to individuals that have limited access to education, funds, and facilities.

Poverty is not being able to meet basic needs (Li, Di, Zhang, Guo & Li, 2021). Wu and Si (2018) define poverty as lack of basic resources, food, shelter, and clothing and not engaging enough in social activities. Bednar and Reames (2020) supported the notion by arguing that poverty is when a person lacks the financial and basic resources to live a normal life. Blinder and Gany (2020) state that employment refers to the state of having a job that one is getting paid for, and they also benefit from health care amenities. In this study poverty was indicated to be the main reason behind microfranchisees operating their businesses through microfranchising. Entrepreneurship is developing business ideas, starting up a business and the willingness to take risks that comes with starting a new business (Doern, Williams & Vorley, 2019). Gaddefors, Anderson and Alistar (2017) define entrepreneurship as creating economic value by taking the risk of starting a new business with the hope of making enough profit and expansion.

In India, microfranchising is used to help underprivileged societies improve their living standards and create employment (Hassan & Rom, 2019). In Assam, which is the largest poor rural state in India, wherein microentrepreneurs are facing challenges such as wireless internet, lack of banking services, and travelling long distances to get access to bank services, microfranchising provides these microentrepreneurs with an opportunity for training and support of a microfranchisee (Agnohotri & Bhacharya, 2020). The two authors further explain that over 45 000 women in India sell Hindusta lever's soap and shampoo as a microfranchising business to improve their entrepreneurial skills and create employment. In Sub-Saharan Africa (SSA), microfranchising is used to alleviate poverty through an inclusive business approach (Awuh & Dekker, 2020). Agnohotri and Bhacharya (2020) reported many unforeseen circumstances by entrepreneurs in small businesses, such as lack of training, support, and capital; as a result, entrepreneurs turn to microfranchising businesses because it provides employment opportunities that come with less risks. In Ghana, microfranchising was introduced in urban and rural areas to decrease the cost of living and reduce poverty (Awuh & Dekker, 2020). Street vendors in Ghana use a microfranchising business approach to sell fruits and vegetables to generate income and reduce poverty.

In the South African context, there is a higher unemployment rate, poverty, and lack of skills. Many people are living hand-to-mouth to survive, making micro-entrepreneurship their only survival option and providing for their families (Shumba & Nkondo, 2020). Microentrepreneurs in the agricultural sector are the leading microenterprises in the economy and provide employment. The low-income level societies in South Africa are involved in micro-businesses such as barber shops, garbage collectors, waste recyclers and vendors selling fruits and vegetables. Microentrepreneurs in South Africa are also involved in microenterprises, such as selling clothes. They sew or purchase them from international businesses such as Shein and Alibaba for resell to the communities to make a living and reduce poverty. Limpopo has small-scale entrepreneurs engaged in farming, providing street vendors with fruits and vegetables. Furthermore, in the Limpopo Province, microfranchisee businesses are operated through Tupperware, Avon, POSTNET, and Justin.

Authors such as Sutter, Bruton and Chen (2019) have researched microfranchising, focusing on microfranchising as an approach to reducing poverty. However, their studies are limited amongst developing countries as they do not investigate conditions in underdeveloped countries and how microfranchising can assist in reducing poverty and creating employment. However, they did not specify whether the approach is applicable in under-developed countries such as South Africa. Studies focusing on well-known franchises have been conducted in South Africa and the Middle East regions (Bruton, Sutter and Lenz, 2021). Authors such as Bretas and Alon (2021) conducted their study in and around the Urban areas of Accra, Ghana, which introduces microfranchising as a business model suitable to assist low-income individuals in overcoming barriers that hinder them from getting employment. Naatu, Alon and Uwamahoro (2022) undertook a study investigating the reason behind the failure of microfranchises in Rwanda. Microfranchising has taken momentum, but most of these studies have not focused on microfranchising as an instrument for fighting poverty; hence there is still paucity within the board of knowledge to understand microfranchising and poverty reduction.

### **A. Problem Statement**

There is still a gap on whether microfranchising can be used as a tool to fight poverty. Previous studies have investigated microfranchising; however, these studies did not specifically focus on microfranchising as an instrument for fighting poverty. The study conducted by Anuar and Chin (2016) explores the development of a capital structure model in microfranchising from a Malaysian point of view. Sireau (2017) conducted a microfranchising study investigating how social entrepreneurs are building new paths to growth. Rogers, Fairbourne and Wolcott (2017) explore microfranchising and the factors that characterize programmes of different studies. There is a dearth within the board of knowledge regarding microfranchising as a tool for fighting poverty, at least within rural areas like Thohoyandou in Limpopo Province. It is against this background that this study focuses on investigating the way microfranchising is being used to increase self-employment and fight poverty.

## II. METHODS

The study followed the phenomenological philosophical paradigm to gain a deeper understanding of the complexity of the extent of microfranchising in increasing self-employment and alleviating poverty in South Africa. The phenomenological paradigm of the study was concerned with how microfranchise entrepreneurs made sense of the business world around them and how in particular, the philosopher should bracket out preconceptions in his own engagement with that world (Bryman & Bell, 2015). The interpretivist research paradigm was chosen for this study because it enabled the researcher to understand the socially constructed meanings of the respondents from the respondents themselves. Through the in-depth face-to-face interviews, the shared experiences of the microfranchisees in the Limpopo province were unearthed. The phenomenological paradigm guided the researcher to understand the multiple realities of the respondents in their natural context. This gave rise to new and unique ideas from the respondents. In addition, the phenomenological paradigm was used for this study, mainly due to the novelty of the research topic in South Africa. Hence, the researchers felt that a qualitative approach would be appropriate to test for detailed levels of understanding – an approach which would make way for other strategies for the study. The study followed an explorative research design. Judgment purposive sampling was used to select the microfranchise entrepreneurs for this study from Thohoyandou, Limpopo province. The qualitative collected data was analysed using the Atlas ti version 8 software. The software is ideal for coding and categorising data into themes in a systematic way.

## III. RESULTS AND DISCUSSION

During data analysis, ten codes were discovered from the gathered data. The codes identified are business in a box, comprehensive training, employment creation, good marketing mix, improved asset base, improved standard of living, economic growth, market gap, reduction of social ills, and standardisation.

### 1. Business in a box

The results of this study have shown that business in a box is one of the microfranchising tools used to alleviate poverty and improve the standard of living of people in society. This was evidenced by the views of participants 1, 2, 3 and 6 shown in the following excerpts.

*"We do not decide the selling price for ourselves, because we have a brochure that shows the pricing of all the products for customers but when we buy, they give us a discount and it's written on the invoice that for roll-ons we must charge this much. Sometimes one can decide on their own but it's wrong."* Participant 2

Based on the above evidence, the participants indicated they receive assistance from the microfranchisor through training, containers to accommodate their businesses from Coca-Cola, machines for gas from NYDA, and the systems and procedures they should follow. Through this business in a box, entrepreneurs are able to run their businesses effectively. Hence business in the box is imperative towards poverty alleviation.

### 2. Comprehensive training

Comprehensive training is another microfranchising tool towards the alleviation or reduction of poverty.

*"The training that I received I got it from their factory in Shayandima and it took 3 months. They train you on how to recruit people and how to get a car after you have made so many sales and how to get free gifts. The main purpose bind training is to learn how to recruit because the more you recruit the more you improve."* Participant 7

From the gathered data, it was evidenced that the microfranchisees received training that enabled them to increase the economic sustainability of their businesses.

### 3. Employment creation

The collected data revealed that employment creation stemmed as one of the microfranchising tools utilized to alleviate poverty.

*"So, the motive to me was that there are no jobs outside, and poverty is always surrounding us so I decided that I should start something. I realized that I was going to earn something from the students then I decided to start this business. The main personal reason was because of poverty and lack of employment because even now I am a graduate, and I am not even employed anywhere. I applied for jobs with no luck. Our parents tell us to go to school and study so that we can get qualifications and then get jobs but there is no such so that's why decided that I have to stand up on my own. I started this business to create employment. Now I employ many people including students and community members.it means that I created job opportunities for other people not only for myself."* Participant 1

The above quotes showed that microfranchising created employment for microfranchisees, as many indicated that they were unemployed when they started to operate their business through microfranchising. Most participants indicated that they now have employment and an income. The main reason behind microfranchising was to create employment, providing opportunities for low-income microfranchisees to operate their businesses.

#### **4. Good marketing mix**

The good marketing mix was identified as a microfranchising tool for alleviating poverty. Participant 3 noted that:

*“They help us to advertise nationally as you know that POSTNET has a very big footprint in South Africa, so they make sure that the brand, products and services are known all over the country. They also assist us to access soft loans in case they want to invest. They help us through business development and also identify locations where possible businesses can be established.”* Participant 3

The results from the study showed that the microfranchisors assist the microfranchisees with regard to advertising, promotions, and reasonable pricing to attract customers and give them financial support. The data collected indicated that microfranchisors put in place good marketing strategies for microfranchises to attract clients. A good marketing mix comprises the price, the product components, and the promotion to ensure that the customers know the products and services.

#### **5. Improved asset base**

The study established that an improved asset base is one of the microfranchising tools to alleviate poverty. This was evidenced from the following extract.

*“So far, I have built myself 13 rooms at home and I have 6 children and each of them has their own room. These 13 roomed houses has bathrooms and sewage and I was also able to buy a car.”* Participant 6

From the above remarks, it can be observed that microfranchising is a tool to alleviate poverty. It was evident that it helps the microentrepreneurs to increase their asset base by buying houses and cars.

#### **6. Improved standard of living**

The study identified that an improved standard of living is being experienced through microfranchising as a result of poverty reduction.

*“I have managed to acquire asserts such a housing and a vehicle because of this business. I used to depend on the government grant but now I am self-sufficient.”* Participant 2

*“I help them to have income generating activities which also satisfy the community needs. We do courier stuff to different parts of the country at a lower cost. Cheaper prices enable customers to save thus helping them to improve their lives.”* Participant 3

The above extracts show that microfranchising is a tool to alleviate poverty because microfranchisees improved their lives and people in the community. The participants explained many things they did not have before they started operating their businesses. Through microfranchising, they now have cars, houses, and a reliable income.

#### **7. Increase in economic growth**

Another microfranchising tool that is used to alleviate poverty that stemmed out of the study is economic growth. Participants 1 and 3 confirmed this through the following sentiments.

*“I also have an accountant who is working for me, I send the bank statements every month for him to ensure that at SARS I am doing well.”* Participant 1

*“Once you open up a business it is for profit. Once you make profit you are able to invest in other businesses so that you are able to grow your wealth.”* Participant 3

The above sentiments confirm that microfranchising is a tool to alleviate poverty because it enhances economic growth. It helps people to get employment, improves the asset base, and increases the sustainability of new businesses.

#### **8. Market gap**

A market gap emerged as a microfranchising tool for alleviating poverty. This is confirmed by the following remarks.

*“I decided to go for a microfranchise instead of opening my own business because the brand of POSTNET was good and very attractive. It offers services that are needed by the community. POSTNET helps to identify places where you can open up a business. This helps to cut down some costs for one to open up a business and succeed. They also assist in establishing capital; all these things attract you into buying a microfranchise.”* Participant 3

Considering the remarks captured above it is evident that there was a gap in the market which microfranchisees filled to alleviate poverty; through this market gap, microfranchisees created employment through POSTNET, Tupperware, Avon, and fast-food restaurants.

### **9. Reduction of social ills**

The study established that microfranchising leads to the reduction of social ills.

*"We can see the importance of fighting poverty because it improves our lives. Work helps people distance themselves from bad activities such committing crimes, robbing people and drug abuse."* Participant 1

*"This business has improved a lot of lives in the community. I am seeing many people having cars and a source income. Some women found employment and now they have source of income."* Participant 7

The above sentiments revealed that because of microfranchising, there had been a reduction in social ills. People became employed and now have an income. People will shy away from crime and other social ills in the communities when employed.

### **10. Standardization**

According to the study results, standardization was identified as one of the tools of microfranchising that can help alleviate poverty. These sentiments are revealed by participants 2, 4, 5, 6, 7 and 9, who argued that:

*"We order the stock online and deliver for us at Pep store or direct. We order online using G13 and SMS ordering and they deliver the products in a box through courier."* Participant 2

*"I buy my stock at the factory in Polokwane. When you buy from the factory, you get a 27% off discount. It does not matter how much stock you bought, even if it is for R50, you get a 27% discount, but you should have joined and had a buying code."* Participant 4

Considering the above extracts, it has been demonstrated that microfranchisees follow the basic franchising concepts and operate under standardized procedures. They indicated that they buy their products online, and the prices of their products and services come from the microfranchisor as they are provided with a brochure with the list of products and their prices that they should implement. The microfranchisor provides them with suggestions on what products to buy and recommends suppliers.

This study found that business in a box is one tool used in microfranchising to increase self-employment and alleviate poverty. These findings corroborate with Sireau (2017), who alluded that a microfranchise can be in the form of a business in a box that provides similar marketing management and operational tools to the traditional franchise, but with microfranchise, it is affordable. Due to this, microfranchisees can start and operate a successful business as they must follow approved procedures and systems put in place and sell their products and services. The collected data revealed comprehensive training as a microfranchising tool for alleviating poverty. According to Naatu and Alon (2019), microfranchisors train microfranchisees to reduce the risks associated with starting a new business from scratch. These findings are in line with List (2017), who is of the view that microfranchisees gain training that is provided by the microfranchisors when they open microfranchises. The microfranchisor assists the microfranchisee with a starting capital, marketing of the products or service rendered, and operational systems and procedures to establish an effective microfranchise. The study findings established employment creation as a microfranchising tool to reduce poverty. This finding correlates with Kent and Dacin (2013) that microfranchising provides better opportunities for job creation and improved business models. In support of employment creation through microfranchising, Alarifii, Robson & Kromidha (2019) stated that the development of microfranchising is well known to be an effective way to convert microenterprises in the informal sector to be under the formal sector and legalized. Because of these microfranchises, low-income individuals are able to get employment and a source of income, thus alleviating poverty. Microfranchises create more jobs than traditional microenterprises in size (Badley & Artz, 2012). A good marketing mix is another concept identified in the study's findings that is used as a microfranchising tool to reduce poverty. These findings contradict Obisanya (2021), who believes that marketing mix is regarded as one of the challenges microfranchisees face in their businesses. Microfranchising presents microfranchisees with a good marketing mix. The microfranchisor is liable for providing operational tools that include marketing and advertising, making it easier for the microfranchisees to be known and operate effectively and reach the relevant customer base. The study's findings correlate with Shumba (2020), who argues that a good marketing mix is one of the reasons microfranchisees choose to operate their business through microfranchising.

According to the study's findings, an improved asset base is one of the microfranchising tools utilized to alleviate poverty. This correlates with Merz, Friedland and De Louw (2010)'s view that when businesspeople make a profit, they have created wealth for themselves, leading to owning more property. Shumba (2020) agrees with the findings when he posits that they will gain more assets when microfranchisees continue to run their microfranchises effectively. From the study's findings, an improved standard of living is one of the microfranchising tools used to alleviate poverty. The study's findings corroborate with Shumba (2020) that microfranchisees are determined to reduce poverty through employment creation and increase the

microfranchisees' potential. These findings are also supported by Gupta, Chauhan, Paul & Jaiswal (2020), who stated that the microfranchises business model should be used as it is a reproduction of the business systems implemented in the BoP. The study found that increased economic growth is one of the microfranchising tools used to alleviate poverty. These findings align with Sutter, Bruton and Chen (2019) that for microfranchises to survive and generate income and resources, they must focus on economic growth and the goal of alleviating poverty. Microentrepreneurs engaging in microfranchising should get adequate education and training to enhance their chances of contributing to economic growth (Awuh & Dekker, 2020).

The study revealed that finding a market gap can be used to alleviate poverty. These findings are supported by Geissodoerfer, Savaget and Bocken (2017), who believe that a huge market gap is unexploited in the BoP market. Microenterprises must take advantage of this by reorganizing their form of delivering products or services by providing cheap products or services to the market to be able to cater for low-income individuals. The study proffered the reduction of social ills as one of the microfranchising methods of reducing poverty. These findings correlate with Awuh & Dekker (2020), who argue that through the team microfranchise approach, there is a possibility of reduced theft, harassment, and assault, which hinders people from taking up opportunities of operating businesses through the new microfranchising. The collected data showed standardization as one of the microfranchising tools used to alleviate poverty. Shumba (2020) supports this notion when he argues that microfranchisees must maintain certain standards of the microfranchises, as some microfranchisors insist. These will ensure that microfranchises are operated in accordance with the standards and rules of a microfranchise business model.

#### IV. CONCLUSION

The study concludes that the microfranchising tools used to increase self-employment and alleviate poverty in Thohoyandou are business in a box, comprehensive training, employment creation, good marketing mix, improved asset base, improved standard of living, economic growth, market gap, reduction of social ills and standardization. It was noted that microfranchisees received assistance from microfranchisor in terms of training and operational resources. The study also stressed that microfranchisees created employment for themselves and people in the communities. This eventually allows microfranchisees and people in the communities to reduce poverty as they get some income. A good marketing mix is another microfranchising tool established in the study since microfranchisors provide microfranchisees with advertising, promotions, and reasonable prices to attract customers and assist them with financial support.

The study recommends that the government must offer financial support to the microfranchisees and prioritize microfranchising as a business model that increase self-employment and alleviates poverty. Financial and business training must continuously be given to the microfranchisees to sustain and grow their businesses. Furthermore, policymakers should create an enabling policy framework that fosters these enterprises' growth and sustainability.

The study's limitation is that the research was conducted in Thohoyandou, which means the findings may not be generalized in other towns, municipalities, or provinces beyond Thohoyandou. However, some conclusions may be derived, albeit with caution. This research was a qualitative one hence, a smaller sample was used. The researcher recommends that similar research can be done in other areas outside Thohoyandou to establish any similarities or differences in the conclusions. A quantitative study is also advised to understand the research subject comprehensively.

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# Adoption of Target Costing in South African Higher Education: Factors, Challenges, and Strategic Implications

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## ABSTRACT

**Purpose:** This study explores the factors influencing the adoption of target costing by higher education institutions in South Africa, along with the potential implications for pricing strategies.

**Design/methodology/approach:** Conducted at a selected South African HEI, the research adopts a quantitative approach, utilizing both closed-ended and open-ended questions in a questionnaire survey targeting 52 heads of departments and 15 finance staff members.

**Findings:** The findings reveal that institution size, data management system adequacy, staff collaboration, support, resource availability, lack of expertise, and sector competition significantly impact the delay and rejection of target costing adoption. This study enriches the existing body of knowledge by identifying barriers to the successful implementation of target costing in higher education, suggesting ways for its advanced application in the sector and beyond.

**Practical implications:** This research contributes valuable insights for improving cost management and pricing strategies within HEIs, offering implications for policy and decision-making in the education sector.

**Paper type:** Research Paper

**Keyword:** *Target Costing, Higher Education Institutions, Cost Management Strategies, Pricing Strategies*

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## I. INTRODUCTION

The global higher education sector, including South Africa, has undergone significant evolution and adaptation to keep pace with changing influences. Nevertheless, the HEI sector has been trying to adapt to changing business activities (Africanews 2023). Currently, South Africa's Higher Education Institutions (HEIs) face mounting challenges such as increasing operational costs, diminished government grants, and student protests demanding lower fees (Deshpande 2018). Gap in government funding has made it challenging for HEIs to offer quality education while keeping operating costs low. The traditional method where costs are simply generalized has dominated for many decades and still holds sway in the market, but it has failed to plan, develop, and manage costs (Kocakülâh and Austill 2006). Target costing is viewed as a strategic pricing method for cost management (Bendlin 2017). Target costing provides a better alternative by beginning with the market price and target returns to determine service costs (Bendlin 2017). This is essential for HEIs as they strive to maintain their costs to reduce fees and achieve expected profit returns (Deshpande 2018). However, there is limited literature on the adoption of target costing in the education sector, especially in South Africa. Target costing is a helpful management accounting tool used to comprehensively manage prime costs in service development and maximize profits (Sharafoddin 2016). Many studies have been conducted on the adoption of target costing, with a focus on the manufacturing sector, particularly the automotive industry. However, there is little research on the adoption of target costing in HEIs (Tang 2015).

This study aims to bridge this gap in the literature by investigating the factors that influence the adoption of target costing by HEIs in South Africa. The study seeks to provide insights into how target costing can be

effectively implemented to manage costs and improve the affordability of higher education in South Africa. The study employs contingency theory as its theoretical framework. This theory suggests that there is no one best way to organize or manage an organization, and that the most effective approach depends on the specific circumstances of the organization. In the case of HEIs in South Africa, the adoption of target costing depends on various factors, such as the size of the institution, its funding model, and the political and economic context in which it operates (Helms, Ettkin, and Baxter 2005). By taking these contingencies into account, the study offers a more nuanced understanding of the factors that influence the adoption of target costing in the higher education sector.

**A. Literature review**

Several studies have been conducted to explore the factors that impact the public universities operations. Nevertheless, the results of these studies exhibit disparities. HEIs have faced budget management challenges due to the reduction in the availability of public funds (Africanews 2023; Naidoo and Wu 2011). There has been a significant decrease in the allocation of funds to public HEIs, caused by the recent global economic crisis. As a result, public HEIs have advocated for internally generated revenue and full cost fees to students (Naidoo and Wu, 2011; Onuoha 2013). This is an alternative means of raising funds for HEIs to achieve balanced planning on revenue and costs for sustainability (Onuoha, 2013). Therefore, HEIs must apply cost management tools to reduce their costs. Target costing is a cost management tool known for cutting down costs and should be adopted. Bendlin (2017) investigated the use of target costing in universities and provided evidence that target costing can significantly reduce operating costs. This was tested by accounting for general and administrative expenses with target costing to evaluate the outcome. The study also showed that universities that implement cost goal specificity (target costs) will have more cost savings and improved financial performance, which can minimize the burden of student fees (Bendlin 2017).

Target costing is a concept that originated in Japan, and it is derived from the term "Genka Kikaku," which means "costs planning." Prior studies have shown that target costing is a cost management tool used for cost planning and projection (Kostrzewa-Nowak and Gos, 2022; Lima, da Silveira, da Silva, and Ching 2016). This pricing system provides firms with a plan to manage potential profits. It incorporates strategic variables to plan how to satisfy consumers, gain market share, generate profits, and manage coordinate costs simultaneously (Hibbets, Albright, and Funk 2003). Most importantly, several organizations still consider target costing as a cost management tool with the goal of managing costs and accessing additional profits (Piercy, Cravens, and Lane 2010). Target costing involves comprehensive cost planning, cost management, and a process to reduce costs, motivated by service planning choices. Its ultimate focus is to establish cost-cutting through extensive cost planning. Target costing is important in preparing management to plan for future costs and implications. This establishes a state of readiness for cost-cutting by management at the cost-planning stage (Jayeola and Onou 2014). Unlike the traditional method, where the existing costs of the products are used to determine the sales price, target costing starts with managing the sales prices. This means that in the traditional method, if the price is not accepted in a market, it must be reworked through efficiency opportunities and cost reduction. Target costing offers an alternative by reverse working from the sales price and profit to determine the targeted costs (Pajrok 2014). Briciu and Capusneanu (2013) add that target costing determines the cost of production and simultaneously manages the costs. Moreover, it is market-oriented and encourages cost competition.

Target costing is a management accounting technique that helps ensure a product yields a profit through strategic planning. It is a tool used to manage product costs throughout its life cycle (Cooper and Slugmulder 1999). Target costing takes into account customer value and willingness to pay the price, and is proactive in managing costs for the entirety of the product life cycle (Marimuthu, du Toit, Jodwana, Mungal, du Plesis and Panicker 2015). This method allows firms to select low-cost activities and eliminate non-profit yielding costs. This leads to improved efficiency through a culture of collaboration amongst departments and enhanced management levels (Yazdifar and Askarany 2012). Target costing is capable of meeting customer needs while managing costs (Jalae 2012). Table 1 shows the process of the establishment phase of target costing in an organization.

*Table 1: Target costing adoption process*

<i>STEPS</i>	<i>PROCESS</i>
<i>Step 1</i>	<i>Conduct market research</i> <i>Competitor analysis</i>

<i>Step 2</i>	<i>Determine customer interest</i>
<i>Step 3</i>	<i>Overlook customer requirements</i>
<i>Step 4</i>	<i>Define customer product features</i>
<i>Step 5</i>	<i>Determine the market price</i>
	<i>Determine the required profit</i>

Source: Authors (Cooper and Slagmulder 1999; Paschia 2016)

The factors influencing the adoption of target costing can be attributable into organizational factors, individual factors, and external factors (Hammami et al. 2019; Sarokolaei and Rahimipoor 2013; Goncalves et al. 2018; Mendes and Machado 2012; Reen et al. 2017; Alwadan et al. 2018).

Organizational factors include the size of the business, management style of leadership and staff inclusion, information system and technological advancement, vertical differentiation and centralisation, formal accounting support for target costing, and resource adequacy for implementation of target costing. When designing management accounting systems, a firm's size is an important consideration (Joshi 2001). Larger firms tend to use both traditional and new management accounting techniques more often than smaller firms (Joshi 2001). Studies have shown a correlation between firm size and the adoption of modern accounting practices such as target costing (Drury 2012). However, the effect of firm size on the adoption of target costing is not always clear and may vary. Some studies have found that larger firms are more likely to adopt target costing due to their production capacity and available resources (Hammami et al. 2019 and Joshi 2001). But, others have found no significant relationship between firm size and the adoption of target costing (Rattray et al. 2007). Therefore, firms should evaluate their production capacity before deciding on a suitable cost management tool.

According to Piercy, Cravens, and Lane (2010), pricing decisions were previously limited to junior marketing and finance personnel, as well as salespeople who negotiated with customers. Tang (2015) notes that top management support is crucial for the adoption of target costing, but pricing decisions have received less attention. Target costing requires the participation of all staff and departments, so the firm must have high-quality management, a flat organizational structure, advanced information systems, and leadership with strong skills (Weiyi and Luming 2009). The implementation of target costing can fail due to poor teamwork among stakeholders (Sarokolaei and Rahimipoor 2013).

Target costing is a technique that involves analyzing potential cost-saving ideas during the development of a new product. It is important to have a robust information system and technological advancement during the design phase, where up to 80% to 95% of a product's costs are committed (Helms et al. 2005). Clear analysis and understanding of a corporation's technology and organization are also necessary for effective target costing. Enhanced technological innovation can ease the amount of work required to create quality and cost savings, making target costing relevant when used in conjunction with technological innovation to manage product costs (Okpala 2016). The adoption of target costing intensifies as technology becomes more advanced, indicating a positive relationship between target costing adoption and technological advancement (Goncalves et al. 2018). However, Rasit and Ismael (2017) found an insignificant relationship between the adoption of target costing and technological advancement.

Vertical differentiation refers to the allocation of decision-making responsibilities within the organizational structure, which can either be centralized or decentralized. The emphasis of vertical differentiation is on the extent to which sub-unit managers function as quasi-entrepreneurs, while integration refers to the degree to which sub-units act in accordance with organizational goals (Abusalama 2008). It is important to note that the key factors for the effective implementation of target costing are management support, alignment of profit planning, and cross-functional teamwork.

The accounting department also needs adequate support since the adoption of target costing requires their intensive involvement in these teams. The entire process makes these teams responsible for accelerating the integrity of the product from conception to the finished product (Mendes and Machado 2012). Firms tend to give the least support or focus to the accounting department, which offers the lowest involvement in the adoption of target costing (Dekker and Smidt 2003). However, Rattray et al. (2007) measured the extent of involvement of the accounting department in target costing adoption and found a mean frequency involvement of 3.42 on a scale of 1 to 5, with 1 being not at all involved and 5 being very much involved.

Researchers have suggested that organizations require adequate internal resources to effectively implement and execute target costing (Nassar, Al-Khadash, Sangster, and Mah'd 2013). Large corporations are particularly well-positioned to adopt management accounting techniques like target costing, as they have the necessary resources and find them useful for their operations (Hamood et al. 2013). Cost management innovations are often embraced by larger companies, given their complex and varied facilities (Smith, Abdullah, and Razak 2008). Al-Qady and El-Helbawy (2016) suggest that resource management is essential for management decision-making on cost management plans to achieve target costing.

Target costing adoption may face individual factors such as lack of education and expertise, job security fears, and unclear organizational goals (Reen et al. 2017; Motuba et al. 2016; Weiyi and Luming 2009). While some argue that target costing is easy to use through continuous communication (Briciu and Capusneanu 2013), others suggest that cost-cutting may pose a real threat to employees (Briciu and Capusneanu 2013; Alwadan, Alsinglawi, and Alhawattmeh 2018). To overcome these challenges, organizations can train employees and remove threats of job loss (Briciu and Capusneanu 2013). Clear management goals are also essential for effective implementation (Hamood et al. 2013), and staff must have access to useful information and be motivated to meet target costs (Mendes and Machado 2012). Target costing can contribute effectively to an entity's financial efficiency and is crucial in meeting the firm's goals, including cost reduction, customer satisfaction, quality, and timeliness of new products (Dekker and Smidt 2003: 296; Keay 2008).

External factors affecting the adoption of target costing include competition intensity and government regulations (Hibbets et al. 2003; Drury 2012; Alwadan et al. 2018). Target costing is useful in highly competitive environments where minimizing costs can give firms an advantage (Hamood et al. 2013). Studies have shown a positive relationship between the adoption of target costing and competition intensity (Khandwalla 1972; Ax et al. 2008). Government policies such as market price controls can also impact cost management, with interventions on price controls potentially affecting market prices (Mohr 2015; Harrington 1984). While the literature on the adoption of target costing in HEIs is limited, this study provides valuable insights into the factors that influence the adoption of target costing.

Based on the review of prior findings, the following hypotheses were proposed:

H1: There are no significant differences in the agreement levels of the respondents with regards to the factors influencing the implementation of target costing.

H2: There are no significant differences in the agreement levels of the respondents with regards to the factors delaying the adoption of target costing.

H3: There are no significant differences in the agreement levels of the respondents with regards to the factors resulting in the rejection of target costing.

The aforementioned hypotheses were assessed using the methodology which follows.

## II. METHODS

The study was conducted from a selected South African HEI employing a quantitative research approach, utilizing closed-ended and open-ended questions in a questionnaire survey. The analysis was conducted through the Statistical Package for Social Science (SPSS version 27 ®) and guided by contingency theory. The study employed an online distribution of a 5-point Likert scale questionnaire to 67 university staff members, comprising of 52 Heads of Departments (HODs) and 15 staff members from the university finance department. Of the 50 returned questionnaires, only 43 were usable, with a response rate of 64.18% (43 staff members), including 31 HODs and 12 finance staff members. The questionnaire was distributed through QuestionPro and pre-tested among academic experts within the university to assess clarity and understanding.

## III. RESULTS AND DISCUSSION

### A. Findings

This study examined the factors that influence the adoption of target costing in HEIs. As indicated in table 2, the respondents were requested to indicate the extent to which HEIs had implemented target costing.

*Table 2. The extent to which target costing is adopted in HEIs*

No	Frequency	Valid Percentage (%)
T1	Implemented target costing as a pilot project	2 6.3
T2	Currently under consideration	10 31.3
T3	No consideration of target costing to date	7 21.9
<i>Tota;</i>		32 100.0

According to the results in table 2, 40.6% of the respondents reported that target costing is implemented in selected areas of HEIs, indicating that target costing has not yet been fully adopted as a pricing strategy for the entire institution. Additionally, 31.3% of the respondents indicated that target costing is under consideration, suggesting that it is being evaluated for suitability as a pricing method. On the other hand, 21.9% of the respondents reported that no consideration had been made for target costing, indicating a lack of willingness to change from the current pricing system. Only 6.3% of the respondents reported that target costing had been implemented as a pilot project, implying that it is currently being tested for feasibility.

Table 3 highlights the factors that resulted in the adoption of target costing. The mean values are used to assess the respondents who agreed with the factors listed above as factors that influence the adoption of target costing.

*Table 3: Factors influencing the implementation of target costing*

No	Statement	Mean	Standard Deviation	P-Values
F1	<i>The size of the institution fits the use of target costing.</i>	3.85	1.214	0.086
F2	<i>Target costing is relevant in the merged institutions.</i>	3.62	1.325	0.587
F3	<i>Enough support for implementation from the top management.</i>	3.46	0.967	0.557
F4	<i>Possibility that all staff across all departments can be included.</i>	3.92	0.494	0.004**
F5	<i>Efficiency in the current information system for data management.</i>	3.31	1.032	0.024**
F6	<i>Clear organisational structure creating collaborations and cross-functional teams.</i>	3.77	1.013	0.024**
F7	<i>Sufficient formal support to accounting or finance department.</i>	3.62	1.325	0.597
F8	<i>The institution has the ability to assign the resources.</i>	3.92	1.115	0.209
F9	<i>There is adequacy of resources to adopt target costing.</i>	3.54	1.266	0.472
F10	<i>Sufficiency in the expertise of target costing.</i>	2.62	1.325	0.211
F11	<i>The institution has interests in gaining competitive advantage in a market.</i>	4.31	0.855	0.146

F12	<i>Easy to understand the perception of students on the quality of education.</i>	2.85	1.281	0.597
F13	<i>The limited restriction by government rules and regulations on pricing.</i>	3.17	1.337	0.127

a Likert scale of 1 = strongly disagree (SD), 2 = disagree (D), 3 = neutral (N), 4 = agree (A), 5 = strongly agree (SA).

\*Level of significance P>5% (2-tailed)

\*\*Level of significance P<5% (2-tailed)

The mean value measurement for the following statements was greater than 3: F1 , F2 ,F3 , F4 , F5 , F6 , F7 , F8 , F9, F11 and F13 statements. This means that the respondents agreed that the F1, F2. F3. F4. F5, F6, F7, F8, F9, F11 and F13 statements were the factors that influence the implementation of target costing. The 11<sup>th</sup> statement had the highest support level from the respondents which indicates that the institution has an interest in gaining the market advantage. This result has yielded the (M=4.31±0.855). On the contrary, the mean values for the F10 and F12 statements were lower than 3.0. This suggests that the respondents disagreed with two statements more than they agreed with them. Therefore, the results reveal that many respondents agreed with several statements on the factors that were considered to influence the adoption of target costing.

Table 4 presents the results on the factors that influence the delay in the adoption of this target costing. The mean value measured for the F14, F16, F17, F18, F19, F20, F21, F22, F23, F25, and F26 statements are greater than 3.5, indicating that the respondents agreed that these statements are the factors that delay the adoption of target costing.

*Table 4: Matters delaying the adoption of target costing*

<i>NO</i>	<i>Statement</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>P-Values</i>
M1	<i>The size of the institution.</i>	4.00	1.054	0.572
M2	<i>Target costing is rrelevant in the merged institutions.</i>	2.70	1.059	0.079
M3	<i>Support from the top management.</i>	4.50	0.707	0.150
M4	<i>Inclusion of all staff across all departments.</i>	3.80	0.919	0.308
M5	<i>Adequacy of information system for data management.</i>	3.90	1.101	0.572
M6	<i>Creating of collaboration and cross-functional teams.</i>	3.90	1.101	0.572
M7	<i>Formal support to accounting or finance department.</i>	3.90	1.449	0.199
M8	<i>Cost of implementing target costing.</i>	3.50	1.509	0.558
M9	<i>Assigning of resources.</i>	3.90	1.197	0.572
M10	<i>Resources availability for target costing.</i>	3.60	0.966	0.572
M11	<i>The institution is still safeguarding threats to job losses.</i>	3.30	1.160	0.940
M12	<i>Expertise on target costing.</i>	3.60	1.075	0.753

M13	<i>Students perception on the quality of education.</i>	3.60	1.350	0.736
M14	<i>Government rules and regulations on pricing.</i>	2.10	1.101	0.572

A Likert scale of 1 = strongly disagree (SD), 2 = disagree (D), 3 = neutral (N), 4 = agree (A), 5 = strongly agree (SA).

\*Level of significance P>5% (2-tailed)

\*\*Level of significance P<5% (2-tailed)

However, the statement with the highest contributing influence on the delay of target costing adoption is the M3 statement, indicating "support from top management," with a result of (M=4.50±0.707), followed by the M1 statement indicating "size of the institution" with a result of (M=4.00±1.054). On the other hand, the M2 and M14 statements had mean values lower than 3.0, indicating that the respondents disagreed with these statements as factors delaying the adoption of target costing. Specifically, the respondents disagreed that delays were caused by government rules and regulations on pricing decisions and that the adoption of target costing was irrelevant in merged institutions.

Table 5 presents the results on why target costing was never considered as a viable pricing method for fees at the university.

*Table 5: Reasons resulting in the rejection of target costing*

No	Statement	Mean	Standard Deviation	P-value
R1	<i>Target costing cannot be implemented in large institutions.</i>	2.71	1.113	0.368
R2	<i>Irrelevant in merged institutions.</i>	2.57	0.787	0.368
R3	<i>Lack of top management support.</i>	3.43	0.976	0.666
R3	<i>Difficulty in including all staff across all departments.</i>	3.14	0.900	0.867
R4	<i>No collaboration or cross-functional teams in an institution.</i>	3.00	1.155	0.666
R5	<i>Inadequacy of formal accounting or finance support.</i>	3.43	1.272	0.666
R6	<i>Accounting information management system is not compatible for target costing.</i>	3.43	1.512	0.565
R7	<i>High cost for implementing target costing.</i>	3.29	0.488	0.257
R8	<i>Inadequacy of resources to implement target costing.</i>	3.86	1.215	0.666
R9	<i>Lack of knowledge to adopt target costing.</i>	4.29	0.756	0.565
R10	<i>Inadequacy of research relating to target costing.</i>	3.43	1.272	0.666
R11	<i>Fear of job losses by the employees.</i>	2.43	0.976	0.666
R12	<i>Staff has no clarity on the goals and objectives of an institution.</i>	2.86	0.900	0.102



R13	<i>Insufficiency in the target costing expertise.</i>	3.57	0.787	0.368
R14	<i>The institution will not be competitive in strong competitive market.</i>	3.00	0.816	0.867
R15	<i>There is no intensity of competition in the public higher education institutions.</i>	3.57	1.134	0.666
R16	<i>Challenges in figuring the perception of students on the quality of education.</i>	3.00	1.000	0.368
R17	<i>Government regulations imposed on the establishment of fees.</i>	3.43	1.272	0.934

A Likert scale of 1 = strongly disagree (SD), 2 = disagree (D), 3 = neutral, 4 = agree (A), 5 = strongly agree (SA).

\*Level of significance P>5% (2-tailed)

\*\*Level of significance P<5% (2-tailed)

The results show that the R8, R9, and R13 statements have a mean value greater than 3.5, indicating that respondents agreed these are the factors contributing to the rejection of target costing. The R9 statement, which suggests a "lack of knowledge to adopt target costing," had the highest influence on the rejection of target costing with results of (M=4.29±0.756), followed by the R6 statement which indicates "inadequacy of resources to implement target costing" with results of (M=3.86±1.215). The R1, R2, and R11 statements were closest to disagreement, indicating they are not the contributing factors for the rejection of target costing. Respondents disagreed that target costing was rejected because "target costing cannot be implemented in large institutions" with results of (M=2.71±1.113), "irrelevant in merged institutions" (M=2.57±0.787), and "fear of job losses by employees" (M=2.43±0.976).

The study's hypotheses were evaluated through Chi-square analysis, wherein a p-value less than 0.05 indicated statistical significance. Conversely, a p-value greater than 0.05 indicated no statistical significance. The results revealed that the Chi-square analysis demonstrated a significant discrepancy in agreement levels for the R4 (p<0.003), R5 R6, and R15 statements (p=0.024), leading to the rejection of these hypotheses. However, for the remaining statements, no substantial difference in agreement or disagreement levels was observed among the respondents, indicating the acceptance of the hypotheses. As shown in table 6, the respondents in the open-ended questions section expressed their belief that the method of setting costs is unknown, but the institution is achieving its objectives and is not facing any financial difficulties, without considering the impact of the COVID-19 pandemic.

*Table 6: Respondents reasons for and or against the university current pricing method*

<i>Yes</i>	<i>No</i>
<i>The university does not restructure fees annually and bases increases on historic judgement, while considering current resources and market norms. Financially, the institution is not in distress and is benchmarking with other institutions to cap prices. The university is able to cover its operational costs without difficulty and provides quality education distinct from other universities.</i>	<i>The method of setting costs is unknown, and the cost allocation is based on previous judgement rather than updated information. The structure of fees needs to be reconsidered to reflect changes in cost basis.</i>

They also revealed that the university benchmarks with other higher education institutions, which limits prices to a comparable rate. The current costing approach enables the university to offer high-quality education, which differentiates it from other universities. Therefore, it can be inferred that the implementation of target costing has positively contributed to the institution's objectives and competitiveness within the higher education sector.

**B. Discussion of the findings**

The respondents were asked to indicate if whether HEIs had implemented target costing in selected areas. The majority of the respondents reported that HEIs had implemented target costing. This is consistent with

previous research, such as Yazdifar and Askarany (2012), which found that less than half of firms adopt target costing. Only 23.5% of firms were still piloting this pricing method. Target costing has not yet established itself in the marketplace, as indicated in studies by Ax et al. (2008), Rattray et al. (2007), Atieh (2014), and Tang (2015). The study found that the implementation of target costing is influenced by the organizational factors, individual factors, and external factors. These results are line with those of the previous authors who found that there are factors delaying the adoption of target costing and those resulting in the rejection of it (Hammami et al. 2019; Sarokolaie and Rahimipoor 2013; Goncalves et al. 2018; Mendes and Machado 2012; Reen et al. 2017; Alwadan et al. 2018). The findings of this study have significant implications for policy decisions related to pricing strategies in the higher education sector. HEIs in South Africa could benefit from implementing target costing as a cost management strategy to remain competitive in a dynamic environment. To achieve successful implementation of target costing, it is important for institutions to address the factors that delay adoption, such as improving financial resources, providing training on target costing, and promoting a culture of change and commitment from top management.

#### IV. CONCLUSION

This study aimed to provide insights into the factors that influence the adoption of target costing by HEIs in South Africa. The study found that the implementation of target costing in the education sector is limited, and certain factors delay or hinder its adoption. The study found that target costing has been implemented in some areas. But the organizational factors, individual factors, and external factors were identified as significant contributors to the adoption of target costing in HEIs. The study's findings suggest that the adoption of target costing in the education sector can be enhanced by addressing the identified barriers through awareness campaigns, training and support, and allocating sufficient resources. Furthermore, policymakers can use the study's findings to inform decisions related to pricing strategies in the higher education sector. This study contributes to the literature on cost management systems in the education sector and provides a basis for further research on the implementation of target costing in other regions and contexts. The study recommends that HEIs prioritize the achievement of successful implementation of target costing by addressing factors that hinder its adoption. This entails fostering a culture of change and securing commitment from top management.

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# Inhibiting Factors in the Adoption of Corporate Entrepreneurship at a State-Owned Agency in South Africa

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## ABSTRACT

**Purpose:** Corporate Entrepreneurship (CE) has been used to develop new ideas and opportunities within established organisations, resulting in improved profitability, service delivery, and competitive advantages. This study explored the factors inhibiting CE adoption at the state agency in South Africa. It aims to expand on dimensions and provide practical interventions for creating a conducive environment for CE within a state-owned agency.

**Design/methodology/approach:** The study used a qualitative single-case study design. It employed semi-structured interviews with nine top management and Human Resources (HR) practitioners through Microsoft Teams. The study used inductive coding to analyse interview data using ATLAS.ti 23.

**Findings:** Challenges emerged as a theme for this study with four sub-themes: rewards, financial constraints, lack of knowledge of the CE process and low staff morale. The study revealed that these challenges inhibit the adoption of CE. In contrast, addressing these challenges can transform them into enabling factors that create a conducive environment for adopting CE. The study underscored the significance of optimising resource utilisation to promote CE, enhancing CE knowledge, and evaluating employee satisfaction.

**Research limitations/implications:** The study was limited to top management experts and HR practitioners, excluding other employees' participation.

**Practical implications:** Emphasises the need for practical interventions such as brainstorming, team coaching, credible e-learning platforms, and employee satisfaction surveys when implementing CE.

**Originality/value:** There are limited studies on the inhibitors of CE in South Africa's state-owned agencies.

**Paper type:** Research paper.

**Keywords:** *Corporate Entrepreneurship, Rewards, Knowledge.*

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## I. INTRODUCTION

CE plays a crucial role in generating value by bringing new ideas and exploiting opportunities through innovation within an established organisation while assuming the risk of uncertainty. (Burke & Holmes, 2021). CE can occur in two forms: (i) corporate venturing, a way of entering new market arenas to revitalise or revise an organisation's portfolio, and (ii). strategic entrepreneurship, which entails collecting different entrepreneurial initiatives. This form includes strategic renewal, sustained regeneration, organisational rejuvenation and reconstruction of business models. (Zahra et al., 2013; Kuratko et al., 2011).

Researchers such as Kuratko et al. (2014); Mugunzva and Rankhumise (2020); Whipple and Peterson, (2009) have contributed insights into the dimensions that create an enabling environment for CE. These include top management support, work discretion/autonomy, rewards/ reinforcement, time availability, and organisational boundaries. The management role in CE is to create a work environment conducive to innovation and allow employees to be proactive and take risks (Kuratko et al., 2014). Kassa and Raju (2015) underscored the

significance of the relationship between the organisation and its employees. These authors emphasised that employees respond by exhibiting vigour, absorption and dedication to the organisation when they sense the working environment is conducive. Akbari et al. (2020); Özdemirci and Behram (2014) concurred that employees are more proactive and innovative and can contribute creative ideas for CE in a positive work environment.

Malatjie et al. (2017) highlighted that fostering entrepreneurial behaviour in the public sector can enhance service delivery, internal processes, turn-around time, reward systems, communication, and management-employee relationships. In South Africa, these benefits can also contribute to the government's goal of attaining the 11 million jobs target by 2030 (South Africa. National Planning Commission., 2012). The notion is that through CE, the organisation can practise entrepreneurial activities that involve innovative, proactive, risk-taking, strategic renewal and corporate venturing (Eze, 2018; Urbano et al., 2022), which in turn can contribute to the government reaching their goals. The pressure is even more significant for the South African state-owned agencies to contribute to attaining the National Development Plan goal as the government established state-owned agencies to guarantee continuous service to citizens (Department of Public Service and Administration & National Treasury, 2002).

However, high rigidity, red tape, and public scrutiny influenced by the media and opposition political parties regularly expose the sector's failures, conflict with entrepreneurial culture (Kuratko et al., 2011; Malatjie et al., 2017; Tocar, 2020). Therefore, more effort is required to create a climate conducive to CE in the public sector and state-owned agencies (Malatjie et al., 2017; Sithole, 2021; Sono, 2018). They recommended improving CE by implementing novel policies and training programmes, incorporating CE into organisational strategy, and encouraging innovation using suitable rewards and reinforcements. Additionally, Malatje, Garg, and Rankhumise (2017) and Thabethe (2019) indicated that employees demonstrating entrepreneurial behaviour should be supported and rewarded.

Although previous research has highlighted the benefits of CE and recommended interventions to foster entrepreneurial behaviour in the organisation, as illustrated above, Chamba and Chazireni (2023) indicated that the state-owned agency continues to struggle to effectively respond to citizens' needs and deliver public value due to inadequate investment in intrapreneurial activities.

Thus, the research question posed by the study is: Given the importance of CE and interventions to foster entrepreneurial behaviour as recommended by previous studies, what factors are inhibiting the adoption of CE at a state-owned agency?

An in-depth investigation of the inhibitors in CE adoption, specifically in state-owned agencies in South Africa, remains limited. This study aims to fill this research gap by exploring the factors that inhibit the adoption of CE at a state-owned agency in South Africa.

The value of this study lies in its in-depth investigation of CE by analysing the dimensions identified as contributing variables by previous researchers and engaging top management experts and HR practitioners through a qualitative approach. The study aims to expand on dimensions and provide practical interventions for creating a conducive environment for CE within a state-owned agency. It is envisaged that by identifying the issues inhibiting the adoption of CE, state-owned agencies will be better able to adopt and promote CE.

### **A. Corporate entrepreneurship in the state agencies in South Africa**

Although CE is broadly used globally (Banumathi, 2020), the term commonly used in South Africa, particularly in state agencies, is an innovation compared to CE. Baloyi (2017) reasons that South Africa needs to be competitive in the global market to improve its economy, and innovation is mainly recommended. In addition, innovation is one of the organisational values in state agencies such as the Small Enterprise Development Agency, the Technology Innovation Agency, the Media Development and Diversity Agency, and the Small Enterprise Finance Agency. Likewise, the North West Development Corporation (NWDC) does not use the term CE. The phrase innovation is frequently used at NWDC. It also represents one of their strategic values, supporting the development of concepts or inventions into products or services that add value for clients (South Africa. North West Development Corporation, 2022). The NWDC prioritises innovation and a development plan that is driven by innovation and focused on competitive advantage (South Africa. North West Development Corporation, 2022)).

The study of van Vuuren (2016) provided profound insight into CE in South Africa's state agency i.e. South African Revenue Service by revealing significant presence of entrepreneurship. Although the term CE is not used at this state agency, there is evidence of innovative and proactive elements being practised. The innovative and proactive elements are embedded in aspects such as the modernisation programme, where the agency enhances the experience of the dealer and taxpayer while introducing innovative business practices. Additionally, there is proof that this agency ventured when Interfront was established as a wholly-owned subsidiary. van Vuuren (2016) illustrated that its strategy development includes innovative and proactive practices critical for the agency to achieve its goals. The top management understands that entrepreneurship is essential to the organisation's current and future growth. (van Vuuren, 2016).

Molefi and Hoque (2021) asserted that state agencies should carry out the necessary interventions to foster an entrepreneurial mindset in employees. The entrepreneurial vision must be transparent and communicated in the organisation. Management support must be prioritised, and a reward system must be introduced (Molefi & Hoque, 2021)). Against this background, the study assesses the inhibiting factors towards the adoption of CE within the context of state-owned agencies in South Africa.

## II. METHODS

The study adopted a qualitative single case study design. This design was selected as it facilitates thorough research and understanding of the intricate issues being addressed (Makri & Neely, 2021; Pillai & Kaushal, 2020), which is an understanding of the inhibiting factors in adopting CE at a state-owned agency. The research was conducted using an exploratory research design to gain new insights (Makri & Neely 2021:2; Pillai & Kaushal 2020:3). This study utilised expert guidelines (rule of thumb) to determine the sample size for in-depth individual interviews (Makri & Neely, 2021; Pillai & Kaushal, 2020). The study used the recommendation of Parse (1990), cited by Sim et al. (2018) that 2–10 participants are sufficient to achieve saturation. This study involved a total of nine top management experts and HR practitioners as a purposive sample. Top management was selected by choosing the top two levels of the organisational structure accountable for critical decision-making (Fox et al., 2022). HR practitioners were selected as they significantly foster core skills to gain long-term competitive advantage through people (Kuratko et al., 2011).

Before data collection, the study developed a semi-structured interview guide based on a literature review. Open-ended questions were used and questions were sequenced to avoid confusion. The pre-test interview was conducted before the interview with two peers familiar with the research topic, as advised by (McGrath et al., 2019). The interview guide was submitted to the university's faculty committee for research ethics approval. The committee made comments, and subsequent modifications were made.

The study collected data through in-depth virtual interviews using Microsoft Teams (Creswell, 2014; Patel & Patel, 2019). Despite the potential disadvantages of virtual interviews, such as microphones and background noise (Carter et al., 2021; Keen et al., 2022). Virtual interviewing has improved voice capture, transcription, and screen-sharing capabilities (Keen et al., 2022). Microsoft Teams was used for this study because of its quality, user friendliness and functionalities (Almodaires et al., 2021). Based on the list of eligible participants from the state agency, the researcher achieved a 75% response rate, as illustrated in Figure 1.

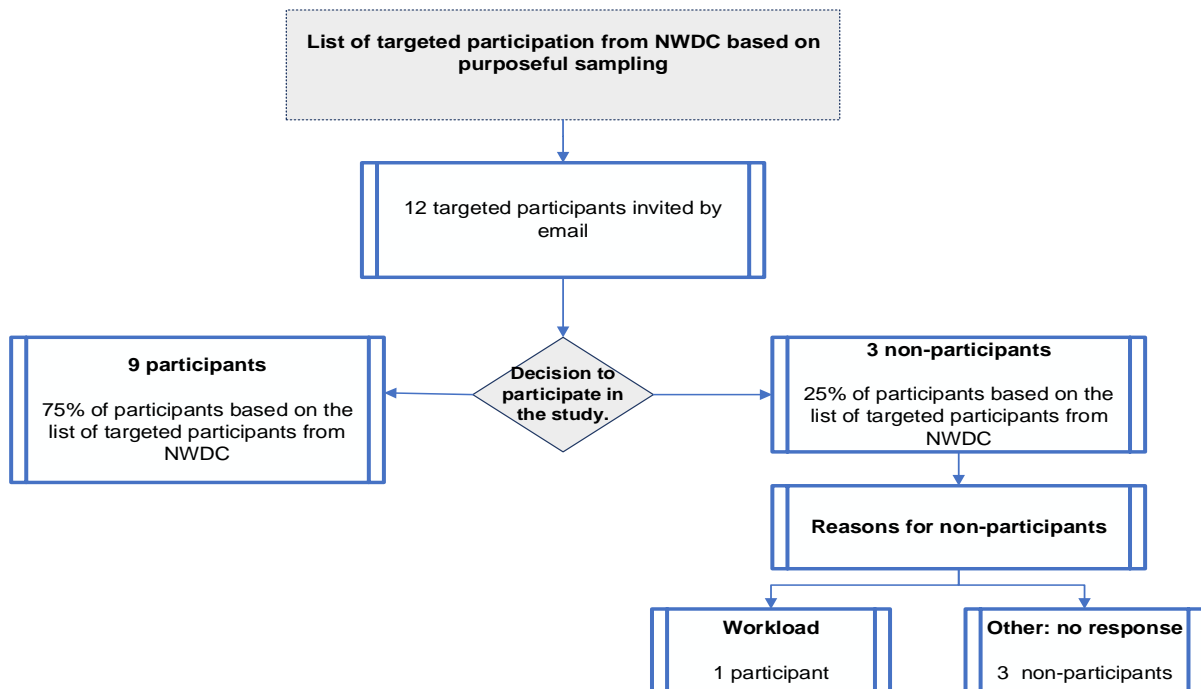


Figure 1 – : Response rate

The study analysed interview data using ATLAS.ti 23. Interview transcripts were imported into ATLAS.ti 23 to discover themes. The researchers employed an inductive coding approach, allowing themes to arise from

participant discussions. The researcher coded as many potential themes/patterns and organised codes into prospective themes before assembling pertinent data extracts inside the determined themes as recommended by Braun and Clarke (2006). The researcher thoroughly reviewed the data to confirm the validity of themes and incorporate new information (Braun & Clarke, 2006; Gauthier & Wallace, 2022). Conclusions were drawn based on the evidence of the themes (Thornton et al., 2020).

Valid qualitative research requires evidence and trustworthiness, which are essential quality assurance criteria. This study used prolonged engagement, member checks, and bias techniques to achieve trustworthiness (Creswell, 2014). The permission to conduct the study was sought and obtained from the NWDC. Ethical clearance for this research was obtained from the university's faculty committee for research ethics. Afterwards, the researcher requested that participants complete an informed consent form. An information leaflet providing all the necessary details concerning the research, including confidentiality and participants' rights, was provided to participants before the interview.

### III. RESULTS AND DISCUSSION

#### A. Description of a case

The NWDC based in South Africa was selected as a case for this study as it is a state agency that underwent internal evolutions over the years, including mergers, retrenchments and being placed under judicial management (South Africa. North West Development Corporation, 2023). The NWDC, a Schedule 3D provincial government entity, is responsible for planning, financing, coordinating, and promoting economic development in the North West Province. It focuses on industries, commerce, finance, mining, tourism, and other businesses to create wealth and jobs (South Africa. North West Development Corporation, 2023).

#### B. Presentation of findings

This study sought to achieve the research objective "To assess the inhibiting factors in adopting CE at the state agency in South Africa." This section presents findings from interviews with top management and HR practitioners, highlighting the main theme and sub-themes, summarised in Table 1. Figure 1 illustrates the findings.

*Table 1 – Themes and Sub-themes*

<i>Broad themes</i>	<i>Sub-themes</i>
<i>Challenges</i>	<i>Rewards</i>
	<i>Financial constraints</i>
	<i>Lack of knowledge of the CE process</i>
	<i>Low staff morale</i>

#### C. Theme: challenges

In the context of this study, challenges refer to the factors that are inhibiting the adoption of CE. The participants advocate that addressing these challenges can transform them into enabling factors.

#### D. Sub-theme: rewards

In this study, rewards refer to employee benefits for entrepreneurial behaviour, categorised as monetary or non-monetary. The study found that participants associate rewards with financial rewards, indicating that the organisation typically does not offer monetary incentives to encourage entrepreneurial behaviour, inhibiting CE adoption. The participants believed financial rewards could enable CE adoption at the state agency. This was encapsulated in the following quotations:

"There are no financial or non-financial rewards for people who show entrepreneurial behaviour" (P1).

"No. there are no financial or non-financial rewards. You have done your work. No other compensation involved" (P2).



"Where the organisation is highly lacking is appropriate remuneration packages that are aligned to the current economic status and horizontal pay brackets in line with similar entities and employee wellness programmes, which in turn will ensure that employees are encouraged to practice corporate entrepreneurship" (P6).

"So we are not really having a competitive system. A reward system that can really encourage staff generally. So I would say that it's a challenge and that is brought about by the budget" (P7).

This finding demonstrates clear perceptions among the participants that the absence of rewards inhibits the adoption of CE at the state agency. In contrast, the presence of rewards can enable the adoption of CE. Furthermore, the participants perceive rewards as financial, such as performance bonuses. (Kumar et al., 2018) stated that besides financial rewards, employees are encouraged by non-financial rewards such as work independence, career advancement opportunities, a good working environment and an excellent supervisor-subordinate relationship. Moodley (2011) pointed out that not all employees prefer non-monetary rewards. Despite employee preference, the study emphasises the importance of employee rewards in enabling entrepreneurial behaviour.

### **E. Sub-theme: financial constraints**

Financial constraints are the second sub-theme under challenges. From the perspective of this study, financial constraints refer to a constraint limiting the adoption of CE at the state agency. In contrast, the availability of funds could contribute to promoting CE. The NWDC, a state agency providing services such as property leasing, development, loans, and bridging finances for Small, Medium-sized and Micro Enterprises, has been significantly impacted by the COVID-19 pandemic, as tenants struggle to pay rent on time, affecting their cash flow and compounding the former severe financial constraints. The participants highlighted financial constraints as a critical issue faced by NWDC. For example, the participants stated that:

"But now the challenge is that the organisation's finances are not stable" (P1).

"... no financial rewards available. It becomes very difficult even to encourage staff in anything" (P3).

"So I would say that it's a challenge and that is brought about by the budget" (P9).

"Its facing so many challenges such as financial constraints and cash flow challenges" (P8).

"Where the organisation is highly lacking is appropriate remuneration packages that are aligned to the current economic status and horizontal pay brackets in line with similar entities" (P5).

The findings underscore financial constraints as one of the most critical challenges encountered by the NWDC. This resonates with Wang et al. (2022), who highlighted financial constraints as one of the significant obstacles to organisations in emerging economies. A similar result was found by Sono (2018), which states that only a few intrapreneurial initiatives from public servants and platforms are supported due to inadequate funding. As such, the organisation needs to see financial constraints as an opportunity for CE by saving resources for CE interventions and encouraging employee ideation towards more practical uses of the available resources, as advised by Acar et al. (2019). These authors believe that when there is overall support for creativity and innovation within an organisation, employees may view financial constraints positively, motivating them to be more creative under a stricter budget.

### **F. Sub-theme: lack of knowledge of the CE process**

The lack of knowledge of the CE process is the third sub-theme. The findings highlight the lack of knowledge about the CE process, which involves understanding opportunities, developing ideas, acquiring resources, and managing ventures. The participants primarily used innovation, which might be because innovation is also one of their strategic values. However, they were unaware of entrepreneurial concepts and CE processes, citing lack of knowledge as a hindering factor in adopting CE. Conversely, if employees understand CE they could be encouraged in adopting CE. It was expressed by the participants as follows:

"I don't think employees are aware that they can be innovative and proactive in their work" (P2).

"Ensure that HR officials are trained in corporate entrepreneurship and the role of HRM in developing and sustaining that culture" (P4).

"The way things are currently, one can hardly indicate which practices are stimulating this corporate entrepreneurship concept" (P6).

"Personally of course it is a very interesting concept that I think I'm a little bit aware of" (P7).

This finding highlights the importance of education and awareness regarding CE at a state agency. . Not knowing the implementation process could undermine employees' ability to be entrepreneurial. Management should implement programs to enhance employees' knowledge about CE.

### **G. Sub-theme: low staff morale**

The fourth sub-theme discusses low staff morale, illustrated in Figure 1. In this study, low staff morale refers to employees feeling unmotivated to adopt entrepreneurial behaviour. In contrast, employees with high staff morale and motivation can enable the adoption of CE. The participants identified factors such as unstable top

management, management style, and employee recognition negatively impacting staff morale. The participants explained that the top management has a high turnover in the top two layers of the organisational structure. The top management often changes before employees build a good working relationship and learn their preferred working and management style.

Consequently, it leads to unmotivated employees being disinterested in entrepreneurial activities. The ideal situation is low turnover, where top management encourages and recognises employees' contributions. The participants identify low staff morale as another factor inhibiting the adoption of CE.

"Employees are negative and unhappy and feel that their work is not appreciated".

"Our executive managers are not lasting. It does affect how employees carry out their tasks. It it really does" (P1).

"A change in management style is needed" (P2).

These findings align with the National Development Plan, which states that low staff morale has also been identified as one of the hindrances in achieving South Africa's need to build a state capable of playing a developmental and transformative role (South Africa. National Planning Commission, 2012). Thus, demotivated employees are more likely to fail in implementing CE. Therefore, they must work in environments that promote information and knowledge sharing (Molefi & Hoque, 2021).

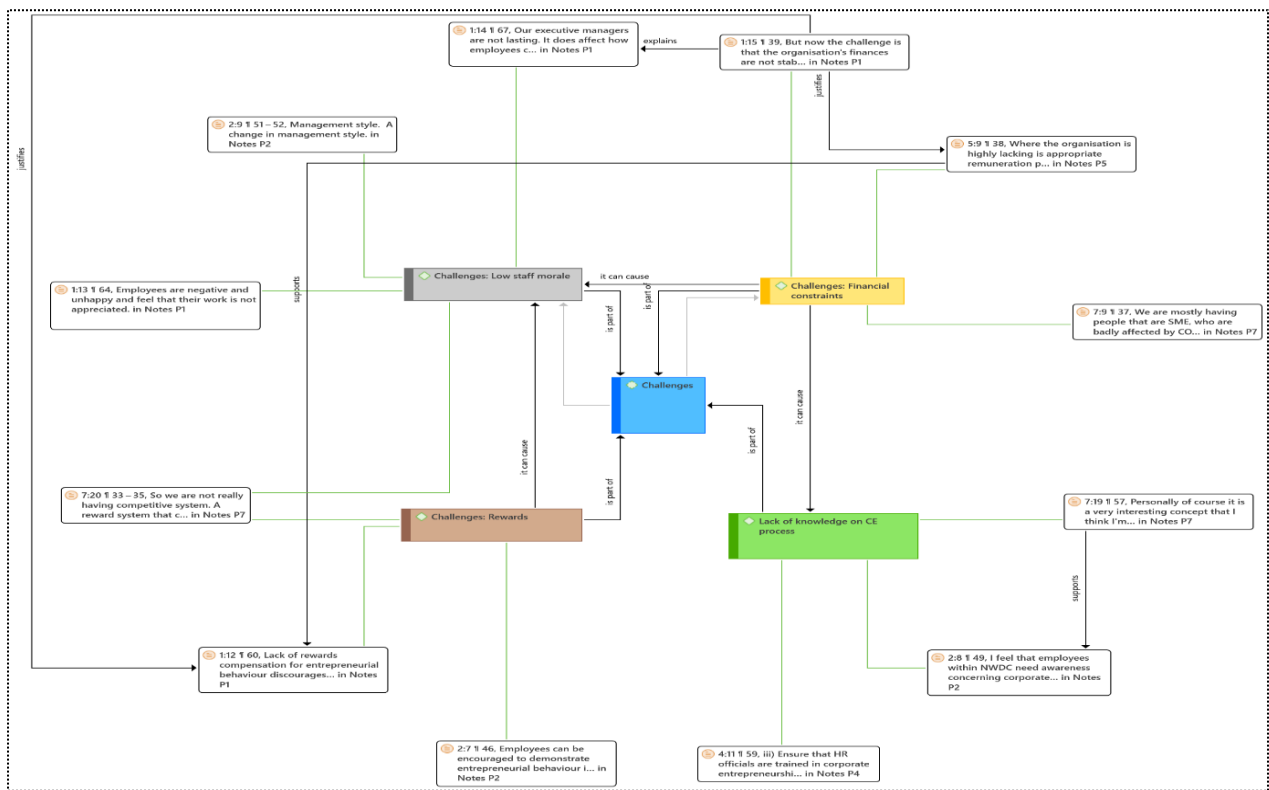


Figure 2 – : Findings for the theme: challenges

Source: researcher's own construct [using ATLAS.ti network function on findings].

#### IV. CONCLUSION

The study reveals that organisational challenges, such as lack of rewards, financial constraints, lack of knowledge of the CE process, and low staff morale, hinder the adoption of CE. The study recommends brainstorming, focusing on non-monetary rewards, and implementing team coaching interventions. Additionally, the study recommends introducing credible e-learning platforms and online resources focusing on CE programs, using the training-the-trainer approach, and conducting an employee satisfaction survey to assess employee engagement and identify challenges. Implementing these recommendations can foster entrepreneurial behaviour in organisations.

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# Examining the Challenges that hinder the development of entrepreneurship skills among secondary school students in Zimbabwe: A Case of Mashonaland West Province

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## ABSTRACT

**Purpose:** The purpose of this study was to examine the challenges that are faced by schools in developing entrepreneurship skills among learners in order to achieve a sustainable education system in Zimbabwe with special focus on secondary schools in Mashonaland West Province.

**Design/methodology/approach:** Data were collected through face-to-face interviews and focus group discussions as this study was qualitative in nature. Teachers and 'A' level students were the respondents while School Heads and Education Officers were the key informants. The thematic analysis approach was used to analyse and present data.

**Findings:** The study established that various challenges are encountered by secondary schools in attempting to develop entrepreneurial skills among students. Most such challenges emanate from lack of entrepreneurially qualified teachers to deliver practical entrepreneurship skills to secondary school students, lack of financial and material resources to start entrepreneurial projects and the curricula not favouring entrepreneurship skills development. The study further noted that lack of electricity in rural areas and general negative attitudes by students who think that buying, selling and producing are a sign of desperation are some of the challenges that hinder entrepreneurial skills development.

**Practical implications:** The study recommended that financial and material resources be made available to construct physical infrastructure for start-up entrepreneurial projects. The study further recommends installation of electricity in all rural secondary schools as an enabler for students and teachers to widen their choices of entrepreneurial projects and help them access internet. Entrepreneurship training of both students and teachers and career guidance so that students change their mind-sets, attitudes and negative perceptions of entrepreneurship is also a necessity.

**Paper type:** Research paper.

**Keywords:** *Entrepreneurship Skills Development, Entrepreneurship, Sustainable Education System.*

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## I. INTRODUCTION

The most prominent goal of many governments is to make entrepreneurial activities a solution to the challenges and situations that are encountered by nations worldwide (Onajite & Aina, 2017). Bhebhe, Bhebhe & Nikisi (2015) noted that lack of entrepreneurial skills among school leavers is the main driver of youth unemployment which has reached astronomical levels in Zimbabwe. Secondary Schools have often faced many challenges in attempting to develop entrepreneurship skills in learners in a bid to increase sustainability of the education system as numerous learners are seen searching for jobs after leaving school. The rate of unemployment continues to rise and educated school leavers continue to roam the streets. The unemployed school-leavers are

now turning to drug and substance abuse and other vices and debauchery including social ills such as prostitution and theft to mention but just a few. This study was conducted to establish underlying hindrances towards entrepreneurship skills development in Mashonaland West Province of Zimbabwe.

Entrepreneurship skills development is recognised as an essential tool for equipping youths with basic business skills that enable them to engage in productive livelihoods after leaving school. Entrepreneurship skills development is seen as the foundation for economic development as it creates employment opportunities (Kissi, Ahadzie, Debrah, & Adjei-Kumi, 2020). Entrepreneurship skills development in students aims to help them become self-sufficient so that, upon graduating from high schools, they can use their creativity to start something of their own in a competitive world where unemployment has emerged as the number one enemy (Joseph & Tranos, 2020).

However, Maina (2014) claims that some challenges militating against the development of entrepreneurship skills development emanate from the government, parents or certain volatile external environmental forces. Unless these challenges are addressed, they negatively affect the realization of the goal of imparting entrepreneurship skills among students.

## **A. Literature Review**

### **1. Theoretical framework**

#### **a. Economic Entrepreneurship theory**

In 1755, Richard Cantillon came up with the economic entrepreneurship theory which states that entrepreneurs are influenced by their economic gains. In this context, the theory assumes that entrepreneurial skills development is influenced by economic gains which the students will benefit if they are well trained. Economic gains are the motivating factors which entrepreneurs leverage on to extract economic values using means of production namely; capital, land, raw materials, labour and physical assets or infrastructure. The theory states that the entrepreneur is the one who is responsible for bringing together materials, resources, labour and assets to increase their value at the same time introducing creativity, innovations and the new order. However, Carson (1995) contends that this theory lacks necessary human skills intervention because without skills, availability of capital, land, raw materials, labour and physical assets or infrastructure will come to zero, hence the need to focus more on entrepreneurship skills development to help school leavers to be job creators and not job seekers.

#### **b. High achievement theory**

According to McClelland's high achievement theory, normal people possess a strong drive for achievement, and if they do, small achievements bring more achievements until big achievements become a life habit among entrepreneurs. Entrepreneurs are more likely to succeed and win as entrepreneurs because entrepreneurship is all about competition, gaining competitive advantage over competitors through innovation and doing things differently because in the business world it is survival of the fittest. The need for achievement is what drives and encourages entrepreneurship, therefore those who have a strong drive for success are most likely to succeed as entrepreneurs. Individuals with a strong drive for success assume personal responsibility for problem-solving, innovation and always strive to outperform others. However, in a normal population distribution, there exist natural laggards who will not care to compete nor to bother about how others are doing things. Others are just hesitant to try and such attitudes if present in students, may affect the uptake of entrepreneurship.

#### **c. Innovation theory**

Schumpeter's 1949 Innovation Theory assumes that humans have innate (in-born) aspirations to establish things of their own to prove themselves. Such individuals are more likely to succeed if they are entrepreneurs. They are naturally inspired to start something new and also a desire to be creative and earn experiences and skills by doing various tasks. Schumpeter emphasized that entrepreneurship skills development is related to entrepreneurial behaviour. The behaviour prompts the individual to be able to introduce new goods, new methods of production, opening of new markets, search of new sources of supply of raw materials and creation of new ventures in an industry.

## **2. Challenges faced by secondary schools in the development of entrepreneurship skills among students**

### **a. Lack of adequate teachers with entrepreneurial training**

The major challenge encountered by schools in the development of entrepreneurship skills is lack of teachers qualified to teach entrepreneurial skills. It goes without saying that the teachers who train the students must themselves possess entrepreneurial skills and must be trained to deliver the same (Gibb, 2018). Hasan, Khan, and Nabi (2017) as supported by Radebe (2019), argue that while the traditional educational system prepares students for the corporate world of employment, it does not foster the development of entrepreneurship skills. Most teachers left teacher training colleges without being exposed to the techniques of imparting entrepreneurship skills (Rosário, Raimundo & Cruz, 2022).

**b. Capital constrains to entrepreneurship skills development**

Lack of access to funding hampers the development of entrepreneurship skills in students (Jindal and Bhardwaj, 2016; Agwu *et al.*, 2018). According to Novejarque -Civera *et al.* (2021), entrepreneurs and schools need to be financially sustainable to survive. Survival only on government subsidies and philanthropic donations cannot be considered enough for entrepreneurial development.

**c. Physical infrastructure constrains**

Okolie and Ogbaekirigwe (2014) noted that facilities that are available in rural secondary schools presently are inadequate, quantitatively and qualitatively, apart from being obsolete. The students now depend only on the theoretical aspects of the training programme. Lack of practical work by the students during training due to lack of modern equipment leaves the students in a state of confusion. Entrepreneurship skills development according to (Lawal *et al.*, 2016) depends on the sufficiency and adequacy of infrastructure. Infrastructure includes power, transportation, water, land and buildings (Murray, 2014). However, according to Mataka, Bhila & Mukurunge (2021), physical infrastructure includes classrooms, libraries, laboratories and space.

**d. Modern technology constraints**

Success of schools and entrepreneurs is based on exposure to modern technology (Akande, 2017). Technological developments that are taking place worldwide are rendering some methods and techniques of making goods and services obsolete. Modern machinery is perceived as a basic requirement for the production of goods (Khan (2014). Currently, most schools carry the burden of having inadequate modern technological facilities both quantitative and qualitatively apart from them being obsolete (Okolie & Ogbaekirigwe, 2014).

**e. Lack of Government Support and Policies**

Inconsistent government policies have been blamed as the main obstacle to the development of entrepreneurship skills. Obaji *et al.* (2014) highlighted that policy behaviours of any nation determine entrepreneurial success. Research by Olokundun *et al.* (2014) emphasized that government policies oppose firms' involvement in entrepreneurship education. Development is hampered by the government's rigid and complicated policies and regulations. Mataka *et al.* (2021) pointed out that it is the responsibility of the government to provide textbooks, qualified teachers, classrooms, water, electricity, internet, toilets with running water and food to feed the vulnerable as these are necessities for educational success.

**f. Lack of networks**

Networking activities have an impact on the performance, growth and success of initiatives. These activities include exchanging experiences, knowledge, support, motivation and availability of role models (Majukwa, 2019). The Times Commission (2022) noted that in order to foster relationships, there is need for more communication between secondary schools and nearby businesses and teachers should be allowed to spend time in the business sector during school holidays as a way to up-skill them and help them gain contemporary knowledge in this fast-changing business world. This will turn them into competent teachers of entrepreneurship. Networks and institutions have an impact on the development of entrepreneurial talents as it is a truism that no entrepreneur can win if he/she works in isolation (Aidis and Estrin, 2006).

**g. Social and cultural constrains to entrepreneurship sills development**

Azim (2008) and Radović-Marković and Achakpa (2018) assert that socio-cultural factors force individuals or make it desirable to choose entrepreneurship as a career option. These challenges are grouped into two, the internal challenges and external challenges (Mohammadali and Fallah *et al.*, 2018). They include lack of interest and motivation among students regarding entrepreneurship as a field of study, deficits in curriculum planning, lack of expertise in entrepreneurship teachers, weakness in the use of technology, lack of development in research and lack of networks in the domain of entrepreneurship education.

## II. METHODS

This study was anchored on Interpretivism. Collins and Hussey (2009) argued in support of Interpretivism when they noted that it is a philosophy rooted in social sciences and grounded in the belief that social reality is subjective because it is socially constructed. Interpretivism seeks to measure social phenomena by exploring its complexity with a view to gaining interpretive (inductive) understanding. Central to this approach is the acknowledgement that it produces rich subjective qualitative data and findings with high validity. Saunders *et al.* (2009) as supported by Robson (2011) agree that Interpretivism also allows findings to be generalised from one

setting to another similar setting. Saunders & Thornhill (2009) also supported Interpretivism when they noted that it is a research philosophy that has the ability to understand subjective viewpoints, opinions, feelings, and values, that is; the things that cannot be immediately observed or quantified.

Data were collected using face-to-face interviews and focus group discussions with teachers and A' level students. School Heads and Education Officers were the key informants. The thematic analysis approach was used to analyse and present data. Purposive sampling made it necessary to specifically approach variables or individuals who were relevant to the study, who had been at the institution for at least five years, since they possessed greater insight into the developments occurring at the relevant school. Purposive sampling, according to Saunders *et al* (2012), is a non-probability technique that relies on the researcher's judgment to choose which components to include in the study. 20 interview sessions and 4 focus group discussions were held with A' level students and teachers. These were stopped after reaching a point of saturation; that is the point which data yields no fresh information during data collection (Braun & Clarke, 2021). The information collected from interviews and focus groups was further subjected to validation and clarification using face-to-face interviews with key informants (School Heads and Education Officers).

### III. RESULTS AND DISCUSSION

#### 1. Factors that affect entrepreneurship skills development in secondary schools

Below is a word cloud output which shows various themes or issues which emerged from the interviewees' verbatim response. Respondents identified the factors that affect entrepreneurship skills development in secondary schools as the curriculum which needs to be aligned, lack of skills, teachers who have no knowledge, lack of resources, need for practical work to mention but just a few. Figure 1. shows the themes that emerged during interviews and focus group discussions.



Figure 1: Word cloud output showing various themes and how they were used in the Heads and students' responses

Source: (Author's own,2023)

The word tree output below shows how the same theme was responded to by Headmasters and Education Officers. A few of the mentioned themes were discussed as suggested below.



a. Entrepreneurship constrains

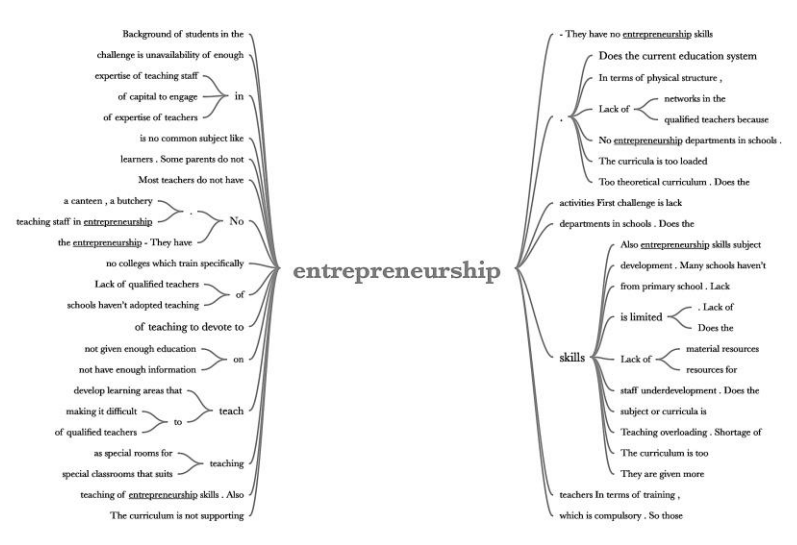


Figure:2 showing word tree output for the theme entrepreneurship

Source: (Author's own,2023)

The study found out that lack of entrepreneurship skills was a challenge in the education system. The problem starts with the teacher training curriculum which does not have adequate focus on imparting entrepreneurial skills to the educators making them deficient. On the other hand, interviewees alleged that most students' background lacked entrepreneurship exposure. While students come from homes with agricultural land, gardens, dams etc, most of their families do not take farming or horticulture as a business. Often these are taken as subsistence, or pastime activities to get food for the family. This has resulted in students lacking information and basic knowledge and skills on entrepreneurship. Worse still, secondary school students went through primary school where basic entrepreneurship was neither practiced not taught.

b. Education system and curricula constraints

The study found that while Government had advocated for entrepreneurship to be part of the school curriculum, some secondary schools are yet to heed the call. In schools where it is taught, it is like an extra-curricular subject which is not examinable. Most teachers do not take non-examinable subjects seriously. When this happens, the subject is treated like any other voluntary club activity where students and teachers join out of interest. A male respondent who teaches A' levels noted that "The current treatment of entrepreneurship skills development makes us not to take it seriously. Moreover, we are over-loaded with huge classes and we are underpaid. How do you expect us to volunteer to take a non-examinable subject when I don't have enough time for examinable subjects?"

Existing literature shows that it is not the Zimbabwean curriculum only which does not support entrepreneurship skills development. Other education jurisdictions such as Egypt, Ukraine, Mozambique, Ghana, and Namibia do not support entrepreneurship skills development (Rashid, 2019). This is in stark contrast with the Asian Tigers (Singapore, Hong Kong, South Korea and Taiwan) where students are taught scientific entrepreneurial skills in school. In India entrepreneurship is like a culture and learning how to run a family business is prioritised in schools. Students help in the family business every day after school and this makes them grow understanding that entrepreneurship is part of life (Obaji et al., 2014). Figure 3 shows a word cloud output showing the most emerging themes which emanated from the education system and curriculum.



Figure 3: Word cloud output showing the most emerging themes which emanated from education system and curricula constraints

Source: (Author’s own, 2023)

**c. Lack of resources impeding entrepreneurship skills development.**

Respondents supported that lack of resources impede entrepreneurship skills development. Lack of resources has caused learners to study what they do not want as supported by one female student in a focus group discussion who said, “Resources are limited, we are learning what we don’t want when it comes to practical subjects. This is leading us nowhere as our goals and choices are not catered for”. Another interviewee indicated that lack of capital is a hindrance to entrepreneurship skills development in students. Participants from the 4 FGDs indicated that lack of funds and space to initiate projects was a hindrance, hence their lack of entrepreneurial experience. Participants from interviews also indicated lack of special infrastructure that is suitable for the teaching of entrepreneurship. Fig 3 shows a Word tree output showing the theme of resource constraints.

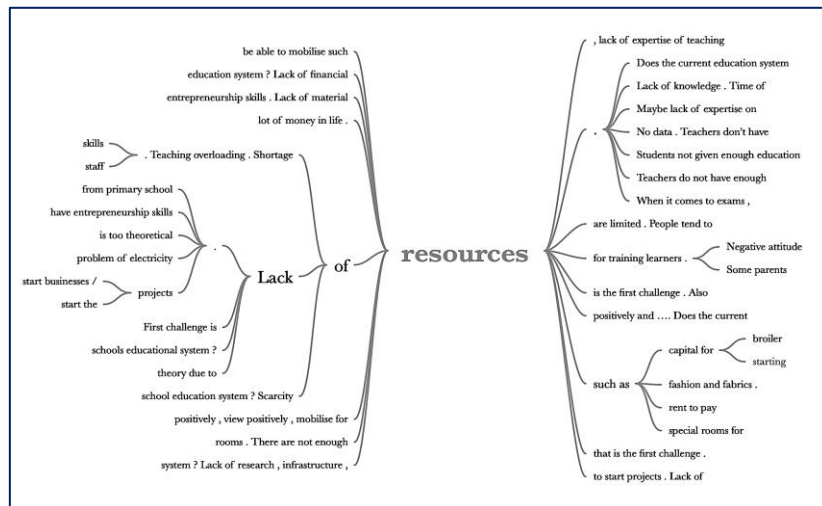


Figure 4: Word tree output showing resources constrains

Source: (Researcher’s own, 2023)

**d. Lack of entrepreneurially trained and skilled teachers**

Interviewees indicated that teachers lack expertise or are not qualified to teach entrepreneurship skills. Apriana, Kristiawan and Wardiah (2019)’s study shows that there are relatively few teachers who are true experts

in the field of vocational expertise and the range of expertise is not balanced with learning support facilities. The results indicated that lots of teachers were trained long back, before changes were made in the education system.

Headmasters as key informants lamented that they do not have teachers trained to teach entrepreneurial skills. A few such teachers in the schools are being lured to better schools in urban areas and this is now resulting in low uptake of entrepreneurship skills training.

Increasing evidence suggests that there is still a larger gap between knowledge generation and application (of entrepreneurship), which might be successfully closed by entrepreneurship skills development, as cited by Vaicekauskaite & Valackiene (2018).

#### **e. Research and network challenges**

Research and networking have been a challenge in secondary schools in Mashonaland West Province especially in rural areas. This was supported by students in focus group discussions that in most rural schools, internet is unheard of. One focus group discussant remarked, *'How do you carry out entrepreneurship when you have a cell phone but with no network. Imagine that you want to know if the market needs tomatoes and you try to phone and the call cannot go through because of network challenges'*. The FGDs revealed that unavailability of electricity also hinders access to internet gadgets.

#### **f. Social and cultural constraints**

An essential component for entrepreneurship skills development is to equip students with hands-on survival skills. The study found out that students in Mashonaland West Province are failing to acquire entrepreneurship skills due to various reasons that were established through the interviewed participants. Most of the students grew up in families that do not have businesses and were not exposed to the basics of entrepreneurship. The financial situation of their families affected their entrepreneurial behaviour. One key informant remarked that, *'Some students from affluent families in urban areas are cultured to think that selling something is a sign of desperation. Their parents are well-off such that they think allowing their children to partake in entrepreneurial activities is stooping low'*.

## **2. Strategies to improve entrepreneurship skills development**

### **a. Training of both teachers and learners in entrepreneurship skills,**

The study found out from key informants that young people shape a country's dreams and future. Giving young people especially secondary school students and school leavers the skills they need to become independent has a big impact on reducing unemployment. As remarked by a female key informant who is an Education Officer, *'Entrepreneurship is the surest game-changer to solve the problem of unemployment. Producing and selling should be a culture among all students. We should move from a culture of consumption to a culture of production'*. Participants of both focus groups discussions and interviews suggested that there is need to train both teachers and learners to improve and change their mind-sets towards entrepreneurship skills development. Training is a fundamental aspect for building entrepreneurial capacity (Cho, Robalino, & Watson, 2016)

### **b. Availing of resources to support entrepreneurship skills development**

The study suggested government intervention through financial support for training teachers and financial support for starting entrepreneurial activities for the development of entrepreneurship skills in students. This was supported by one of the participants who pointed out that, *'The education system is uneven and complicated; other schools can provide resources, others cannot, depending on their status. This will make the gap between the poor and the rich in society continue to widen.'*

### **c. Curricula amendment**

Participants of focus groups as supported by key informants advised that curriculum should be amended to suit the current situation prevailing in the country which calls for more focus on entrepreneurship. This suggests that if schools improve the level of teaching of entrepreneurial skills, sustainability will be enhanced in the education system. One participant mentioned the need to train teachers to equip students with entrepreneurial skills and also carry out continuous assessment of practical subjects up to A' level so that students take entrepreneurship seriously. Instead of written examinations, students could be given marks for forming an entrepreneurial project which helps to raise money for their fees.

#### IV. CONCLUSION

The study concluded that lack of entrepreneurially skilled teachers, lack of resources, poor network connectivity especially in rural areas, curricula and education system constraints, hinder entrepreneurship skills development in secondary schools. Largely, interviews and focus group discussions found that lack of training and lack of resources were major challenges followed by curricula misalignment. The study also found that there was need for awareness campaigns in the community for proper entrepreneurial training, supporting students before and after leaving school and availing of adequate resources, and this can promote entrepreneurship skills development. It was also a finding of this study that there are negative attitudes about entrepreneurship skills development because the subject is not examinable. There are no exams. In light of the above conclusions and findings, the following recommendations are proffered by this study:

1. 5.1 Responsible authorities of secondary schools should ensure that financial and material
2. resources are made available to construct physical infrastructures for start-up entrepreneurial projects.
3. 5.2 Secondary schools, especially those in rural areas, should be electrified because electricity is an enabler for students and teachers to widen their choices of entrepreneurial projects. Electricity also helps to access internet connectivity.
4. 5.3 Entrepreneurship skills training should be mandatory for all students.
5. 5.4 There is need for career guidance so that students change their mind-sets/ negative attitudes toward entrepreneurship. Most students still prefer employment in white-collar jobs which are not there.
6. 5.5 To achieve sustainability of the education system, there should be policies that enforce the teaching of entrepreneurial skills across the education curriculum from primary school as the adage goes ‘Catch them young’.
7. 5.6 All practicing teachers should do a course in entrepreneurship and all student teachers should pass a course in entrepreneurship at their teacher training college before they graduate.

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# Business Ethics Disclosure: Ownership Structures and Corporate Governance

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## ABSTRACT

**Purpose:** This study aims to analyse the effect of board independence, gender diversity, managerial ownership, foreign ownership, and ownership concentration on business ethics disclosure.

**Design/methodology/approach:** This research is a causality study with quantitative methods and uses secondary data sourced from annual reports and sustainability reports of manufacturing companies listed on the Indonesia Stock Exchange from 2018 to 2022. The sampling technique using purposive sampling obtained a sample of 75 sustainability reports which were analyzed using multiple linear regression. Findings: The research findings show that there is an effect of board independence, managerial ownership, and foreign ownership on business ethics disclosure but not significant for gender diversity and ownership concentration.

**Practical implications:** This research contributes theoretically in the development of the accounting conceptual framework regarding the concept of disclosure, especially voluntary disclosure and contributes practically as a consideration for the government to make regulations that can encourage companies to disclose business ethics, can provide information to investors regarding business ethics disclosure items that can be used as material for evaluating long-term risks and opportunities related to their investment and as a consideration for decision making, policy or company strategy in disclosing business ethics.

**Paper type:** Research paper

**Keyword:** Business ethics disclosure, Ownership structure, Corporate governance

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## I. INTRODUCTION

Ethics is an important component of running a business in accordance with the code of ethics and general regulations. Voluntary disclosures used to improve corporate management are known as ethical disclosures (Waweru, 2020). Voluntary disclosure is a disclosure made by the company outside the required disclosure limits (Qu and Cooper, 2012). Companies can provide complete and transparent information through voluntary disclosure to stakeholders (Qu and Cooper, 2012). Voluntary disclosure of business ethics can provide a means to increase transparency, social responsibility, improve image or good name, build trust, and future company sustainability (Jubaedah *et al.*, 2023). According to Persons (2010), although many companies already have a written code of ethics, many still do not disclose in detail which code of ethics they apply, so the level of voluntary ethics disclosure is still very low.

In Indonesia, disclosure of business ethics is still voluntary (Laksito, 2020). Regulations that require companies in Indonesia to have a code of ethics still do not exist (OJK, 2014), so there are still many companies that have not disclosed business ethics. According to Jubaedah *et al.*, (2023), only 30% of manufacturing companies listed on the Indonesia Stock Exchange (IDX) from 2018 to 2020 made business ethics disclosures (data processed, 2021). The level of disclosure of business ethics in 2019 to 2020 is still relatively low. In 2019

only 12% or 77 companies out of 591 companies disclosed business ethics, and this figure decreased in 2020 to 8% or 58 companies out of 661 companies. This causes that the level of business ethics disclosure is still very low in Indonesia with many cases of business ethics violations, which should be a form of company to gain the trust of stakeholders, has a high level of business ethics disclosure.

The collapse of giant corporations such as Enron, WorldCom, and Parmalat highlighted the extreme consequences faced by companies that chose unethical ways of conducting their business (Othman *et al.*, 2014). These financial scandals show that some highly successful companies have ignored ethical principles and are seen as entities that are only concerned with profit and selfish behavior. Greed and manipulation of financial statements have raised many questions regarding the ethical integrity reflected in the activities of companies that should be disclosed to the public and stakeholders. This financial scandal raises doubts about the reliability and relevance of corporate data information (Rossi *et al.*, 2021).

Ho & Wong (2001) argue that research conducted in developed countries may not be applicable in developing countries, where the regulatory environment and culture are different. This causes studies on business ethics disclosure in developing countries to be limited, therefore this study fills the void of existing literature amidst the great demands of companies to be socially responsible. This topic is a current issue because not many references have been found. The novelty in this study is to use foreign ownership variables and the research object used is a manufacturing company that was not previously used in research (Waweru, 2020).

This study uses legitimacy and stakeholder theory to explain the influence between board independence, gender diversity, managerial ownership, foreign ownership, and ownership concentration on business ethics disclosure. Legitimacy theory states that the right to life of a company is legitimized if its value system is in line with the company's social structure, but this poses a risk if there are potential/actual differences between these systems (Long & Driscoll, 2008; Waweru, 2020). According to Ntim *et al.* (2013) and Reverte (2009) when corporate legitimacy is threatened, companies try to manipulate/change stakeholders' perceived behavior, thereby minimizing or creating the threat. They claim to apply different legitimization strategies to achieve this. Companies can legitimize their business operations by disclosing information about corporate ethics. The legitimacy theory perspective emphasizes that large companies are known, more politically sensitive, and more susceptible to public pressure to exercise social responsibility than small companies (Adel, 2017; Al Farooque & Ahlu, 2017).

Stakeholder theory serves as the basis for identifying the parties to which a business is responsible (Adel, 2017). According to Huhmann & Conner (2014) encouraging ethical activities will improve the perception of the company, thus building the company's reputation in the eyes of stakeholders. The annual report is used to investigate the company's promotion of ethical business activities to current and potential shareholders because the report permanently reveals social issues, which top management considers important and wants to communicate to shareholders and the public, and is also a record of ethical business activities (Huhmann and Conner, 2014). Business success depends on the company's ability to maintain good relationships with its stakeholders (Rashid, 2015), so business ethics disclosure policies should be integrated into the governance structure.

According to previous research Bokpin *et al.*, (2015), Haniffa & Cooke (2005), Jubaedah & Setiawan (2023), Ntim & Soobaroyen (2013), Reverte (2009), Ullah *et al.*, (2019), and Waweru (2020) business ethics disclosure is influenced by factors including board independence, gender diversity, managerial ownership, foreign ownership, and ownership concentration. Previous research showing the influence between board independence, gender diversity and foreign ownership on business ethics disclosure was conducted by (Haniffa and Cooke, 2005; Ntim and Soobaroyen, 2013; Jubaedah and Setiawan, 2023), while research showing the influence between managerial ownership and ownership concentration on business ethics disclosure was conducted by (Reverte, 2009; Bokpin, Isshaq and Nyarko, 2015; Ullah, Muttakin and Khan, 2019). This research shows that ownership structure and corporate governance can be considered to improve the company's reputation and legitimacy in society.

The importance of continuous innovation in the practice of business ethics, as well as to improve the practice of corporate governance and ownership structure in each country that has different business ethics characteristics, it is necessary to conduct further research to find out how the influence of corporate governance and ownership structure on business ethics disclosure in developed and developing countries with different characteristics of information needs for stakeholders, especially in Indonesia. This research refers to research (Waweru, 2020), the dimensions of corporate governance and ownership structure related to business ethics disclosure are board independence, gender diversity, managerial ownership, foreign ownership, and ownership concentration. This study aims to analyze the effect of board independence, gender diversity, managerial ownership, foreign ownership, and ownership concentration on business ethics disclosure and contribute theoretically to the development of the accounting conceptual framework on the concept of disclosure, especially voluntary disclosure and contribute practically as a consideration for the government to make regulations that can encourage companies to disclose business ethics, can provide information to investors about business ethics disclosure items that can be

used as material for evaluating long-term risks and opportunities related to their investment and as a consideration for decision making, policy or company strategy in disclosing business ethics.

## **A. Literature Review**

### **1. Business Ethics Disclosure**

Business ethics disclosure is the provision of information about the company's standards, policies and business processes related to activities that are expected or not allowed. This activity includes the disclosure of information related to the implementation of the company's code of ethics to interested parties. The purpose of this disclosure is to encourage effective communication between the company, society and stakeholders regarding the implementation of ethics and corporate goals (Choi & Pae, 2011).

### **2. Legitimacy Theory**

Legitimacy theory was first proposed by Dowling & Pfeffer (1975) who argued that legitimacy can be said to be an advantage for the survival of a company. Legitimacy theory summarizes the idea that businesses must comply with social norms to achieve prosperity (Villiers & Staden, 2006). According to legitimacy theory, companies use social responsibility disclosures to prove their conformity with social norms. For example, when social norms are strongly expressed in the media, companies respond with additional social responsibility disclosures (Brown *et al.*, 2012). According to Rossouw (2005), ethical business standards are reflected in the way a company treats its stakeholders and thus in the four key values of good corporate governance: transparency, accountability, responsibility and integrity.

### **3. Stakeholder Theory**

Stakeholder theory by Freeman (1994) assumes that company performance is determined by related parties who have an interest. This results in companies needing to be more assertive in making decisions and communicating information that is clearly disclosed and useful to stakeholders. Stakeholder theory is the basis for identifying entities for which a company is responsible. Companies must act responsibly by considering stakeholder analysis. The main stakeholders that influence business reporting cannot be identified with certainty. Legitimacy and stakeholder theories are seen as complementary. However, the stakeholder perspective focuses on the expectations and demands of stakeholders who have a major influence on the welfare of the company. Meanwhile, the legitimacy perspective focuses on achieving acceptance in society as a whole (Al Farooque and Ahlu, 2017).

## **B. Hypothesis Development**

### **1. The effect of Board Independence on Business Ethics Disclosure.**

Board independence is seen as a corporate governance mechanism that reduces opportunistic behavior and monitors board decisions, including compensation design. Board composition can be divided into executive and non-executive (outside) directors. Non-executive board composition is defined as the proportion of outside directors to the total number of company directors (Haniffa and Cooke, 2002). Independent non-executive directors are more likely to make decisions that benefit stakeholders, ensure the survival and competitiveness of the company, and are aligned with the legitimacy of the company and the expectations of stakeholders (Ghosh, 2006). This in turn can lead to higher levels of voluntary disclosure (Al Farooque and Ahlu, 2017). Haniffa and Cooke (2002) and Mangena (2007) argue that board independence improves disclosure quality because outside directors have an incentive to provide information and support shareholders. When the composition of independent non-executive directors is more, it is possible to encourage policies and increase corporate social responsibility to improve business ethics disclosure. There is evidence that board independence has a positive influence on business ethics disclosure. Haniffa and Cooke (2002) found a positive influence between board independence and business ethics disclosure, but research (Barako, Hancock and Izan, 2006) showed a negative influence between board independence and business ethics disclosure. Existing empirical evidence mainly shows that the presence of independent directors has a positive influence on business ethics disclosure (Ntim & Soobaroyen, 2013). Recent evidence put forward by Harjoto & Jo (2011) and Michelon and Parbonetti (2012) shows that companies with a higher proportion of independent directors tend to be more socially responsible. Based on the explanation above, the following hypothesis is proposed:

H1 : Board independence has a positive influence on business ethics disclosure.

### **2. The Effect of Board Diversity Gender on Business Ethics Disclosure.**

Gender diversity generally refers to the set of characteristics that may exist among board members and that may influence decision-making. Entities and gender are current issues of global concern and have attracted the attention of national organizations (e.g. Australia, Canada, Malaysia, Norway, South Africa and the United States) and/or globally led to regulations on how to increase gender/ethnic minority representation on corporate boards



(Ntim and Soobaroyen, 2013). Legitimacy theory states that boards of directors with diverse gender backgrounds improve corporate efficiency and financial performance for shareholders by connecting the company to the external environment, attracting resources, and increasing corporate legitimacy (Waweru, 2020). Mason and Mudrack (1996) found that women show higher ethical values than men when making decisions. The presence of women on a company's board of directors increases its legitimacy by building better networks with influential stakeholders (Ntim & Soobaroyen, 2013). When the board of directors of a company is more diverse, it may put higher pressure on company managers to engage in business ethics disclosure. There is evidence that gender diversity has a positive influence on business ethics disclosure. Research evidence examining the effect of gender diversity on voluntary disclosure of business ethics such as (Haniffa & Cooke, 2005; Barako & Brown, 2008; Brammer & Pavelin, 2008; Ntim & Soobaroyen, 2013; Mohamed et al., 2017; Ullah et al., 2019; Waweru, 2020) reported that a more diverse board has a positive influence on business ethics disclosure, but research (Sartawi et al., 2014) did not show significance between gender diversity and business ethics disclosure. Based on the explanation above, the following hypothesis is proposed:

H2 : Gender diversity has a positive influence on business ethics disclosure.

### **3. The Effect of Management Ownership of Business Ethics Disclosure.**

Managerial ownership is seen as a mechanism to align the interests of directors and shareholders, it is a mechanism to minimize conflicts between management and shareholders (Paek et al., 2013). Al Farooque and Ahlu (2017) found that when the demand for managerial incentives increases, managers tend to allocate more resources to their own interests and hide this information from external stakeholders, thereby reducing disclosure. Managers make disclosure decisions that maximize job security and incentive compensation (Healy and Palepu, 2001). Companies with high levels of managerial ownership have limited pressure to demonstrate accountability and transparency to external stakeholders, including society (Khan et al., 2013). Companies with high management involvement are expected to invest less in Corporate Social Responsibility (CSR) activities, as the cost of investing in Corporate Social Responsibility (CSR) activities may exceed the expected benefits (Samaha et al., 2012). The need for voluntary participation in business ethics disclosure is limited. As managerial ownership increases, managerial oversight is likely to decrease, which may have a negative impact on business ethics disclosure practices. Some previous studies that examined the effect of managerial ownership on voluntary disclosure such as (Khan, Muttakin and Siddiqui, 2013; Rashid, 2015; Jubaedah and Setiawan, 2023) found a positive effect on voluntary disclosure, while research Majumder et al., (2017), Mohamed et al., (2017), Ntim & Soobaroyen (2013), Ullah et al., (2019) found a negative influence between managerial ownership and business ethics disclosure. Based on the explanation above, the following hypothesis is proposed:

H3 : Managerial ownership has a negative influence on business ethics disclosure.

### **4. The Effect of Foreign Ownership on Business Ethics Disclosure.**

Foreign ownership is an ownership structure that plays an important role in monitoring the company's operations. The most important factor in corporate social disclosure is foreign ownership (Barako et al., 2006). Higher disclosure is required by foreign shareholders due to geographical differences in corporate governance in foreign capital markets (Haniffa and Cooke, 2005), it tends to be required by foreign shareholders as a measure to monitor company actions, management, and reduce information gaps. Companies with higher foreign ownership are expected to disclose more corporate information, including business ethics information to meet the requirements of foreign reporting (Haniffa & Cooke, 2002). When foreign ownership is higher, it is possible to encourage policies and increase corporate social responsibility to improve business ethics disclosure. This statement is supported by the positive significant effect shown by foreign ownership on corporate business ethics disclosure in several studies (Haniffa and Cooke, 2005; Barako, Hancock and Izan, 2006; Jubaedah and Setiawan, 2023), while research by Bokpin et al., (2015) & Esa & Zahari (2016) found a negative effect between foreign ownership and business ethics disclosure. According to the stakeholder theory point of view, foreign shareholders require reporting information on business ethics that is more extensive than the company (Chakroun, Matoussi and Mbirki, 2017). Based on the explanation above, the following hypothesis is proposed:

H4 : Foreign ownership has a positive influence on business ethics disclosure.

### **5. The Effect of Ownership Concentration on Business Ethics Disclosure.**

Ownership concentration is considered an important governance structure that has a significant impact on monitoring management activities. According to (Khan et al., (2013), closed companies are less likely to require public accountability through disclosure because they receive less attention from external parties. Managers of companies with concentrated ownership structures are more likely to engage voluntarily and less likely to disclose information. Concentrated ownership requires increased monitoring, which can be reduced by increasing the level of voluntary disclosure (Oliveira et al., 2012; Ntim et al., 2013). Large shareholders can easily access company data, which will determine their public disclosure demands, including business ethics disclosure. This causes large

shareholders to not demand greater business ethics disclosure because they can easily access internal information through meetings with management. Previous research (Haniffa and Cooke, 2002; Barako, Hancock and Izan, 2006; Sartawi et al., 2014; Majumder, Akter and Li, 2017) found a negative influence between ownership concentration variables on voluntary disclosure, but research (Eng and Mak, 2003) did not show significance between ownership concentration on voluntary disclosure. Based on the explanation above, the following hypothesis is proposed:

H5 : Ownership concentration has a negative influence on business ethics disclosure.

## II. METHODS

This research is a causality study with a quantitative approach and secondary data. The population of this study uses manufacturing companies listed on the Indonesia Stock Exchange. The sampling method uses purposive sampling with several predetermined criteria, namely; companies in the manufacturing sector listed on the Indonesia Stock Exchange from 2018 to 2022, have published annual financial reports for the period ending December 31, 2018 to December 31, 2022, and have published annual reports and sustainability reports for each company for the period 2018 to 2022. Based on these criteria, 75 annual reports and sustainability reports of companies that meet the criteria were selected as samples.

The dependent variable in this study is the disclosure of business ethics. This measurement of business ethics uses the disclosure items contained in the study (Waweru, 2020). This research uses a disclosure scoring method or disclosure index. If the company discloses the information as stated in the business ethics disclosure items contained in the research (Waweru, 2020), it will be given a value of 1, if it does not disclose it will be given a value of 0. If the company discloses all the information contained in the business ethics disclosure (BED) items, then the maximum value of using the business ethics disclosure (BED) items is 100%. This research is in line with previous research (Waweru, 2020).

The independent variables in this study are board independence, board gender diversity, managerial ownership, foreign ownership, and ownership concentration. The table below presents a summary of the variable definitions used, including the dependent variable (business ethics score) and the independent variables.

*Table 1. Variable Measurement*

<i>Dependent variable</i>	
<i>Business ethics disclosure score</i>	<i>Calculated using disclosure items that refer to research (Waweru, 2020)</i>
<i>Independent variable</i>	
<i>Board Independence</i>	<i>Number of outside directors divided by the total number of directors at the end of the year (Waweru, 2020)</i>
<i>Board gender diversity</i>	<i>Number of female directors divided by the total number of directors (Waweru, 2020)</i>
<i>Management ownership</i>	<i>The number of shares owned by company managers divided by the total number of shares of a company at the end of the financial year (Waweru, 2020)</i>
<i>Foreign ownership</i>	<i>The percentage of shares owned by foreigners divided by the total number of shares of a company at the end of the financial year (Haniffa and Cooke, 2005; Barako, Hancock and Izan, 2006; Jubaedah and Setiawan, 2023)</i>
<i>Ownership concentration</i>	<i>Cumulative shareholding percentage by top five shareholders (Waweru, 2020)</i>

This study uses multiple regression analysis equations to test the hypothesis, as follows:

Multiple regression analysis :

$$BED = \alpha + \beta_1 BIND + \beta_2 BGD + \beta_3 MOWN + \beta_4 FOWN + \beta_5 BLKOWN + e (1)$$

Where BED is the Business Ethics Disclosure score, BIND is the Board Independence Variable, BGD is the Board Gender Diversity, MOWN is the Managerial Ownership, FOWN is the Foreign Ownership, BLKOWN is the Ownership Concentration, and e is an error term.

### III. RESULTS AND DISCUSSION

#### A. Results

##### 1. Descriptive Statistic

A summary of the descriptive statistics of all the variables included in our analysis is provided in Table 2. The variables of board independence, gender diversity, foreign ownership, and ownership concentration have mean values greater than the standard deviation so that the data on these variables are homogeneous. This indicates that the data between one another does not have a large deviation. Meanwhile, the managerial ownership variable has an average value that is smaller than the standard deviation, so the data distribution on this variable is heterogeneous. We also observe that there is a considerable degree of dispersion in the distribution of business ethics disclosure, with a minimum value of 45.55% while the maximum value is 84.48% with the average company disclosing 67.28% of the 58 business ethics items examined.

*Table 2. Descriptive Statistic*

<i>Variable</i>	<i>Maximum</i>	<i>Minimum</i>	<i>Mean</i>	<i>Std. Dev</i>
<i>BED</i>	84,48	45,55	67,28	7,45
<i>BIND</i>	64,29	0,00	25,74	15,58
<i>BGD</i>	40,00	0,00	12,28	11,93
<i>MOWN</i>	10,21	0,00	0,93	2,44
<i>FOWN</i>	96,39	0,25	42,98	35,75
<i>BLKOWN</i>	99,94	3,57	79,19	16,88
<i>Valid N</i>	75			

Notes: BED = Business Ethics Disclosure, BIND = Board Independence, BGD = Board Diversity Gender, MOWN = Managerial Ownership, FOWN = Foreign Ownership, BLKOWN = Ownership Concentration.

Source : Authors own processed

##### 2. Classical Assumption Testing

The test results show that all classical assumptions have been met. In the normality test, the significance value shows  $0,561 > 0,05$ , which means that the data distribution is normal and means that this research data fulfills the assumption of normality. The heteroscedasticity test results show that the significant value of each variable is greater than  $0,05$ , which means that there is no heteroscedasticity in the regression equation so that the regression model is suitable for basic prediction. The Variance Inflation Factor (VIF) test results are smaller than 10 for all independent variables, which means there is no multicollinearity between the independent variables. The autocorrelation test results show the Durbin Watson value is 1.823, where this value meets the conditions  $du < d < 4 - du$  which means there is no autocorrelation.

**3. Multiple Regression Calculation Results**

The results of multiple regression calculations using SPSS assistance, obtained the results as in table 3. The regression results in table 3 show that the form of the relationship between the dependent variable and the independent variables can be described in the multiple regression equation as follows:

$$BED = \alpha + \beta_1BIND + \beta_2BDG + \beta_3DOWN + \beta_4FOWN + \beta_5BLKOWN + e$$

$$= 67.95 + 0.05BIND + 0.02BDG - 0.35DOWN - 0.08FRGN - 0.02BLKOWN + e$$

*Table 3. Regression coefficient*

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Sig.</i>
<i>Konstanta</i>	<i>67,95</i>	<i>1,91</i>	<i>35,45</i>	<i>0,00</i>
<i>BIND</i>	<i>0,05</i>	<i>0,02</i>	<i>2,00</i>	<i>0,04</i>
<i>BGD</i>	<i>0,02</i>	<i>0,03</i>	<i>0,69</i>	<i>0,49</i>
<i>MOWN</i>	<i>-0,35</i>	<i>0,15</i>	<i>-2,29</i>	<i>0,02</i>
<i>FOWN</i>	<i>-0,08</i>	<i>0,01</i>	<i>-6,57</i>	<i>0,00</i>
<i>BLKOWN</i>	<i>0,02</i>	<i>0,02</i>	<i>0,83</i>	<i>0,40</i>

Notes: BED = Business Ethics Disclosure, BIND = Board Independence, BGD = Board Diversity Gender, MOWN = Managerial Ownership, FOWN = Foreign Ownership, BLKOWN = Ownership Concentration.

Source : Authors own processed

**4. Model analysis**

From the results of the adjusted R square test analysis, it is known that the adjusted R square value is 43.8%, so the independent variables consisting of board independence (X1), gender diversity board (X2), managerial ownership (X3), foreign ownership (X4), and ownership concentration (X5) are able to explain 43.8% of changes in the dependent variable. Meanwhile, 56.2% is explained by other variables outside this research model. This value is quite good, considering that there are actually many independent variables. The results of the F statistical test show that the significance value for equation 1 is 0.00 where the value is less than 0.05, it can be concluded that the research model is feasible to examine or the model fits.

**5. Hypothesis testing**

*Table 4. Hypothesis testing result*

<i>Variable</i>	<i>Coefficient</i>	<i>Prob α=0.5</i>
<i>BIND</i>	<i>0,05</i>	<i>0,04</i>
<i>BGD</i>	<i>0,02</i>	<i>0,49</i>
<i>MOWN</i>	<i>-0,35</i>	<i>0,02</i>
<i>FOWN</i>	<i>-0,08</i>	<i>0,00</i>
<i>BLKOWN</i>	<i>0,02</i>	<i>0,40</i>

<i>Adjusted R Square</i>	0,43
<i>F- Statistic</i>	5,27
<i>Prob (F-statistic)</i>	0,00
<i>N</i>	75

Notes: BED = Business Ethics Disclosure, BIND = Board Independence, BGD = Board Diversity Gender, MOWN = Managerial Ownership, FOWN = Foreign Ownership, BLKOWN = Ownership Concentration.

Source : Authors own processed

Based on the data presented in table 4 above, it can be seen that the five hypotheses proposed in this study have the following results:

- The effect of board independence on business ethics disclosure has a P value of 0.04 or smaller than 0.05 with a positive coefficient. This means that the board independence variable has a positive effect on the disclosure of business ethics.
- The effect of gender diversity on business ethics disclosure has a P value of 0.49 or greater than 0.05. This means that the gender diversity variable has no significant effect on business ethics disclosure.
- The effect of managerial ownership on business ethics disclosure has a P value of 0.02 or smaller than 0.05 with a negative coefficient. This means that the managerial ownership variable has a negative effect on the disclosure of business ethics.
- The effect of foreign ownership on business ethics disclosure has a P value of 0.00 or smaller than 0.05 with a negative coefficient. This means that foreign ownership variable affect the disclosure of business ethics.
- The effect of ownership concentration on business ethics has a P value of 0.40 or greater than 0.05. This means that the ownership concentration variable has no significant effect on the disclosure of business ethics.

## **B. Discussion**

In this subchapter, the results of the hypothesis testing that has been carried out are explained. The discussion of this research hypothesis will be explained as follows:

### **1. The Effect of Board Independence on Business Ethics Disclosure**

The results of hypothesis testing in table 4 show that board independence has a positive effect on business ethics disclosure (BED), which means that the greater the composition of independent non-executive directors, the more business ethics disclosure will increase. This causes H1 to be accepted. Our results are consistent with previous evidence (Haniffa and Cooke, 2002; Mangena, 2007; Harjoto and Jo, 2011; Michelon and Parbonetti, 2012; Ntim and Soobaroyen, 2013; Al Farooque and Ahulu, 2017) which reported a positive influence of independent directors on CSR disclosure. From a theoretical perspective, our findings are consistent with the predictions of legitimacy theory (the pragmatic effect of legitimacy), which suggests that high board independence, typically associated with independent Non-Executive Directors (NEDs), puts them in a better position to exert pressure. Business leaders commit to improving business ethics without fear or favour (i.e. victimization by senior management).

### **2. The Effect of Board Gender Diversity on Business Ethics Disclosure**

The formulation of the hypothesis on the gender diversity variable predicts a positive and significant influence between board gender diversity (BGD) on the level of business ethics disclosure (BED). The results of hypothesis analysis show that the coefficient of gender diversity (BGD) is insignificant. This causes H2 to be rejected. Our results are inconsistent with previous studies that show a positive and significant relationship between gender diversity and voluntary disclosure (Haniffa and Cooke, 2005; Barako and Brown, 2008; Brammer and Pavelin, 2008; Ntim and Soobaroyen, 2013; Mohamed, Basuony and Hussain, 2017; Ullah, Muttakin and Khan, 2019), but our results are consistent with research (Sartawi *et al.*, 2014) that shows no significance between gender diversity and business ethics disclosure. The results are also inconsistent with the evidence of previous studies Barako & Brown (2008), Haniffa & Cooke (2005), dan Ntim & Soobaroyen (2013) which show that increased management monitoring is associated with corporate boards having greater gender diversity (structural legitimacy) and also to ensure better stakeholder representation (influence legitimacy), acquire resources (exchange legitimacy) and thus increase corporate legitimacy.

### **3. The Effect of Managerial Ownership on Business Ethics Disclosure**

The results of hypothesis testing show a negative influence between managerial ownership (MOWN) on the level of business ethics disclosure (BED), which means that the greater the share ownership owned by management, the lower the level of business ethics disclosure. This causes H3 to be accepted. Our results are in line with the results of previous studies that support that managerial parties who own a large proportion of a company's shares have a negative influence on the level of voluntary disclosure Khan *et al.*, (2013), Majumder *et al.*, (2017), Mohamed *et al.*, (2017), Ntim & Soobaroyen (2013), dan Ullah *et al.*, (2019). However, our results are not in line with previous studies that show a significant positive effect between managerial ownership and business ethics disclosure (Khan *et al.*, 2013; Rashid, 2015).

### **4. The Effect of Foreign Ownership on Business Ethics Disclosure**

The results of hypothesis testing in table 4 show a negative influence between foreign ownership (FOWN) on the level of business ethics disclosure (BED), which means that the greater the share ownership owned by foreigners, the lower the level of business ethics disclosure. This causes H4 to be rejected. Our results are in line with research (Bokpin, Isshaq and Nyarko, 2015; Esa and Zahari, 2016) which shows a negative influence between foreign ownership and business ethics disclosure. However, our results are not in line with the results of previous studies that support the proposition that foreigners who own a large proportion of a company's shares have a positive influence on the level of voluntary disclosure (Haniffa and Cooke, 2005; Barako, Hancock and Izan, 2006; Sartawi *et al.*, 2014; Jubaedah and Setiawan, 2023).

### **5. The Effect of Ownership Concentration on Business Ethics Disclosure**

The formulation of the hypothesis on the ownership concentration variable (BLKOWN) predicts a negative and significant influence between ownership concentration (BLKOWN) and the level of business ethics disclosure (BED). The results of hypothesis analysis show that the coefficient of ownership concentration (BLKOWN) is not significant. This causes H5 to be rejected. Our results are not in line with previous studies on voluntary disclosure (including CSR disclosure), which reported a significant negative effect between ownership concentration (BLKOWN) and voluntary disclosure (Reverte, 2009; Khan, Muttakin And Siddiqui, 2013; Ntim And Soobaroyen, 2013), but our results are in line with the study of (ENG AND MAK, 2003) which did not show significance between ownership concentration and business ethics disclosure. Our results are also not in line with the view that concentrated ownership structure results in less voluntary disclosure compared to dispersed ownership structure (Reverte, 2009; Khan, Muttakin and Siddiqui, 2013; Ntim and Soobaroyen, 2013).

## **IV. CONCLUSION**

This study aims to analyze the influence between board independence, gender diversity, managerial ownership, foreign ownership, and ownership concentration on business ethics disclosure (BED) in manufacturing companies in Indonesia for the period 2018 to 2022. Our results show that board independence, managerial ownership, and foreign ownership have a significant influence on business ethics disclosure (BED), but gender diversity and ownership concentration are not significant. The results suggest that companies with high managerial ownership in Indonesia tend to engage in fewer business ethics (BED) disclosures. The negative and significant effect on foreign ownership means that the greater the shareholding owned by foreigners, the fewer the number of business ethics disclosure items. The amount of share ownership owned by foreigners has an impact on the disclosure of business ethics by the company to be more limited. The results of this study also show that board independence has a positive effect on business ethics disclosure (BED), which means that the greater the composition of independent non-executive directors, the more business ethics disclosure will increase.

Our research contributes theoretically to the development of the accounting conceptual framework on the concept of disclosure, especially voluntary disclosure and contributes practically as a consideration for the government to make regulations that can encourage companies to disclose business ethics and can provide information to investors about business ethics disclosure items that can be used to evaluate long-term risks and opportunities related to their investment.

The limitations in this study are that the reference sources that examine the disclosure of business ethics in Indonesia are still limited, the items of business ethics disclosure extracted in the annual report and sustainability report do not show the quality of information conveyed by the company, and the disclosure of business ethics is looking at the problem of applied ethical dilemmas so that the point of view on ethics is different.

It is suggested that future research can use other grand theories so as to get a different perspective on business ethics disclosure and can use a wider research sample to cover other sector companies such as the financial sector,

insurance, and other sectors so that the contribution of research is getting better, plus a more recent research period so that it can describe the current situation.

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# The Influence of the Window-Shopping Learning Model on Results Learn Science Through Student Pancasila Theme Independent in Elementary School

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## ABSTRACT

**Purpose:** Study This aim for evaluate the influence of the Window-Shopping learning model on results study science at student School Elementary (SD), with focus on application theme independent in framework Profile Student Pancasila. Window Shopping Model, which utilizes technique exploration and invention independent, implemented for increase understanding science concepts in fourth grade elementary school.

**Design/methodology/approach:** Study This use approach experiment with pretest-posttest control group design , involving two group students : one group experiments that apply the Window Shopping model and One group control that uses method learning conventional.

**Findings:** Results study show that implementation of the Window-Shopping model significant increase results students learn science compared to with method conventional. Student in group experiment show more improvement Good in understanding science concepts, skills exploration, and application practical from material lesson. Besides that is, learning model This Also contribute on development character independent student in accordance with theme Student Pancasila. Study This conclude that the Window-Shopping model is effective in increase results study science and support application mark independent in Profile Student Pancasila. It is recommended that this model integrated in practice learning in elementary school for increase involvement student and results Study academic. Study more carry on required for explore effect period long from this model and its application in various ways context education. Based on class t test control as well as class experiment there is possible results seen from  $t_{count} = 3.952 > t_{table} = 1.999$  with sig. (2-tailed)  $0.000 < 0.05$ , meaning  $H_0$  is rejected and  $H_a$  accepted can concluded that there is the influence of the window-shopping learning model on results learn science through student Pancasila theme independent class V.

**Paper type:** Research paper

**Keyword:** Window Shopping Learning Model, Results Study science, Independent

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## I. INTRODUCTION

Efforts to improve the quality of education are not only the responsibility of the government, but are the responsibility of all components of the nation, such as families and communities. Education is not an activity carried out without a purpose. Munib (2012: 29) states, "Education has the task of producing a good generation, people who are more cultured, humans as individuals who have better personalities. According to Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System, Chapter , Social Sciences (IPS), Arts and Culture, Physical Education and Sports, Skills or Vocational, and Local Content.

Natural Science (IPA) is learning related to finding out about nature systematically, so that science is not only about mastering a collection of knowledge in the form of facts, concepts and principles but is also a process of discovery. Science education is a subject taught in elementary schools (SD) which expects students to learn about themselves and the natural surroundings and the prospects for further development in applying it in everyday

life. The science learning process emphasizes providing direct experience to develop competencies to explore and understand the natural surroundings scientifically. Science education is directed at inquiry and action so that it can help students to gain a deeper understanding of the natural surroundings (Permendiknas, 2006:22). Based on the findings of the Ministry of National Education (2007), the results of this research show that there are still many problems in implementing science subject content standards. Natural Sciences (Science) is one of the subjects taught in elementary schools (SD). The science learning process is a science that involves learning about oneself and everything related to nature. In the implementation of science learning, it is not only focused on the theory of activities in the classroom, but students can also carry out practical activities so that students will get direct experience regarding learning. carried out with a better level of understanding.

Based on observations made on class V students at SD Negeri Duri Pulo 08, in the odd semester of the 2021/2022 academic year, the lecture method is still often used by teachers for the reason that there is quite a lot of science material provided and teachers are not very familiar with the models. learning that can be used for alternative learning. Teachers provide information to students, so students tend to be less active in learning. When learning is taking place, students just quietly listen to the teacher's explanation and take notes on what the teacher writes on the blackboard or the presentation given by the teacher via Power Point. Learning in general still emphasizes aspects of knowledge and understanding of the material. Teachers have been giving more practice working on questions in textbooks. This causes students to be less trained to develop thinking skills in solving problems and applying concepts learned at school to the real world. Even in classroom learning, it can be seen that when questions are asked, only a few students answer the teacher's questions. The participation of students in the learning process is still lacking, namely only a few students show active opinion and ask questions.

The questions made by students also do not show critical questions related to the material being studied. Then the answers to questions are still limited to memory and understanding, there is no student attitude that shows analytical answers to the teacher's questions. In the current learning process, there are still many teachers or educators who only teach their students only through thematic textbooks, while the discussion contained in the textbook is still said to be minimal in terms of discussion, whereas each lesson consists of several subjects which are combined in thematic learning or the 2013 curriculum so that learning is still less innovative and creative so that the learning tools based on the lessons only rely on teacher books, student books and makeshift learning media, so that the learning process runs normally without any feedback or response from students in learning that is more interesting and more serious in understanding and insight into students' thinking.

Conventional lessons among class V students are still considered products, namely in the form of a collection of concepts that must be memorized, which has an impact on students' low cognitive abilities. The cognitive aspect consists of six aspects, namely remembering, understanding, applying, analyzing, evaluating and creating. Apart from conventional lessons, in 2020 the Ministry of Education and Culture made an educational revolution through Pancasila students as stated in Minister of Education and Culture Regulation no. 22 of 2022 concerning the profile of Pancasila students. Pancasila students are the embodiment of Indonesian students as lifelong learners who have global competence and behavior in accordance with Pancasila values with six main characteristics, namely faith, devotion to God Almighty, and noble character, global diversity, mutual cooperation, independence, critical reasoning and creativity. . The results of the observation analysis can be said that students' interest in science lessons is very lacking, while interest in learning is a major influence on learning activities. The learning process will run smoothly if accompanied by interest. Interest is a person's main motivational tool which makes it easy for students to understand lessons. The indicators of interest in learning are as follows: (1) The presence of feelings of liking or enjoyment; (2) There is attention; (3) Linkages to learning activities (Lestari & Yudhanegara, 2017, p. 92) Lestari and Yudhanegara (2017: 92) reveal in their book that interest in learning is the encouragement from within students psychologically to learn something fully. awareness, calm and discipline so that individuals actively and happily do it. Indonesian students are one of the Pancasila students who are required to become independent students. Independent students are students who are responsible for the process and results of their learning. The key elements of independence consist of awareness of oneself and the situation at hand as well as self-regulation.

The model used in this research is the window-shopping model. Suwarno (2011) stated that this window-shopping model is very interesting. Apart from group work, there are also peer tutoring activities. This learning model can be used to determine students' level of understanding and also provide practice in the form of story questions related to other subjects and everyday life. The results of research from Suprpto (2017: 138) on Two Stay Two Stray (TSTS) learning with window shopping activities on flat-sided building materials can make students active and creative and directly involved in learning. Students will be active in the search and development of knowledge, on the other hand teachers must change their role, no longer as the only source of learning for students but teachers must be able to become facilitators who guide students towards the formation of knowledge by themselves. The window-shopping model facilitates students' varied style tendencies (Visual-Auditory-Kinesthetic) and the desire of teenagers who continue to need to interact with others. This service model is equipped with the creation of presentation sheets that enable students to coordinate to complete tasks that lead

to understanding the material. Meanwhile, the activity phase of students presenting their results and going around looking at the results of other groups' presentations (window shopping) makes them happy and requires their body movements to walk around the class.

## II. METHODS

Method This research uses a quantitative experimental type method, specifically a quasi-experiment which is carried out using two classes, namely one class as a control class and one class as an experiment. Variable free (independent variable) in study This is the Widow Shopping Learning Model. Variable dependent variable is results learn science through student Pancasila theme independent. In this research, the population will be all students in class V of the 08 Duri Pulo State Elementary School in the 2021-2022 academic year with a total of 64 students spread across two classes, namely 32 students in class VA who were given widow shopping behavior as an experimental class and 32 students the VB class which was not given widow shopping behavior was used as the control class. The data collection techniques in this research are by using the following techniques: tests, interviews, and documentation. Tests, the data collection technique used by researchers in assessing student learning outcomes is tests. Both classes were given the same learning outcomes test, the test given was a daily research test on a special science subtheme which was given during the pre-test and post-test. Documentation, Documentation in the form of photographs relating to the school's organizational structure, school facilities and infrastructure, history of the school's founding, physical condition of the school, school programs, vision and mission and data on the total number of students. Study This implemented in Class V School Base Country Thorn Pulo 08 Morning.

## III. RESULTS AND DISCUSSION

Based on the research results, this research is a quasi-experimental research carried out at SD Negeri Duri Pulo 08 Pagi. The population in this study were students in classes VA and VB semester 1 of SD Negeri Duri Pulo 08 Pagi for the 2021/2022 academic year, totaling 64 students. The samples used were class VA students as the experimental class and class VB students as the control class with 32 students in each class. Samples were taken using a sampling technique, namely nonprobability sampling with purposive sampling.

### 1. Analysis Requirements Test Results

Testing the analysis requirements in this research is the normality test and homogeneity test. The normality test is used to determine whether the spread or distribution of *pretest* and *posttest data values* is normally distributed or not. The homogeneity test is carried out to ensure that sample data from a population taken has homogeneous variance or not. In this study, the normality test and homogeneity test used the SPSS 21 application.

#### 1. Normality test

Normality Test to determine whether the data distribution is normal or not. Where for each variable, the data in this study uses the SPSS 20 software application. The hypothesis formulation for the normality test in this study is as follows:

Ho: The sample comes from a normally distributed population

Ha: The sample comes from a population that is not normally distributed

The normality test was carried out using *Kolmogrov Smirnov* by reading the sig value. (significant) more than 0.05. With the following hypothesis testing criteria:

If it is significant  $> 0.05$  then Ho is accepted

If it is significant  $< 0.05$  then Ha is rejected

##### a. Control Class Normality Test

The normality test used in this research is the normality test using the *Kolmogorov-Smirnov formula*. The data normality test is used to determine whether the sample is normally distributed or not normally distributed. This normality test uses SPSS 20 with a significance level of more than 0.05. After processing the data, the output can be seen in table 1

*Table 1 Control Class Normality Test*

*One-Sample Kolmogorov-Smirnov Test*

		<i>BEFORE</i>	<i>AFTER</i>
<i>N</i>		32	32
<i>Normal Parameters<sup>a, b</sup></i>	<i>Mean</i>	50.38	71.56
	<i>Std. Deviation</i>	8,552	6,787
<i>Most Extreme Differences</i>	<i>Absolute</i>	,151	,131
	<i>Positive</i>	,112	,131
	<i>negative</i>	-,151	-,119
<i>Statistical Tests</i>		,151	,131
<i>Asymp. Sig. (2-tailed)</i>		,061 <i>c</i>	,179 <i>c</i>

Based on the results of the normality test in table 1, it can be seen that the significant *pretest value* for the control class is  $0.61 > 0.05$  and the significant *posttest value for the control class* is  $0.179 > 0.05$ , so it can be concluded that the *pretest* and *posttest* scores for the control class are normally distributed.

b. Experimental Class Normality Test

The normality test used in this research is the normality test using the *Kolmogorov-Smirnov formula*. The data normality test is used to determine whether the sample is normally distributed or not normally distributed. This normality test uses SPSS 20 with a significance level of more than 0.05. After processing the data, the output can be seen in table 2

*Table 2 Experimental Class Normality Test*

*One-Sample Kolmogorov-Smirnov Test*

		<i>PRE TEST</i>	<i>POST TEST</i>
<i>N</i>		32	32
<i>Normal Parameters<sup>a, b</sup></i>	<i>Mean</i>	58.63	83.50
	<i>Std. Deviation</i>	8,245	9,377
<i>Most Extreme Differences</i>	<i>Absolute</i>	,132	,122
	<i>Positive</i>	,132	,091
	<i>negative</i>	-,117	-,122

Statistical Tests	,132	,122
Asymp. Sig. (2-tailed)	,166 c	,200 c,d

Based on the results of the normality test in table 4.2, it can be seen that the significant *pretest value* for the control class is  $0.166 > 0.05$  and the significant *posttest value for the control class* is  $0.200 > 0.05$ , so it can be concluded that the *pretest* and *posttest* scores for the control class are normally distributed.

1) Homogeneity Test

The homogeneity test is a test of whether the variances of two or more distributions are the same. The homogeneity test is carried out to determine whether the variance of the data from the samples being analyzed is homogeneous or not. This homogeneity test was carried out using *Levene's test* with a significance level of more than 0.05. This homogeneity test uses SPSS 20.

The data homogeneity test hypothesis is as follows:

Ho: Both variances are homogeneous

Ha: Both variances are not homogeneous

The homogeneity test was carried out using *Levene's test* by reading the sig value.  $> 0.05$ . With the following hypothetical decision making criteria:

If it is significant  $> 0.05$  then Ho is accepted

If it is significant  $< 0.05$  then Ha is rejected

a. *Pretest* Homogeneity Test

The homogeneity test used in this research used *Levene's test* with a significance level of more than 0.05. The homogeneity test is carried out to determine whether the variance of the data from the samples being analyzed is homogeneous or not. This homogeneous test uses SPSS 20. After processing the data, the results are as follows

Table 3 *Pretest Homogeneity Test Results for Control Class – Experimental Class*

Test of Homogeneity of Variance		Levene Statistics	df1	df2	Sig.
Pretest Control Class – Experiment Class	Based on Mean	,237	1	62	,628
	Based on Median	,149	1	62	,700
	Based on Median and with adjusted df	,149	1	61,991	,700
	Based on trimmed mean	,230	1	62	,633

Based on the homogeneity test of *the pretest results* in table 4.3, it can be seen that the significant value is  $0.628 > 0.05$ , meaning that the significant value of 0.628 is greater than 0.05, so it can be concluded that the variance in *the pretest results* is homogeneous.

b. *Posttest* Homogeneity Test

The homogeneity test used in this research used *Levene's test* with a significance level of more than 0.05. The homogeneity test is carried out to determine whether the variance of the data from the samples being analyzed is homogeneous or not. This homogeneous test uses SPSS 20. After processing the data, the results are as follows

*Table 4 Posttest Homogeneity Test Results for Control Class - Experimental Class*

		<i>Test of Homogeneity of Variance</i>			
		<i>Levene Statistics</i>	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
<i>Posttest Control Class – Experimental Class</i>	<i>Based on Mean</i>	4,068	1	62	,063
	<i>Based on Median</i>	3,936	1	62	,080
	<i>Based on Median and with adjusted df</i>	3,936	1	59,446	,081
	<i>Based on trimmed mean</i>	3,788	1	62	,071

Based on the homogeneity test of the pretest results in table 4.4, it can be seen that the significant value is  $0.063 > 0.05$ , meaning that the significant value of 0.063 is greater than 0.05, so it can be concluded that the variance in the pretest results is homogeneous.

2. Results Test Hypothesis

a. Independent T- test

The results of the analysis prerequisite tests from the normality test for pretest - posttest data using window shopping learning show that the data is normally distributed, so hypothesis testing can be carried out using the Independent Sample T-Test . This hypothesis test aims to determine whether there are significant differences between the control class and the experimental class in the posttest data. The hypothesis formulation from the t test is as follows:

Ho: No There is influence of learning models window shopping against results Study IPA through Pancasila students to class V students

Ha: Yes influence of learning models window shopping against results Study IPA through Pancasila students on fifth grade students

With the following hypothetical decision making criteria:

If it is significant  $> 0.05$  then Ho is accepted

If it is significant  $< 0.005$  then Ho is rejected and Ha is accepted.

With decision making criteria using 2- tailed 0.05. If the sig value. (2- tailed )  $< 0.05$ , then there is an influence of the learning model window shopping against results IPA through Pancasila students on fifth grade students.

If the sig value. (2- tailed )  $> 0.05$ , then there is no influence of the learning model window shopping against results Study IPA through Pancasila students on fifth grade students .

Hypothesis testing is carried out using the t-test by reading the sig value. (2- tailed ). This test uses SPSS 20.

Table 5 Independent T-Test Results

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Science Learning Outcomes	Equal variances assumed	,237	,628	-3,928	62	,000	-8,250	2,100	-12,448	-4,052
	Equal variances not assumed			-61,917	3,928	,000	-8,250	2,100	-12,448	-4,052

Based on the results of the data output above, to test whether the difference is significant or not, it can be seen in table 4.5 *Independent sample t-test*. Based on the results of the *independent sample t-test* in the *Levene's Test For Equality of Variances column*, a sig value was obtained. = 0.628 > 0.05 so the values for the control class and experimental class have the same variance in numbers, thus testing the difference between the two average values seen in the *equal variance assumed section* (top). To test the equality of two averages, it can be seen in the *t-test for equality of Means column*, in the *t-test for equality column*, the calculated t value = 3.952 > t<sub>table</sub> = 1.999 with sig. (2-tailed) 0.000 < 0.05 so H<sub>a</sub> is accepted

b. Determinant Coefficient Test (R-Square)

The determinant coefficient test (R-Square) is used to determine the percentage of learning models *window shopping* against results Study Science through Pancasila students in class V students.

Table 6 R-Square Results for Experiment Class – Control Class

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,370 <sup>a</sup>	,137	,108	8,078
2	,616 <sup>a</sup>	,379	,359	6,604

Based on the table above, the *R Square value* for the Experimental Class is 0.379. This value comes from squaring R, namely 0.616 x 0.616 = 0.379, so the *R Square* number is 0.379 x 100% = 37.9% and in the control class it is 0.137 x 100% = 13.7%, so it can be interpreted after taking action on the experimental class *R Square* value (%) has increased compared to the control class where action was previously taken.

Based on research that has been carried out to determine whether or not the window-shopping learning method has an effect on the science learning outcomes of Pancasila students. Based on the normality test using Kolmogrov-Smirnov, the results obtained by the control class were 71.56 and the calculated science learning results in the experimental class were 83.50. The results of the calculation of the normality test for the experimental class students' science learning outcomes data on the pretest were 0.166 and on the posttest they were 0.200. It can be concluded that the data on the use of the window-shopping learning method on the science

learning outcomes of Pancasila students is normally distributed. The results of the homogeneity test calculation of science learning outcomes data for Pancasila students with Sig. amounting to  $0.628 > 0.05$  so that the sample is declared homogeneous.

After testing the data analysis using the t test on calculations, the results in table 4.5 have been obtained, as it is known that the significant value results using the window-shopping learning method on the science learning outcomes of Pancasila students obtained sig data. (2-tailed) is 0.000, then the value is less than the significance, namely 0.05, so  $H_0$  is rejected or there is no influence and  $H_a$  is accepted or there is an influence. In the determinant coefficient (R-Square), namely in the control class it was 13.7% and in the experimental class it was 37.9%, so the big influence of using the window-shopping learning method on the science learning outcomes of Pancasila students was 37.9%.

The influence of increasing the science learning outcomes of Pancasila students is due to the differences in the learning models implemented. Window shopping learning model learning activities require Pancasila students with an independent theme to be more active in searching for information and understanding the concepts of the material and students' responses in learning are very good and students can be more responsible for the process and results of their learning. Apart from that, students are more conducive and willing to listen to instructions from the teacher when learning is taking place. Learning activities carried out using the window-shopping method include explaining science material, explaining window shopping and map mapping, giving assignments in the form of map mapping, carrying out window shopping and closing activities. Most students who are PTM in class actively participate in learning, students are enthusiastic in participating in group discussions and presentations, students can explain reasons or give opinions on the results of their work, students are serious in conveying their opinions during discussions, students immediately work on assigned tasks. given by the teacher and collected on time.

In this learning process, the teacher has a role as a provider of information and facilitator in the class to manage class conditions well. At the beginning of the lesson the teacher provides initial information about the material which will then be used as discussion material by each group. Each group is given different discussion material, then when the group discussion is finished, each group does window shopping, where each group collects information from other groups with different discussion material. This activity makes students more active in collecting and understanding the material being studied. Having a peer tutor while doing window shopping can strengthen students' understanding of the material being studied. Thus, students are able to gain knowledge through active and fun learning. In classes that provide learning using conventional models. The implementation of the learning model is still dominated by teachers and students tend to be passive. The teacher is the only source of information in the learning process and students lack enthusiasm when implementing learning.

#### IV. CONCLUSION

Based on results as well as the discussion research conducted at SDN Duri Pulo 08 Morning can taken the conclusion namely : Based on class t test control as well as class experiment there is possible results seen from  $t_{count} = 3.952 > t_{table} = 1.999$  with sig. (2-tailed)  $0.000 < 0.05$ , meaning  $H_0$  is rejected and  $H_a$  accepted can concluded that there is the influence of the window shopping learning model on results learn science through student Pancasila theme independent class V. Based on from results calculation coefficient determination obtain results on class control of 13.7% and results on class experiment 37.9%. So can concluded that big the influence of the window-shopping learning model on results learn science through student Pancasila theme independent class V.

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# Cyber Risk Management Disclosure: The Impact of Firm Size, Profitability, and Intangible Asset

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## ABSTRACT

**Purpose:** This research aims to determine the impact of firm size, profitability, and intangible assets on cyber risk management disclosure.

**Design/methodology/approach:** This research is a causality study with quantitative methods and uses secondary data derived from annual reports of telecommunications and financial services sector companies listed on the Indonesia Stock Exchange in 2018-2022. The sampling technique used purposive sampling and obtained 150 annual reports which were analyzed using multiple linear regression.

**Findings:** The results showed that company size and profitability have a positive and significant influence on Cyber Risk Management Disclosure, but Intangible Assets are not significant.

**Practical implications:** According to the research outcomes, it is suggested for the development of government policies and regulations that encourage companies to increase cyber risk management disclosures in annual reports, as well as companies can understand the factors that influence cyber risk management disclosures so that companies can increase transparency and reduce cyber risk, besides that it can help investors make wiser investment decisions by having an understanding of cyber risk management faced by companies.

**Originality/value:** This research contributes to the development of an accounting conceptual framework on the concept of disclosure, especially voluntary disclosure and practical contributions for governments, companies, and investors.

**Paper type:** Research paper

**Keyword:** *Cyber Risk Management Disclosure, Firm Size, Intangible Asset and Profitability*

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## I. INTRODUCTION

The use of technology in various areas of life has been triggered by the Covid-19 pandemic (McKinsey & Company, 2020). Digital technology has affected almost every economic sector in the world, most global companies allocate most of their financial resources for the implementation of digital transformation initiatives (Kunjana, 2017). Awareness of protecting digital assets is an important concern for companies because cyber attacks can affect company performance and reputation (Kelrey & Muzaki, 2019). Intentional or unintentional cyber events can result in the loss of confidentiality, availability, and integrity of digital information. Increasing IT security costs cannot significantly reduce cyber threats. The weakest point of cyber threats lies in people. The human tendency to be careless, hasty, disinformation, and vulnerable to *phishing* attacks. The above conditions have given rise to a new field of study whose focus is cyber risk. Cyber risk is a multidisciplinary topic that has recently received scientific attention due to its diversity and the rapid development of cyber security and cyber threats. Cyber risk is defined by combining two factors: technological and financial (Strupczewski, 2021).

The cyber attack case in the form of *ransomware* that hit PT Bank Syariah Indonesia Tbk. on May 8-11, 2023 made banking services unusable. Inaccessible services include direct services at branch offices, automated teller machines (ATMs), and *mobile banking* services (Afifah, 2023). According to a survey conducted by Kaspersky (2019), Indonesia ranked second in the top with 192,591 cases of cyberattacks in Southeast Asia during the Covid-19 pandemic (CNN, 2020). Cyberattacks do not only attack Indonesia. According to an EMC report in 2013, cyberattacks caused global financial losses of \$5.9 billion or around 80 trillion rupiah (Radiansyah, 2016).

Cyber attacks have an indirect impact on stock prices and company performance (Solikhawati & Samsuri, 2023). Making voluntary disclosures is one way that can be used to reduce company risk. In this way, the quality of the company's financial statements will be better because the information submitted includes information about the company's risks and finances (Sulistyaningsih & Gunawan, 2018). Risk disclosure is a way for companies to communicate to users of annual reports about things that can threaten the company. However, risk management disclosure is still done voluntarily (Wijanarko & Rosita, 2023). Risk management is considered very important to implement because of the many risk threats received by the company (Suwaldiman & Fajrina, 2022). Disclosure of risk management in the annual report is used as a reference for consideration by investors when making investment decisions, this shows how important information transparency is in the company's annual report (Sarwono, *et al.*, 2018). Therefore, disclosure of cyber risk management is important because the information has a value that can make the market react. In addition, cyber risk disclosure can be one of the tools to build a positive image of the company that will increase company profits (Jubaedah & Setiawan, 2023). However, the level of cyber risk disclosure in Indonesia is still low. And scientific articles that define cyber risk are not easy to find (Strupczewski, 2021). This makes this research relevant and important to do.

This research uses independent variables of firm size, profitability, and intangible assets. Research on risk management disclosure has been conducted by previous researchers and obtained different results. Research conducted by Sarwono & Hapsari, *et al* (2018) shows that company size has a significant positive effect on risk management disclosure, while profitability has no effect on risk management disclosure. Research by Wahyuni & Nurbaiti, *et al* (2020) shows that company size has an effect on risk management disclosure. And Sudharto & Salim's research (2021) reveals that company size has a positive and insignificant effect on disclosure risk, while profitability has a positive and significant effect on disclosure risk. To the best of the researchers' knowledge, previous research that discusses intangible assets on risk management disclosure is still difficult to find.

The research mentioned above are all related to risk management disclosure however, none have disclosed more company-specific cyber risk management information. Research conducted by Sari, *et al* (2023) has compiled a cyber risk management disclosure index. This index is used to provide an overview of the disclosures expected by stakeholders in the annual report. The results of the research resulted in the composition of a cyber risk management disclosure index of 16 (sixteen) items with a weight on each disclosure item. The index compiled by Sari, *et al* (2023) is used as a reference in this research. This research is a form of development from the research of Sari, *et al* (2023) by using signaling theory and adding variables of firm size, profitability, and intangible assets. This research will focus on the telecommunications and financial services sectors listed on the Indonesia Stock Exchange (IDX) in 2018-2022 as research objects. And aims to analyze how the influence of firm size, profitability, and intangible assets on cyber risk management disclosure.

This research contributes theoretically to the development of the accounting conceptual framework on the concept of disclosure, especially voluntary disclosure. The results of this research are expected to make a practical contribution to the government, companies, and investors. The results of this research can be used as a basis for developing government policies and regulations that encourage companies to increase cyber risk management disclosures in annual reports. The results of this research can help companies to understand the factors that influence cyber risk management disclosure, so that companies can increase transparency and reduce cyber risk. And investors can utilize the results of this research to make wiser investment decisions by having an understanding of the cyber risk management faced by the company.

## **A. Literature Review**

In solving research problems and formulating hypotheses, the theoretical basis used by this research is signal theory. Ross (1977) developed signal theory to explain the motivation of companies to convey financial statement information to external parties, such as investors or shareholders. This theory assumes an information imbalance between company management who knows the company's condition and prospects better than external parties who have less or inaccurate information. The presentation of positive or interesting information can send signals or clues that the company has a high value or performance, so that it can increase stock prices or investment interest. Meanwhile, the presentation of negative or less attractive information can send signals or clues that the company has low value or performance, so that it can reduce stock prices or investment interest. Signal Theory states that companies that voluntarily provide a lot of information try to minimize information imbalances by conveying their effectiveness and real conditions through the provision of additional data to uninformed parties.

This shows that even high-performing entities utilize detailed information as a tool to signal to the market, in accordance with the findings revealed by (Arena *et al*, 2020), and (Gaol & Harjanto, 2019).

Disclosure is the presentation of information with sufficient explanation and can show the credibility of a company. The information presented must be clear, accurate, and reliable to describe the company's condition, both financial and non-financial. There are two types of disclosure according to the stipulated provisions, namely mandatory disclosure and voluntary disclosure. Mandatory disclosure is the minimum disclosure required by authorized institutions. Voluntary disclosure is a disclosure made by the company voluntarily without being required by an authorized institution (Neliana, 2018). According to Suwardjono (2014), signaling theory underlies voluntary disclosure. Signaling theory provides information signals needed by investors to consider and decide on their choices in investing in a company. According to this theory, management always tries to disclose private information that will be favored by investors and shareholders. A high level of voluntary disclosure will provide the best information, and users of financial statements need this information for decision making (Astuti, *et al*, 2021).

In every business, facing risks is inevitable. Risk is a condition that is uncertain, can bring losses, and is often encountered in various business activities. A company's financial statements usually include a special section describing the various risks faced by the company. This is known as risk disclosure. Although there are no sanctions for companies that do not disclose all existing risks, this disclosure remains a highly recommended practice (Sudharto & Salim, 2021). Risk management disclosure is one of the voluntary disclosures provided by companies in annual reports. Risk management disclosures made by companies can give investors more confidence in the company because with this, investors understand the extent to which the company is able to manage the risks they are facing or will face (Suwaldiman & Fajrina, 2022). Cybersecurity has become a new dimension in risk management (Li *et al.*, 2018). The measurement of cyber risk management disclosure refers to an index designed to assess the transparency and effectiveness of companies in managing cyber risks. This index usually consists of a series of indicators that measure various aspects of cyber risk management, such as risk identification and assessment, risk control and mitigation, and monitoring and reporting (Briliyant & Ashari, 2018). This indicator can be used by companies to measure their ability to manage cyber risk thoroughly, providing a better understanding of the level of readiness and responsibility related to cybersecurity. This indicator can also be used as a basis for improvement and development of more effective strategies in facing cybersecurity challenges. The measurement of cyber risk management disclosure in this study refers to the index compiled by Sari, Suhardjanto, Probohudono *et al* (2023) with sixteen disclosure items.

## **B. Hypothesis Development**

### **1. The Effect of Firm Size on Cyber Risk Management Disclosure**

Firm size is an important factor in determining how detailed risks are disclosed, according to various previous studies. This size, often referred to as 'firm size', is a measure that indicates how big or small a company is. There are various methods to measure firm size, such as total assets or total employees. Depending on the size, companies can be categorized as small, medium, or large companies (Sudharto & Salim, 2021). Large company sizes have optimal supervision, this makes companies disclose more risk management (Wahyuni & Nurbaiti *et al*, 2020). This study shows that the larger the company size, the more likely it is to disclose cyber risk management. This research is supported by Wahyuni *et al.* (2020), Sudharto & Salim (2021) which show that company size has a significant positive effect on risk management disclosure.

H1: Firm size has a positive and significant influence on cyber risk management disclosure.

### **2. The Effect of Profitability on Cyber Risk Management Disclosure**

Profitability is a measure of the company's success in generating profits from its total operating costs. This is a benchmark for parties inside and outside the company to evaluate how effective the company is in generating profits and managing its resources. The level of profitability of a company can show the company's ability to manage its resources (Sudharto & Salim, 2021). The company's high level of profitability will encourage managers to provide more detailed information, because the company wants to convince investors of the profitability generated and encourage management compensation. This positive and more detailed information encourages management to make voluntary disclosures by providing additional information in the annual report disclosure (Neliana, 2018). Information in voluntary disclosure can be used by investors to assess the company's performance in generating profits. So that the higher the level of company profitability, the more likely it is to disclose cyber risk management. When companies have high profits, they are more free to disclose cyber risk management, because disclosure requires high costs, so companies that have high profits will be more able to allocate additional resources to strengthen their information security systems. The profitability ratio used in this study is Return on Asset (ROA), which is the ratio of net profit after tax to total assets. Previous research has different results, research conducted by Sarwono & Hapsari, *et al* (2018) shows that profitability has no effect on

risk management disclosure. Meanwhile, research by Sudharto & Salim (2021) revealed that profitability has a positive and significant effect on risk disclosure.

H2: Profitability has a positive and significant influence on cyber risk management disclosure.

**3. The Effect of Intangible Assets on Cyber Risk Management Disclosure**

PSAK 19 (Revised 2018) defines intangible assets as assets that are formless, and can be identified without a physical form but, can be distinguished from other assets. Intangible assets also cannot be measured in money. PSAK 19 regulates how companies value their intangible assets. There are three ways companies can acquire intangible assets: (1) Buying from others. (2) Combining business with other companies. (3) Creating your own. (IAI 2018). Intangible assets are the center of information gaps that arise from uncertain economic activities and forward-looking company activities (Rosdini, 2016). Intangible assets are included in the category of non-current and intangible assets that provide economic and legal rights to their owners, such as intellectual copyrights, patents, franchises, and trademarks (Ramadhan et al, 2018). According to Warren et al. (2018), intangible assets owned by a company can be very diverse, depending on the sector in which the company operates. Examples of intangible assets that can be owned by a company include franchises, databases, patents, licenses, trademarks, customer relationships, and so on. For technology-based companies that have better intangible assets, disclosing intangible asset information informatively can increase positive appreciation from stakeholders in assessing management performance, which has a positive impact on market value and the continuity of the company's business relationships (Muyasaroh, 2020). Companies that have intangible assets tend to disclose information about the risks they face, including cyber risk management. To the best of the researchers knowledge, previous research that discusses intangible assets on risk management disclosure is still difficult to find.

H3: Intangible assets have a positive and significant influence on cyber risk management disclosure.

**II. METHODS**

This research is a causality study with quantitative methods and uses secondary data sourced from annual reports of telecommunications and financial services sector companies listed on the Indonesia Stock Exchange in 2018-2022. The sampling technique using purposive sampling obtained 150 annual reports which were analyzed using multiple linear regression.

The data source in this research is secondary data and is obtained from the IDX website, namely ([www.idx.co.id](http://www.idx.co.id)) and the official website of each company if the annual report is not attached to the IDX website. Then, the data will be processed using SPSS (Statistical Package for the Social Sciences) software version 25.

The following table contains the operationalization of all variables used in this research. Cyber risk management disclosure is the dependent variable used in this research. The independent variables used in this research are firm size, profitability, and intangible assets.

*Table 1 Variable Operationalization*

<i>Variable</i>	<i>Description</i>	<i>Measurement</i>
<i>Cyber Risk Management Disclosure (CRMD)</i>	<i>The extent of information disclosure regarding cyber risk carried out by the company.</i>	<i>Using an indicator of 16 cyber risk items measured using a dummy score, where 1 for companies that disclose, 0 if not. (Sari, Suhardjanto, Probahudono. et al, 2023)</i>
<i>Firm Size (SIZE)</i>	<i>The company size scale is seen from the size of the company's total assets.</i>	<i>Ln = (Total Assets)</i> <i>(Hapsari &amp; Prasetyo, 2020)</i>
<i>Profitability (PROF)</i>	<i>A scale that measures the amount of profitability generated by the company.</i>	$PROF = \frac{Net\ Income}{Total\ Assets}$ <i>(Hapsari &amp; Prasetyo, 2020)</i>

*Intangible Assets (INTA)*

*Scale that measures the amount of intangible assets owned by the company*

*Intangible Assets = Acquisition value - Depreciation*

*(David, Codwel, et al, 2017)*

The linear regression equation used in this research is.

$$CRMD = \alpha + \beta_1 SIZE + \beta_2 PROF + \beta_3 INTA + e$$

Where CRMD is the Cyber Risk Management Disclosure, SIZE is the Firm Size, PROF is the Profitability, INTA is the Intangible Assets, and e is an error term.

### III. RESULTS AND DISCUSSION

#### A. Results

##### 1. Descriptive Statistic

Based on the results of descriptive statistics in this study, it can be concluded as follows:

*Table 2 Descriptive Statistic*

<i>Variable</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Dev</i>
<i>SIZE</i>	<i>150</i>	<i>22.6867</i>	<i>35.2282</i>	<i>30.768707</i>	<i>2.3341288</i>
<i>PROF</i>	<i>150</i>	<i>.0006</i>	<i>38.6026</i>	<i>.742863</i>	<i>4.5676177</i>
<i>INTA</i>	<i>150</i>	<i>.0001</i>	<i>.2110</i>	<i>.0088780</i>	<i>.0252120</i>
<i>CRMD</i>	<i>150</i>	<i>3</i>	<i>15</i>	<i>9.72</i>	<i>3.2208840</i>

Notes: CRMD = cyber risk management disclosure, SIZE = firm size, PROF = profitability, INTA = intangible assets.

Source: Authors own processed

The first independent variable is firm size. Based on the results of descriptive statistics in table 2, it shows that the average value is 30.76. The lowest value is 22.68 owned by Clipan Finance Indonesia Tbk in 2021, while the highest value is 35.22 owned by PT Bank Mandiri (Persero) Tbk in 2022.

The next independent variable is profitability, based on financial statement data issued by the IDX, it shows that the average level of ROA of telecommunications and financial services companies for the 2018-2022 period is 0.74. The lowest value is at 0.0006 owned by PT Bank Ganeshha Tbk in 2020, while the highest value is at 38.60 owned by Clipan Finance Indonesia Tbk in 2022.

The next independent variable is intangible assets. Based on the results of descriptive statistical analysis in table 2, it shows that the average value is 0.0088. The lowest value is at 0.0001 owned by PT Indoritel Makmur Internasional Tbk in 2020, while the highest value is at 0.21 owned by Asuransi Multi Artha Guna Tbk in 2018.

The dependent variable in this study is cyber risk management disclosure. Based on descriptive statistics, it shows that the average value is 9.72. The lowest value is at 3 owned by Paninvest Tbk, while the highest value is at 15 owned by PT Telkom Indonesia (Persero) Tbk.

##### 2. Classical Assumption Test

Based on the test results, it is found that all classical assumptions have been met. The normality test shows a significance of 0.389 < 0.05, indicating that the data distribution is normal and in accordance with the assumption of normality. This confirms that the research data meets the necessary normality criteria. Furthermore, the heteroscedasticity test results show that the significance value of each variable exceeds 0.05, indicating no heteroscedasticity in the regression equation, so the regression model can be considered for prediction purposes. In addition, the Variance Inflation Factor (VIF) test showed values less than 10 for all independent variables, which means there is no indication of multicollinearity among the independent variables. The autocorrelation test results yielded a Durbin Watson value of 1.919, which meets the criteria of  $dU < dW < 4 - dU$ , there is no

autocorrelation in the data. Thus, it can be concluded that the basic assumptions of this regression model are well met.

**3. Multiple Linear Regression**

The results of multiple linear regression using SPSS assistance, obtained the results as in table 3. The regression results in table 3 show that the form of the relationship between the dependent variable and the independent variables can be described in the multiple regression equation as follows:

$$CRMD = \alpha + \beta_1 SIZE + \beta_2 PROF + \beta_3 INTA + e$$

$$= -8.200 + 0.576 SIZE + 0.236 PROF + 9.479 INTA + e$$

*Table 3 Multiple Linear Regression*

<i>Variable</i>	<i>Unstandardized B</i>	<i>Std. Error</i>	<i>Standardized Coefficients Beta</i>	<i>t-Statistic</i>	<i>Sig.</i>
<i>constant</i>	-8,200	3,833		-2,139	,034
<i>SIZE</i>	,576	,123	,417	4,665	,000
<i>PROF</i>	,236	,063	,334	3,735	,000
<i>INTA</i>	9.479	9,784	,074	,969	,334

Notes: CRMD = cyber risk management disclosure, SIZE = firm size, PROF = profitability, INTA = intangible assets.  
Source: Authors own processed

**4. Model analysis**

From the results of the analysis it is known that the Adjusted R Square value is 12.8%, then the independent variable consists of Company Size (X1), Profitability (X2), Intangible Assets (X3), which means that the ability to explain the variation in the dependent variable is very limited, namely only 12.8%. While the remaining 87.2% is explained by other variables outside the research variables. Each independent variable is able to explain an average of 4.27% for each variable, which is a pretty good value because the actual independent variables are very many and varied. Based on the results of the F statistical test, with a significance value for equation 1 of 0.00, which shows a value much smaller than 0.05, it can be concluded that the research model has a significant fit or this model is suitable for further research.

*Table 4 Hypothesis Testing Results*

<i>Variable</i>	<i>Coefficient</i>	<i>Prob a=0.5</i>
<i>CRMD</i>	-8,200	0,034
<i>SIZE</i>	0,576	0,000
<i>PROF</i>	0,236	0,000
<i>INTA</i>	9,479	0,334
<i>Adjusted R Square</i>	0,145	
<i>F- Statistic</i>	8,280	
<i>Prob (F-statistic)</i>	0,000	

Notes: indicates significance level at 5%, CRMD = cyber risk management disclosure, SIZE = firm size, PROF = profitability, INTA = intangible assets.

Source: Authors own processed

## B. Discussion

In this subchapter, the results of the hypothesis testing that has been carried out are explained. The discussion of this research hypothesis will be explained as follows:

### 1. The Effect of Firm Size on Cyber Risk Management Disclosure

Table 4 variables show that Firm Size (X1) has a coefficient of 0.576 and a significance value of 0.000. Based on the coefficient value and significance above, it can be concluded that firm size has a significant positive effect on Cyber Risk Management Disclosure and H0 is rejected.

The rejection of H0 indicates that companies with large assets tend to face greater risks as their asset value grows. This phenomenon is based on the fact that the larger the company, the more complex its corporate governance. As a result, large companies tend to have more information related to corporate governance and operations. With more information available, especially related to cyber risk management, large companies have a greater responsibility to disclose such information to stakeholders. Therefore, it can be concluded that firm size has a significant impact on the level of cyber risk management disclosure made by the company. The results of this research are in line with Wahyuni *et al.* (2020), Sudharto & Salim (2021) which state that firm size has a positive effect on risk management disclosure.

### 2. The Effect of Profitability on Cyber Risk Management Disclosure

Table 4 variables shows that Profitability (X2) has a coefficient of 0.236 and a significance value of 0.000. Based on the coefficient value and significance above, it can be concluded that profitability has a significant positive effect on Cyber Risk Management Disclosure and H0 is rejected.

The rejection of H0 indicates that companies with high profits will disclose more cyber risk management, while companies with low profits will disclose less. When companies have high profits, they are more free to make cyber risk management disclosures, because disclosure requires high costs, so companies that have high profits will be more able to allocate additional resources to strengthen their information security systems. This can increase customer and investor confidence in the company, which can have a positive impact on the company's overall reputation and performance. However, low-profit companies may find it difficult to allocate additional resources for cyber management, so they are likely to have lower disclosure levels. Therefore, it is important for low-profit companies to prioritize investment in information security to protect their data and reputation. The results of this research are in line with Sudharto & Salim (2012) but different from Sarwono & Hapsari, *et al.* (2018) which state that profitability has no effect on risk management disclosure.

### 3. The Effect of Intangible Assets on Cyber Risk Management Disclosure

Table 4 shows that the Intangible Asset variable (X3) has a coefficient of 9.479 and has a significance value of 0.334. Based on the coefficient value and significance, it can be concluded that there is a negative relationship between intangible assets and the level of cyber risk management disclosure. However, this research found that the coefficient value shows a negative trend, although the initial hypothesis shows a positive direction. Therefore, based on these results, there is not enough evidence to reject the null hypothesis (H0).

The acceptance of H0 indicates that there is not enough evidence to reject the null hypothesis that there is no influence between intangible assets and the level of cyber risk management disclosure. So in this context, there is not enough reason to believe that intangible assets, such as technology or copyrights, significantly affect the level of cyber risk management disclosure in companies. Based on the results of the analysis conducted, it can be concluded that the intangible assets in question have no impact on cyber risk management disclosure. To the best of the researchers' knowledge, previous studies that discuss intangible assets on risk management disclosure are still difficult to find. Therefore, it is necessary to conduct further research with more in-depth methods and using a larger sample to test the relationship between the two variables. This further research will help in providing a more complete understanding of the role of intangible assets in cyber risk management disclosure in the corporate context.



#### IV. CONCLUSION

This research examines the effect of firm size, profitability and intangible assets on cyber risk management disclosure. Based on the research results it can be concluded that: (1) Hypothesis testing results show that Firm Size affects Cyber Risk Management Disclosure. This is possible because companies with larger sizes tend to have more resources and capacity to manage risks, including cyber risks. (2) The results of hypothesis testing show that Profitability affects Cyber Risk Management Disclosure. This is possible because the level of profitability of companies can affect their priorities and management strategies related to cyber risk. (3) The results of hypothesis testing show that Intangible Assets have no effect on Cyber Risk Management Disclosure. This is because intangible assets have not been able to pressure companies to disclose more information in terms of risk management.

This research contributes to the development of an accounting conceptual framework on the concept of disclosure, especially voluntary disclosure and practical contributions for governments, companies, and investors. As a basis for the development of government policies and regulations that encourage companies to increase cyber risk management disclosures in annual reports, as well as companies can understand the factors that influence cyber risk management disclosures so that companies can increase transparency and reduce cyber risk, besides that it can help investors make wiser investment decisions by having an understanding of cyber risk management faced by companies.

The limitations in this research are that the reference sources that examine the disclosure of cyber risk management in Indonesia are still limited, the items of cyber risk management disclosure extracted in the annual report do not show the quality of information conveyed by the company.

It is suggested that future research can use other grand theories so as to get a different perspective on cyber risk management disclosure and can use a wider research sample to cover other sector companies such as the transportation sector, insurance, and other sectors so that the contribution of research is getting better, plus a more recent research period so that it can describe the current situation.

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# Strengthening Education Character Independent on Learning Language English in Primary Schools

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## ABSTRACT

**Purpose:** Study This aim For explore application education character independent in learning Language English in class V at SDN Sudimara 07 Ciledug. Education character aim For form generation character with embed moral values and habit well earned from environment family, society, and school. Strengthening character independent on student important in form attitude No depend in others, responsible answer, be honest, and discipline.

**Design/methodology/approach:** Study This use method qualitative with subject teacher research and students at SDN Sudimara 07 Ciledug. Data collection was carried out through observation, interviews, and documentation.

**Practical implications:** Results observation show that part big student Not yet own character independent in do task and no believe self in learning Language English. Means And inadequate infrastructure in schools adequate join in influence development character independent student. For overcome problem this is necessary strategy like application of a centered learning model on students, gifts task and challenging projects, rewards on business students, as well development cooperation between school, parents, and public. Strengthening character independent expected can increase ability Language English and behavior positive students, as well create independent generation and responsible answer.

**Paper type:** Research paper

**Keyword:** Strengthening, Education Character, Character Independent, Language English

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## I. INTRODUCTION

Education must produce a generation with character, because humans can be educated (Santoso et al., 2023). In education there is character education. Character education is an effort that has been planned and implemented to help students understand the values of human behavior related to God Almighty, oneself, fellow humans, the environment and nationality which are manifested in thoughts, attitudes, feelings, words, and actions based on religious norms, law, karma, culture and customs (Santoso et al., 2023). According to Wina Sanjaya (in Rike Andriani, 2019) Reinforcement is a form of response used to change teacher behavior towards student behavior, with the aim of providing feedback or information to students (Yuniar et al., 2023). According to Wasty Soemanto (in Mulyati, 2019) providing reinforcement is positive feedback from the teacher to students who participate or behave well (Sodikin et al., 2024). Based on the expert opinion above, it can be concluded that reinforcement is any form of positive teacher response to student behavior. Reinforcement is part of changing teacher behavior towards student behavior which can increase the likelihood of the behavior occurring again. Reinforcement makes students feel encouraged and increases their participation in every learning process.

Character education has the aim of increasing the value of educational processes and outcomes that lead to character education and noble morals during complete, integrated and balanced learning, in accordance with graduate competency standards in each educational unit (Santoso & Kudori, 2023). Character education is basic education that teaches morals and good habits that can be obtained from the family, community, school or surrounding environment. The role of parents and teachers is very important for the character growth of students,

both in formal education and non-formal education. In the school environment, especially for students, moral behavior is very worrying. Behavior that violates ethics, morals and violates the law by students, such as cheating on exams. The desire to get high scores or pass easily without working hard during school exams causes students to try to find answers by cheating and that is unethical behavior.

Applying Pancasila values in character education helps improve character education (Fahrezi et al., 2023). These values include religious, honest, tolerant, disciplined, hard working, creative, independent, democratic, curiosity, patriotism, love of the country, appreciation for achievement, communicative, love of peace, reading, environmental care, social care, and responsibility. answer. These values are a manifestation of the main values, namely religion, nationalism and patriotism. Character education contains the value of independent character. Independent character is attitudes and behavior that do not depend on other people. In a school environment, students' independent character can be developed through discipline, not always depending on other people, being responsible, and so on. As an educator, you must produce independent students by instilling independent character in students, in their role as educators, namely by developing character (being honest, disciplined, intelligent, independent, caring and responsible) which is the main task of an educator (Santoso et al., 2023). An educator must be able to gradually change bad habits into good habits, and character is a trait that is ingrained in the soul, with this trait a person can spontaneously show attitudes, actions and deeds.

The aim of strengthening independent character education in English language learning in class V at SDN Sudimara 07 Ciledug is to increase students' independence in learning English, increase students' independent learning motivation, improve students' independent learning abilities, form students' independent, creative and innovative character. The strategy for strengthening independent character education in English language learning in class V at SDN Sudimara 07 Ciledug is as follows: 1) Implementation of student-centered learning models, such as cooperative learning, project-based learning, and problem-based learning. 2) Providing assignments and projects that challenge and encourage students to learn independently. 3) Providing rewards and positive reinforcement for students' efforts and achievements in independent learning. 4) Establishment of a conducive and mutually supportive learning culture. 5) Developing cooperation between schools, parents and the community. By implementing these strategies, it is hoped that fifth grade students at SDN Sudimara 07 Ciledug can develop the independent character they need to achieve success in the future. The benefits of strengthening independent character education in English language learning in class V at SDN Sudimara 07 Ciledug are that it makes students more independent in learning English, has higher motivation to learn English, and has better independent character.

Strengthening independent character in English language learning in class V at SDN Sudimara 07 Ciledug has clear goals and benefits, but in its implementation there are several problems faced, namely: 1) teachers' lack of understanding of independent character education, so they have not been able to apply it effectively in learning English. This can cause independent character learning to not be integrated well in learning. 2) lack of teaching materials and learning media that focus on developing independent character. Currently available English teaching materials and learning media generally still focus on developing English language knowledge and skills, and not many focus on developing independent character. This makes it difficult for teachers to find appropriate teaching materials and learning media to be applied in independent character learning. 3) lack of facilities and infrastructure that support independent character learning, this causes teachers to have difficulty in creating a conducive learning atmosphere and encouraging students to learn independently. 4) lack of cooperation between schools, parents and the community. 5) a learning culture that does not support student independence, the learning culture in schools and society still often emphasizes memorization and academic values, and not many people encourage students to learn independently. This causes students to become less accustomed to learning independently and lack the confidence to study on their own.

To overcome the problems faced in strengthening independent character education in English language learning in class V at SDN Sudimara 07 Ciledug, several efforts need to be made, namely: 1) increasing teachers' understanding of independent character education through training, workshops and seminars. 2) Develop teaching materials and learning media that focus on independent character development by involving teachers, character education experts and English language practitioners. 3) Improve facilities and infrastructure that support independent character learning by allocating an adequate budget and establishing cooperation with related parties. 4) Increasing collaboration between schools, parents and the community through education and outreach programs about the importance of independent character education. 5) Creating a learning culture that supports student independence by implementing student-centered learning, rewarding students' efforts and achievements, and building a conducive learning atmosphere. By overcoming problems and implementing these solutions, it is hoped that strengthening independent character education in English language learning in class V at SDN Sudimara 07 Ciledug can run more effectively and achieve the expected goals.

Based on the author's observations of teachers, there are still class V students at Sudimara 07 Ciledug State Elementary School who do not yet have independent, responsible and disciplined character traits. With this, the author tries to find out about strengthening independent character education in English language learning at SDN

Sudimara 07 Ciledug, where the author also wants to find out how students integrate independent character values. To get good results, researchers used observation methods, interviews with teachers and students. Therefore, research needs to find out about teachers and students in trying to strengthen independent character education in English language learning. To support the research, the author refers to relevant research, namely "Strengthening Character Education Based on Local Wisdom Values in Schools" written by Daroe Iswatiningsih. This research explains efforts to preserve local wisdom culture by strengthening character education to improve the five main character values for students and the nation through strengthening nationalist, religious, independent, mutual cooperation and integrity character education and internalizing them in attitudes and behavior in daily life. Previous research is different from the author's research. Previous research focused on strengthening character education based on local wisdom values, where students currently still lack a caring and loving attitude towards culture, so this research focuses on how to implement character education based on local wisdom. So the author's research wants to emphasize independent character education for students in learning English to integrate the values of independent character, not always depending on other people, being responsible, honest and disciplined. This research aims to explore methods of implementing independent character education in elementary schools in the context of English language learning, as well as understanding the potential of students in gaining understanding regarding independent character education. Knowing how to strengthen independent character values so that they can be integrated into English language learning in class V at SDN Sudimara 07 Ciledug. To determine the impact of independent character education on the English language skills and behavior of class V students at SDN Sudimara 07 Ciledug. Knowing solutions to overcome problems/obstacles in strengthening independent character education in class V English learning at SDN Sudimara 07 Ciledug.

## II. METHODS

Study This use method study qualitative, that is something priority approach use ways, steps, and more procedures emphasize data collection and information from informant as subject research (Nugroho & Santoso, 2022). Subject study in study This is a teacher and students at SDN Sudimara 07 Ciledug. Subject study the will provide appropriate data with problems that will researched in a way Honest And What exist. Language teacher English And student class V at SDN Sudimara 07 Ciledug will become source information And will called as informant. Researcher choose informant the Because researcher feel need dig in -depth information from party school namely, teachers and student. Technique used in the author 's research use For collect the data obtained is in a way observation, interview And documentation as following: Method observation; On Basically, goals from observation is For describe the environment observed, the activities taking place, the individuals involved in environment the along with activity And behavior that appears. Method interview: Interview study in conversation more from conversation normal, have range from informal to formal. Researcher tend direct interview To use get outlook about feelings, perceptions, and thinking participant.

## III. RESULTS AND DISCUSSION

Based on the research results, data can be collected from students and teachers through data collection asking about strengthening independent character education in English language learning. Interview: Conduct in-depth interviews with students and teachers to find out the extent of strengthening independent character education in English language learning. Observation: Observing student and teacher interactions during the learning process to understand how strengthening independent character education is integrated and how independent character is applied in English learning. Evaluating the effectiveness of strengthening independent character education in English language learning in class V of SDN Sudimara 07 Ciledug is an important step to ensure this program runs well and achieves the desired goals. Class observations by observing how the teacher applies student-centered learning methods and encouraging students to learn independently, seeing students participate in learning activities and completing assignments independently, as well as assessing student behavior that reflects independent character, such as responsibility, discipline and initiative.

The results of observations show that there are still many students who do not have independent character. In terms of doing assignments, there are students who ask the teacher for help because some students have not mastered the material provided. However, there are students who already have an independent character, where these students are able to do their assignments without the help of other people, because these students understand what the teacher is saying. Apart from doing assignments, in this class there were also several students who were not confident in learning English. When speaking in front of the class to explain the results that had been made, the student looked shy and spoke not loudly. This also reflects that there are still many students at SDN Sudimara

07 Ciledug who do not yet have an independent character in learning English. Additionally, some students also demonstrated dependence on their classmates to understand instructions and complete assignments. School infrastructure is also inadequate, such as the absence of projectors in each class, which hinders the delivery of visual and interactive material that can support more effective learning. This limitation means that students do not receive optimal support in developing their independence and self-confidence in learning English.

Strengthening the values of independent character in learning English in class V at SDN Sudimara 07 Ciledug carries out the following stages and strategies: 1) establishing clear goals, by setting learning objectives that not only focus on mastering English, but also on developing independent character student. For example, a goal such as "students are able to complete English assignments independently with minimal teacher assistance." 2) learning methods that support independence, such as Project-Based Learning (PBL), providing projects or assignments that require students to search for information and solve problems independently, collaborative learning, by encouraging cooperation between students in groups, but still ensuring that each student have individual responsibility. 3) use of technology and independent learning resources, namely providing access to online learning resources such as learning videos, online practice questions, and English learning applications that can be accessed independently by students, inviting students to use digital dictionaries or other translation tools to solve problems. vocabulary problems they face. 4) apply the principles of character education, namely the teacher provides examples of independent behavior in the teaching and learning process, gives awards and recognition to students who show independence in learning, for example by giving praise, and invites students to reflect on their own learning process with what they have achieve and how they can increase their independence. 5) evaluate by assessing students' efforts in completing independent assignments, as well as providing feedback that can motivate students to continue learning independently and improve their shortcomings. 6) carry out routine habits by recording what they learn and giving weekly assignments that must be completed independently. By integrating independent character values into English language learning, students not only become more skilled in English, but also become independent and responsible individuals in the learning process.

Independent character education has a significant impact on the English language skills and behavior of class V students at SDN Sudimara 07 Ciledug, namely: 1) increasing English language skills in motivation and interest in learning where independent students tend to be more motivated and have a high interest in learning English, they will look for additional learning resources outside the classroom and try to understand the material in depth such as taking additional lessons. In critical thinking skills, independent character education encourages students to think critically and analytically in understanding and using English effectively. Then, in mastering the material, some students who are used to studying independently will master the material more quickly because they are used to finding their own solutions and understanding the concepts in depth. Being independent in learning English makes students more courageous in communicating in English, both orally and in writing, because they are used to overcoming difficulties independently. 2) Independent character education teaches students to be responsible in managing time to complete assignments on time, and evaluating the results of their work. Independent students have higher self-confidence because they feel capable of completing their assignments without depending on others. Students also have initiative and creativity in solving a problem. 3) In social interaction, students learn cooperation in groups where they can respect each other's opinions and work together to achieve common goals. Independent students have a sense of empathy and concern for friends who experience difficulties, they understand the importance of help and support in the learning process.

#### IV. CONCLUSION

Education character independent is role important in form generation with character Good And behave positive, appropriate with view various expert. Education character involve effort systematic For help student understand And apply related values with various aspect life, including religion, law, culture, and nationality. Reinforcement is response positive from the teacher towards behavior purposeful students For increase behavior positive And participation student in learning. Education character independent aim For develop character independent, creative, and students innovative. At SDN Sudimara 07 Ciledug, strengthening character independent in learning Language English aim For increase independence, motivation, and ability Study students, as well form responsible character answer And discipline. Implementation strategy strengthening character independent involve application of a centered learning model on students, gifts task, award positive, as well cooperation between school, parents, and public. Although Thus, there is a number of obstacle in strengthening education character independent, like lack of teacher understanding, limited teaching materials, facilities And lacking infrastructure adequate, as well lack of cooperation between party related. For overcome obstacle this is necessary done training for teachers, development relevant teaching materials, improvement means And infrastructure, as well socialization And more cooperation Good between school, parents, and public. Impact from

education character independent seen in enhancement ability Language English students, improvement motivation And interest learning, skills think critical, as well mastery material And Skills communication. Besides that 's education character independent Also teach student For responsible answer, believe self, discipline, as well own initiative And high creativity. Interaction good social Also formed, where student Study For Work Same, appreciate it other people's opinions, and own empathy to Friend. With Thus, education character independent No only increase ability academic students, however Also form character positive that will be help they in face challenge academic And life in time front. Effective implementation from strategies that have been formulated will ensure that objective strengthening education character independently at SDN Sudimara 07 Ciledug achieved with Good.

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# Online Game Methods Against Intelligence Affective Student On Learning Pancasila in Elementary Schools

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## ABSTRACT

**Purpose:** Study This aim For investigate influence use deep online gaming methods learning Pancasila to intelligence affective students at school base.

**Design/methodology/approach:** Online gaming method is used as tool For enrich interaction Study student with material Pancasila through interesting approach And interactive. Study This use approach qualitative with involve observation towards the learning process, interviews with teachers, and questionnaire to student For collect data about change in involvement emotional, development moral values, and enhancement Skills social student after use of online games.

**Practical implications:** Results study show that use online gaming method significant increase involvement student in learning Pancasila, deepening understanding moral values, as well develop Skills social they. Implications practical from study This recommend importance integration technology in education character at school base For facilitate more learning effective And meaningful.

**Paper type:** Research paper

**Keyword:** *Online Game Method, Intelligence Affective, Learning Pancasila*

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## I. INTRODUCTION

The tremendous development of Technology and Education: In the current digital era, information and communication technology has become an integral part of everyday life, including in the world of education. The use of technology in education aims to increase the effectiveness and efficiency of the teaching and learning process. One innovation in education is the application of online games as a learning method. Online Game Method in Learning: Online games as a learning method offer an interactive and fun approach, which can motivate students to learn more enthusiastically. This method can also increase student involvement in the learning process, because they feel like they are playing while learning. Learning Pancasila in Elementary Schools: Learning Pancasila in elementary schools aims to instill basic national values, morals and ethics in students from an early age. Pancasila as the Indonesian state ideology has an important role in shaping students' character and personality. Therefore, effective and interesting learning methods are needed to achieve this goal. Affective Intelligence: Affective intelligence refers to an individual's ability to recognize, understand, and manage their own emotions as well as the emotions of others. In the learning context, affective intelligence is very important because it can influence students' motivation, concentration and social interactions.

Research Relevance: Research regarding the influence of online game methods on students' affective intelligence in learning Pancasila in class II at SDN Pondok Petir 01 is very relevant in the current context. This research aims to identify whether the online game method can be an effective tool in increasing students' affective intelligence, as well as how its application can influence Pancasila learning. Problems Faced: Although online gaming methods have great potential, there are several challenges that need to be considered, such as limited technological infrastructure in schools, teacher skills in using technology, and the potential negative impact of

excessive use of online games. With this background, the research aims to explore and evaluate the influence of online game methods on students' affective intelligence, as well as provide recommendations for implementing this method in Pancasila learning in elementary schools.

**Lack of Research on Affective Intelligence:** Many studies have been conducted on the influence of online games on cognitive aspects or students' academic achievement, but research that specifically examines the influence of online games on affective intelligence is still limited. **Focus on Pancasila Subjects:** Most research on the use of online games in learning focuses on subjects such as mathematics, science, or languages. Little research has explored how online game methods can be applied in learning Pancasila, especially at the elementary school level. **Local Context:** Existing research has been predominantly conducted in countries with more advanced technological infrastructure. Research that focuses on local contexts, such as at SDN Pondok Petir 01, which has its own challenges in terms of technological infrastructure and accessibility, is still lacking. **Social and Emotional Interaction:** Many online games used in learning focus on cognitive skills, but how these games influence students' social and emotional interactions in the context of Pancasila learning has not been widely explored. **Implementation and Practice in the Field:** Research examining how teachers can effectively implement online games in everyday learning and how this impacts students' affective intelligence is also still limited. **Long-Term Impact:** Existing research has focused more on the short-term impact of online game use. Studies exploring the long-term impact on students' affective intelligence and how this influences their character development are still lacking. **Multidisciplinary Approach:** There is a need for research that combines approaches from various disciplines such as education, psychology, and technology to gain a more comprehensive understanding of how online games can influence students' affective intelligence. Identifying these gaps is important to determine the unique contribution of this research and how its results can fill gaps in the existing literature. This research can provide significant new insight into how to optimize the use of technology in learning Pancasila and developing students' affective intelligence.

**Problems, Infrastructure Limitations:** Limited access to technological devices and the internet at SDN Pondok Petir 01 has become the main obstacle in implementing online gaming methods. **Teacher and Student Readiness:** Teacher readiness to integrate technology in learning and students' ability to use online games effectively can be a challenge. Adequate training and mentoring is required to ensure successful implementation. **Balance Technology Use:** Finding a balance between the benefits and potential negative impacts of online game use. Too much screen time can impact students' physical and mental health. **Measuring Affective Intelligence:** Determining an effective way to measure students' affective intelligence objectively and validly. Appropriate measuring tools and accurate evaluation methods are needed to obtain reliable research results. **Sustainable Curriculum Implementation:** Ensure that online gaming methods can be integrated sustainably in the Pancasila curriculum without disrupting other learning processes. By setting clear goals, understanding the philosophical basis, and overcoming various problems, this research can provide valuable insight into the potential and challenges of using online games in Pancasila learning, as well as how this can influence students' affective intelligence.

**Limited Technology Access:** Unequal technology infrastructure across schools can be a major obstacle. SDN Pondok Petir 01 has limitations in terms of hardware (computers, tablets) and internet access, which can reduce the effectiveness of implementing this method. **Dependence on Online Games:** Too much reliance on online games can cause students to focus more on the playing aspect rather than the learning aspect. This can divert students' attention from the main goal of learning Pancasila. **Potential Negative Impacts:** Excessive use of online games can have negative impacts on physical (e.g., vision problems, obesity) and mental (e.g., addiction, behavioral problems) health. **Lack of Previous Research:** Because research regarding the influence of online games on affective intelligence, especially in the context of Pancasila learning, is still limited, there is a risk that the results of this research do not have many comparative references or a strong theoretical basis. **Difficulties in Measuring Affective Intelligence:** Measuring affective intelligence objectively and validly can be challenging. The instruments used must be truly capable of accurately capturing changes in students' affective aspects. **Appropriate Curriculum Adaptation:** Adapting the Pancasila curriculum to the online game method requires careful planning and has taken quite a long time. Teachers need to design games that are not only interesting but also in accordance with the Pancasila learning objectives. Teachers have needed special training to be able to integrate online games.

Analyzing the extent to which the use of online gaming methods can influence the affective intelligence of class II students. Assessing changes in aspects of affective intelligence such as empathy, emotional control, and social skills after implementing the online game method in learning Pancasila. Evaluating the Effectiveness of Learning Pancasila with Online Games: Determining the effectiveness of online game methods in increasing students' understanding of Pancasila values. Comparing the results of learning Pancasila using online game methods versus conventional methods. Identifying the obstacles faced in implementing online gaming methods at SDN Pondok Petir 01. Finding solutions to overcome these obstacles and providing recommendations for better implementation in the future. Adopt the view that education should include the holistic development of students, not only cognitive but also affective and social. Effective Pancasila learning must shape students' character and

morals in accordance with the basic values of the Indonesian nation. Adheres to the philosophy that education must continue to innovate to adapt to current developments. The use of technology, such as online games, is part of efforts to make learning more relevant and interesting for the digital generation. Local Social and Cultural Context: Emphasizes the importance of considering the local social and cultural context in implementing learning methods. Technology implementation must be in accordance with the specific needs and conditions of the school and the students involved in learning effectively. Without adequate training, implementation of this method can be less than optimal. Appropriate Game Content: Not all online games are suitable for educational purposes. Selecting or developing the right game that can support Pancasila learning and develop affective intelligence requires time and resources. Limited Social Interaction: Although online games can promote some forms of interaction, direct face-to-face interaction remains important for the development of students' social skills and affective intelligence. The use of online games has reduced the time for this direct interaction. Overcoming these shortcomings requires a comprehensive approach, including careful planning, support from various parties (schools, government and parents), as well as ongoing evaluation to ensure this method is truly beneficial for the development of students' affective intelligence.

## II. METHODS

Method study This use Approach Quantitative And Qualitative (Mixed Methods): Combining approach quantitative For measure change in intelligence affective student with approach qualitative For get understanding deep about experience student and inner teacher use online gaming method. Design Research, with Design Experiment: Using design experiment with group control And group experiment For see influence online gaming method. Group Experiment: Students who will use deep online gaming methods learning Pancasila. Group Control: Students who will use method learning conventional. Population And Sample, Population: All student class II at SDN Pondok Lightning 01. Sample: Selected in a way random from population (1 class III teacher and 20 students), with balanced distribution between group experiment And group control. Instrument Study. Questionnaire: For measure intelligence affective student before And after intervention. Questionnaire can covers aspects like empathy, control emotions, and Skills social. Observation: For observe interaction student during use online gaming methods and during learning conventional. Interview: Conducted with students, teachers, and have parents For get outlook deep about experience And perception they to use of online games in learning. Test Knowledge Pancasila: For measure understanding student to material Pancasila before And after intervention. Study This is at SDN Pondok Petir 01, whose address is Jalan Reni Jaya Barat, Village Cottage Lightning, District. Bojongsari, Depok City.

## III. RESULTS AND DISCUSSION

Based on the results of the school's research, the challenges and obstacles that have been faced in implementing online gaming methods at SDN Pondok Petir 01 include the following aspects: 1. Limited Technological Infrastructure, Internet Access: The quality and availability of adequate internet access can be an obstacle. A weak signal or unstable connection can disrupt learning. Technology Devices: Lack of sufficient devices such as computers, tablets, or smartphones for all students. Not all students have access to the required devices. 2. Teacher Readiness and Ability, Training and Competency: Teachers need special training to use online games effectively in learning. Not all teachers have the necessary technology skills. Time to Adapt: Teachers have needed additional time to prepare learning materials that use online games, which can burden them in addition to other teaching duties. 3. Student Readiness and Ability, Variations in Technology Ability: Not all students have the same level of ability in using technology. Some students have needed more guidance. Attention and Discipline: The use of online games can make students more interested in the playing aspect rather than learning, which can distract them from learning goals. 4. Health Aspects, Physical Health: Using electronic devices for a long time can have an impact on students' eye health and body posture. Mental Health: The potential for addiction or other negative impacts from using online games needs to be watched out for. 5. Appropriate Game Content, Content Quality and Relevance: The games used must be relevant to the Pancasila learning material and must be designed to support the development of students' affective intelligence. Content Development: Developing or choosing the right game takes time, effort, and costs a lot. 6. Parental Involvement, Support from Parents: The importance of support from parents in supervising and supporting the use of online games at home. Some parents have not fully understood or supported the use of technology in learning. 7. Time Management. Effective Time Allocation: Integrating online games into an existing learning schedule without disrupting other teaching and learning activities can be a challenge. 8. Evaluation and Measurement of Results. Effectiveness Measurement: Developing

an effective method for evaluating the effect of using online games on students' affective intelligence. Continuous Monitoring and Assessment: Requires a good monitoring system to ensure that the use of online games is running well and producing the expected results. By identifying and understanding these challenges and obstacles, more strategic steps can be taken to overcome these obstacles and ensure the successful implementation of online game methods in Pancasila learning at SDN Pondok Petir 01.

For significant differences in the development of affective intelligence between students who use online gaming methods and those who use conventional methods, we need to conduct research with an experimental design that involves data collection and analysis. The following are ways that can be used to identify these significant differences: Experimental Research Design, Experimental Group: Students who use online game methods in learning Pancasila. Control Group: Students who use conventional learning methods. Measurement Instrument, Affective Intelligence Questionnaire: Measures aspects of affective intelligence such as empathy, emotional control, and social skills before and after intervention. Observation: Observing student behavior during the learning process to identify changes in social and affective interactions. Interviews and Group Discussions: Gain deeper insight from students and teachers regarding their experiences and the changes they observed. Research Procedures, Pre-test: Administer affective intelligence questionnaires to both groups (experimental and control) before the intervention. Intervention: The experimental group used online game methods in learning Pancasila for a certain period. The control group used conventional methods in learning Pancasila during the same period. Post-test: Re-administer the affective intelligence questionnaire to both groups after the intervention. Data Analysis, in the form of Statistical Analysis: Using statistical tests (for example, t test) to compare pre-test and post-test results between the experimental group and the control group. Descriptive and Inferential Analysis: Using descriptive statistics to describe data and inferential statistics to test the hypothesis of significant differences. If the results of statistical analysis show significant differences between the experimental group and the control group, it can be concluded that the online game method has a significant influence on the development of students' affective intelligence compared to conventional methods. If there is no significant difference, it can be concluded that the online game method does not have a greater influence than conventional methods in the context of affective intelligence. Factors Affecting Quality Outcomes of Online Games: The effectiveness of online games largely depends on the quality and relevance of the content. Implementation and Supervision: How the method is implemented and supervised by the teacher also influences the results. External Variables: Factors such as the learning environment, parental support, and students' psychological conditions can also influence research results.

Student and teacher perceptions of the use of online game methods in learning Pancasila can vary, but the following are some potential perceptions that can be identified based on general findings in the context of the use of technology in education: Student Perceptions, Involvement and Motivation: Positive: Students have felt more motivated and involved in learning because of the interactive and fun approach. Online games can make learning material feel more interesting and relevant. Negatives: Some students have viewed games more as entertainment than learning tools, which can divert focus from primary learning goals. Ease of Understanding: Positive: Students have felt that online games help them understand Pancasila concepts better through visualization and interactivity. Negative: Some students have found it difficult if the game is not well designed or is too complex to understand. Technology Skills: Positive: Students can improve their technology skills, which is important in today's digital era. Negative: Students who are less familiar with technology have felt frustrated or left behind. Social Interaction: Positive: Some online games can facilitate cooperation and collaboration between students, strengthening their social relationships. Negative: Excessive use of online games can reduce face-to-face interactions and direct social engagement.

Teachers' perceptions on various elements, namely on Learning Effectiveness: Positive: Teachers have seen the online gaming method as an effective tool for making learning more interesting and relevant for students. This can make it easier to convey abstract Pancasila material into a more concrete one. Negative: Teachers have been skeptical of the effectiveness of online games in achieving long-term learning goals, especially if the games are not well designed. Ease of Implementation: Positive: Teachers skilled with technology have found that online games make teaching and assessing student understanding easier. Negative: Teachers who are less skilled with technology have found it difficult to integrate online games into their curriculum. Time and Resources: Positive: Teachers have seen online games as an efficient way to convey a lot of information in a short time. Negative: Developing or selecting appropriate games can take a lot of time and resources, which can be an additional burden for teachers. Monitoring and Control: Positive: Online games can provide live data and analysis that helps teachers monitor student progress more effectively. Negative: Supervising students' use of online games and ensuring they stay focused on learning objectives can be a challenge. Innovation and Adaptation: Positive: Both students and teachers have seen the use of online games as an innovative step in education that can help prepare students for future challenges. Negative: There is a lack of resistance to change, especially if adaptation to new technology is seen as a disruption to established traditional teaching methods. By understanding this perception, both positive

and negative aspects, schools can take steps to optimize the use of online games in Pancasila learning, such as providing training to teachers, choosing appropriate games, and ensuring adequate technological infrastructure.

The effectiveness of online game methods in increasing students' understanding of Pancasila material compared to conventional learning methods can vary depending on various factors, including game design, quality of implementation, and student characteristics. The following are some considerations that can help evaluate how effective online gaming methods are in this context: 1. Student Engagement and Motivation, Positive: Online gaming methods can often increase student engagement due to their interactive and engaging nature. Students have been more motivated to learn because games can present material in a more fun and relevant context. Negative: However, if games are not well designed or do not fit into the curriculum, they can distract students from the main learning objectives. 2. Understanding Concepts, Positive: Online games can visualize abstract concepts in Pancasila in a way that is easier for students to understand. The interactivity and challenges presented in the game can help students to understand and internalize the values of Pancasila better. Negative: Using games that are inappropriate or not in accordance with learning objectives can confuse students or even reduce their understanding of the material. 3. Monitoring and Evaluation, Positive: Online gaming methods often provide a mechanism for monitoring student progress directly. Data generated from students' interactions with games can help teachers evaluate their understanding in more detail and provide more targeted feedback. Negative: However, managing and analyzing the data required to interpret the results of the game can be an additional workload for teachers, especially if they are unfamiliar with the technology. 4. Additional, Positive Skills: Online gaming methods often introduce and enhance students' technology skills, which are crucial skills in today's digital era. Negative: Depending on the game design, students have only acquired knowledge about how to use the game, not conceptual knowledge relevant to Pancasila. 5. Time Efficiency, Positive: Online games can help teachers to deliver material in less time or more efficiently, especially if they are well designed for specific learning objectives. Negative: However, good game development requires time and resources significant, and does not always cover all topics or learning materials.

The positive impact of using online game methods in learning Pancasila in class II at SDN Pondok Petir 01 can include several aspects that have the potential to increase students' affective intelligence: Increasing Student Involvement: Online game methods can often increase student involvement because of their interactive and interesting nature. Students tend to be more motivated to learn because they can learn while playing. Strengthening Understanding of Pancasila Values: Online games can visualize Pancasila values in a more real and interesting context for students. This can help students understand and internalize the moral, ethical and social values taught in Pancasila. Developing Empathetic Abilities: Some online games are designed to strengthen students' empathy and social understanding by preparing them to understand other people's perspectives, an important aspect of affective intelligence. Improve Collaboration and Communication Skills: Online games often promote collaboration between students in solving challenges or solving problems together. This can help improve their social skills and communication abilities. Providing Immediate Feedback: Through online gaming mechanisms, teachers can provide immediate feedback to students about their performance. This can help students to understand their strengths and areas for improvement in terms of their affective intelligence. Enriches Learning Experience: Compared to conventional learning methods, the use of online games can provide a more varied and in-depth learning experience. Students can learn through simulations, challenges, and problem solving that stimulate their affective intelligence. Reduces Tension and Increases Learning Motivation: The relaxed and fun atmosphere offered by online games can reduce students' tension towards learning, thereby increasing their motivation to learn Pancasila better. By making good use of this positive potential, the use of online game methods in learning Pancasila at SDN Pondok Petir 01 can make a significant contribution to the overall development of students' affective intelligence.

#### IV. CONCLUSION

On Based on analysis to influence online gaming methods against intelligence affective student on learning Pancasila in schools basic, yes concluded a number of relevant things: Enhancement Involvement Emotional: The use of online games can increase involvement emotional student to learning Pancasila. Interaction with the content presented in interesting shape And interactive can awaken interest as well as motivation Study student. Development Moral Values: Online games can become means effective For develop understanding student to contained moral values in Pancasila, like mutual cooperation, justice, and unity. This matter help student in understand And internalize values the in a way more deep. Enhancement Skills Social: Via interaction in online games, students can develop Skills social like ability collaborate, communicate in a way effective, as well value difference opinion. This matter important in form intelligence affective student. Relevance in Context Life Real: Learning through online games no only impact during the learning process at school, but Also can influence

behavior And attitude students outside class. This matter can strengthen appreciation values Pancasila in life daily student. Postulate: Use deep online gaming methods learning Pancasila in schools base need integrated with targeted approach And customized with characteristics as well as need student. Besides that 's necessary exists supervision And good management from educator For ensure that objective desired learning can achieved in a way effective. With Thus, use deep online gaming methods learning Pancasila in schools base own potency big For increase intelligence affective student through innovative approach And relevant with development technology moment This.

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# Formation Capital Character Reason Critical on Subjects Pancasila in Schools Base Post Gen Z Based

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## ABSTRACT

**Purpose:** This research aims to explore the capital for building critical reasoning character in post-Gen Z generation students through learning Pancasila subjects in elementary schools. The main focus is to understand how Pancasila values can be integrated and understood in the context of the lives of today's students who tend to be influenced by technology and social media.

**Design/methodology/approach:** The research methods used include literature studies and analysis of the development of the characteristics of the post-Gen Z generation, as well as effective learning strategies in increasing their understanding of moral, ethical and democratic values.

**Findings:** It is hoped that the results of this research can contribute to designing a relevant and effective curriculum to shape students' critical reasoning character in this digital era.

**Paper type:** Research paper.

**Keyword:** *Character Reason Critical, Subjects Pancasila, Post Gen Z Based*

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## I. INTRODUCTION

The gaps that have been identified are as follows, there are differences in Learning Style and Technology, where the post Gen Z generation grew up in an environment that is very connected to technology. The current education system has not yet fully adapted to the needs and preferences of digital learning styles of post-Gen Z students. Then there is a gap in the lack of an updated curriculum, with the existing curriculum not having been updated to reflect the needs and characteristics of the post-Gen Z generation (Santoso et al., 2023). Learning that is more interactive, technology-based, and relevant to the digital world has still not been implemented enough. Furthermore, there is a gap in the challenges section in Technology Integration, with schools and teachers having to face challenges in effectively integrating technology into Pancasila learning. There is a need to ensure that the use of technology enhances critical thinking skills and does not simply serve as a means of entertainment. The problem is that there is a digital divide, that not all students have the same access to technology and the internet. This digital divide can affect the implementation of technology-based learning, especially in underserved areas. Then there is another gap in teacher readiness and training, with many teachers not having adequate training to teach the post Gen Z generation with an appropriate approach. Digital skills and innovative teaching methods need to be further developed. Furthermore, there are various differences in values and perceptions, the post Gen Z generation has different values and perceptions about Pancasila and other social issues. This challenge requires a more inclusive and relevant approach to teaching Pancasila values. Then another gap is that there are limitations in evaluation, traditional evaluation tools are not enough to measure the development of critical thinking skills and character of post Gen Z generation students. There is a need for more dynamic and contextual evaluation methods.

Then there is a lack of collaboration and creativity, where rigid curriculum and teaching methods can limit students' potential for collaboration and creativity. The post-Gen Z generation tends to be more collaborative and

creative, so learning approaches must reflect this. Another gap is the issue of Mental Health, where the post-Gen Z generation faces unique pressures related to the use of social media and the digital environment. Their mental health needs to be considered in the context of learning so that they can learn more effectively.

The importance of character education in the digital era is very important, even though the post-Gen Z generation is very skilled in using technology, it is important to ensure that they also have strong character and critical reasoning. Character education, especially integrated into subjects such as Pancasila, is very important for forming good moral and ethical values (Santoso & Rahman, 2022). The relevance of the Pancasila Subject, where Pancasila as the basis of the Indonesian state teaches values that are very important for the life of the nation and state. Pancasila subjects in elementary schools must be able to teach students about these values in a way that is relevant and attractive to the post Gen Z generation. In a world filled with information, the ability to think critically is a very important skill. Students need to be trained to analyze, evaluate, and make appropriate decisions based on available information. This is important so that they are not easily influenced by fake news or misleading information. Then the current challenges and opportunities in education continue to change drastically, especially with technology, there are challenges such as the rapid dissemination of information and being easily influenced by negative content. However, on the other hand, technology also provides great opportunities to develop learning methods that are more effective and interesting for students. Teachers play a key role in shaping students' character and critical thinking skills. Therefore, it is important to provide continuous training to teachers so that they can adopt teaching methods that suit the characteristics of the post-Gen Z generation. The formation of critical reasoning character in Pancasila subjects in post-Gen Z-based elementary schools is very relevant and important. This not only helps students become intelligent and critical individuals, but also forms a generation that has strong moral values and is ready to face future challenges.

The existing problem is the Digital Divide, where even though the post-Gen Z generation is generally familiar with technology, there is still a gap in access to technology in various regions. Limited internet access and digital devices can be an obstacle in implementing technology-based learning which is needed to develop character and critical thinking skills (Gunawan Santoso, Aim Abdulkarim, Bunyamin Maftuh, Supriya, 2023). Then there is the problem of Lack of Teacher Training, currently many teachers do not have sufficient skills to teach Pancasila material with an innovative and technology-based approach. Continuous professional training and development is needed to ensure that teachers can adopt effective teaching methods for the post Gen Z generation. Furthermore, in terms of resistance to change, the existing education system has faced resistance to change, both from schools, teachers and society. The shift towards more innovative and technology-based learning approaches could face challenges from those more comfortable with traditional teaching methods. The problem is that there are difficulties in measuring character and critical reasoning skills, measuring the development of character and critical thinking skills objectively and comprehensively is a challenge in itself. Existing evaluation instruments are not sufficient to capture all aspects of student development in this regard. Then there are challenges in Curriculum Integration, integrating Pancasila learning with approaches that are relevant for the post Gen Z generation requires a flexible and adaptive curriculum. However, this process can face bureaucratic obstacles and rigid regulations. Furthermore, with the influence of Social Media and Information, the post Gen Z generation is exposed to very diverse information from social media. The ability to think critically is essential to filter this information, but at the same time, social pressure and the tendency to follow trends can be a challenge in forming a strong and critical character.

Characteristics of the Post Gen Z Generation, here The post Gen Z generation (born around mid-2013 onwards) grew up in a very advanced digital era, where technology, social media and available information quickly became an integral part of everyday life they. This generation is known to have a high ability to adapt to technology and has a fast and innovative way of thinking.

The philosophical goal is to form individuals who are not only academically intelligent, but also have strong character and high critical thinking abilities. However, there are various problems that must be overcome, such as the digital divide, lack of teacher training, resistance to change, challenges in measuring character and skills, and the influence of social media. By overcoming this problem, it is hoped that character education and critical thinking skills can develop optimally in the context of the post Gen Z generation. Through the development of the Whole Human, with the philosophical aim of developing the complete Indonesian human, namely individuals who are not only intellectually intelligent, but also have character, strong, good morals, and critical thinking skills. Character education based on Pancasila values aims to form individuals who are able to think critically and ethically in facing various life challenges. Then there is the development of Social and Citizenship Awareness, with Pancasila Education aimed at instilling national values, humanity, unity, democracy and justice. By forming a critical reasoning character, students are expected to be able to understand and apply these values in everyday life, and become active, critical and responsible citizens. Furthermore, there is adaptation to current developments, where the post-Gen Z generation grows up in a rapidly changing digital era. The philosophical goal is to ensure that character education and students' critical thinking skills remain relevant to current developments. This



involves the integration of technology in learning and the use of approaches that suit the characteristics of the post Gen Z generation.

Education plays a vital role in revitalizing the nation and state, so it is very important for every individual involved in education to actively contribute to improving the quality of education. Since the beginning of independence, the Indonesian nation has been committed to prioritizing the development of national character as a crucial element that is inseparable from overall national development. Apart from that, character education is mandated by Law Number 20 of 2003, which discusses the national education system. Article 3 of the law states that the function of national education is to improve abilities and shape national character. Character education is an important aspect that needs to be given to students, because the formation of national character is one of the main goals of education (Pratomo & Herlambang, 2021). Research by As & Mustoip (2023) confirms that the implementation of character education in elementary schools can have a positive impact on children's character development. Abidin (2015) stated that although character education is not new in the world of education, its implementation in educational units still needs to be strengthened and developed in order to achieve optimal results. Strengthening character education through the implementation of Pancasila lessons is very important, especially in the era of digitalization. So that students' character is able to develop well in accordance with Pancasila values, we provide strengthening character education through Pancasila lessons.

Critical reasoning ability is a critical thinking activity that involves analyzing and evaluating evidence, identifying questions, reaching logical conclusions, and understanding the implications of arguments (Rahmawati et al., 2023). Critical reasoning is a reflective process that focuses on decision making and beliefs. The ability to reason critically is very important for students in solving problems, facing challenges, and making the right decisions in the era of globalization {Ulun Kalin & Baydar, 2022}. Learning is an effort to improve the human quality of every nation and strives to improve the quality of education. Quality learning is not as good as just being measured from the cognitive aspect but learning that combines all human abilities regarding cognitive, affective and psychomotor. With learning based on Pancasila values, it is a means to build a generation of people who are intelligent and have character that is in accordance with Pancasila values. Pancasila lessons are the embodiment of Indonesian students as lifelong learners who have global competence and behave in accordance with these values. Pancasila, with six main characteristics, namely faith, piety, to God Almighty, and noble character, global development, mutual cooperation, independence, critical reasoning and creativity (Primary School Directorate, 2020). With Pancasila values that are rooted in students in the future. Critical reasoning is very important and is a skill that cannot be ignored in the digital era. When faced with such large and varied information, students must be able to analyze, evaluate and interpret critically. They must be able to see different perspectives, ask relevant questions, and build strong arguments based on rational thinking and valid evidence.

Critical reasoning helps students to look further, understand the complexity of problems, and make the right decisions. Students who are able to reason critically, independently are able to protest qualitative and quantitative information objectively, build relationships between various pieces of information, analyze and evaluate them, and draw conclusions. Obtaining and processing information and ideas, analyzing and evaluating reasoning, reflecting on thoughts and thought processes, and making decisions are all components of critical reasoning. Making students become individuals who reason critically is the task of educators to help and guide them. Because critical reasoning is one of the supports or determinants of the educational success that children learn and undergo, achieved in formal, informal and non-formal education. Critical reasoning, which is part of Pancasila lessons, aims to stimulate the ability to fairly manage information and build relationships. This ability cannot be immediately possessed or improved, but requires practice and habits by facing real problems that must be solved (Bas & Bolat, 2022). The purpose of critical thinking is to test an opinion or idea through in-depth understanding. Students must focus on thinking efforts to actively analyze and solve various problems around students which are included in the student learning process (Trimahesri & Hardini, 2019). Based on the results of initial observations, interesting results were obtained at SD Negeri 01 Cirendeu, it can be seen that students who have character, reason critically in Pancasila lessons by implementing Pancasila values. The presence of character and critical reasoning in students can be seen from the way they solve problems in making decisions.

## II. METHODS

Method descriptive qualitative Because method descriptive qualitative I have right researcher For collect data via interviews, observations, and analysis document For explore implementation character reason critical on lesson Pancasila, which was created object or location study is SD Negeri 01 Cenderu. Method research used must capable identify And analyze various relevant aspects with formation character reason critical And suitable approach For Post Gen Z generation. Analysis documentation through studies literature, with do study References For identify concepts main, theory, and study previously related formation character reason critical, educational

Pancasila, and characteristics post Gen Z generation. b. Interview Deep Do interview deep with teachers, heads school, and expert education For get outlook about method learning used, challenges faced, and existing needs in formation character reason critical on student post Gen Z generation. Analysis Qualitative Analyzing data from interview use technique analysis thematic For identify themes main And the patterns that emerge related formation character reason critical And approach appropriate learning For post Gen Z generation.

### III. RESULTS AND DISCUSSION

Based on the research results, this research has examined the Merdeka Curriculum adapted to the needs and characteristics of the post-Gen Z generation in learning Pancasila. The results of the implementation of the Merdeka Curriculum in Pancasila learning can apparently be adapted for the post Gen Z generation. Implementation and Evaluation, to measure success in forming critical reasoning character through Pancasila subjects, teachers can use various evaluation methods such as: Project Assignment: Providing values-based projects Pancasila which requires in-depth analysis, problem solving, and application of these values. Written Exam: Using exam questions that test students' understanding of concepts and ability to apply Pancasila values in various situations. Class Discussion: Hold group discussions or debates on issues related to Pancasila values to explore various points of view and support the development of critical thinking skills. Portfolio Assessment: Collect student works that reflect their understanding of Pancasila values and their character development during the learning period.

The implementation of the Merdeka Curriculum in Pancasila learning for the post-Gen Z generation can be adapted by considering their characteristics and learning preferences. Here are some steps that can be taken: Use of Technology in Learning: Integrate digital technology and interactive e-learning platforms to make learning more interesting for students. For example, using interactive learning applications, virtual simulations, and multimedia content that is relevant to students' daily lives. Furthermore, Collaborative learning and Value-Based Projects: The Merdeka Curriculum encourages collaborative learning and competency-based projects. Apply this approach by providing projects that challenge students to apply Pancasila values in solutions to social problems or other meaningful activities. Then Flexibility in Learning: Adapt the curriculum and learning methods to the learning styles of post Gen Z students who tend to prefer independent, flexible and technology-based learning. Provide opportunities for students to choose topics or ways of learning that suit their interests and needs. Then develop Critical and Creative Thinking Skills: Focus learning on developing critical, analytical and creative thinking skills in the context of Pancasila values. Encourage students to question, analyze and formulate solutions to complex problems relevant to Pancasila values. Character Development and Digital Ethics: Insert character education and digital ethics as an integral part of Pancasila learning. Teach students to use technology ethically, manage information wisely, and build positive relationships in a digital environment. Application of Multicultural Values and Tolerance: In the context of globalization and plurality of society, reinforce the importance of the values of multiculturalism and tolerance in learning Pancasila. Provide students with learning experiences that value diversity of cultures and viewpoints. Then Competency and Portfolio Based Evaluation: Use more holistic evaluation methods, such as portfolio-based assessments or project assignments, which can reflect students' progress in understanding and applying Pancasila values and their character development. Sustainable Character Education: The Merdeka Curriculum encourages holistic and sustainable character education. Ensure that learning Pancasila does not only focus on conceptual understanding, but also practical experiences that can help students apply these values throughout their lives.

This research has identified the typical characteristics of the post Gen Z generation and how these characteristics influence the way they learn and absorb the values taught in Pancasila subjects. The characteristics of the post-Gen Z generation influence the learning of Pancasila subjects in elementary schools, namely the post-Gen Z generation, who were born after the mid-2013s, have unique characteristics that influence the way they learn, including in learning Pancasila subjects in elementary schools.

The following are some of the main characteristics of the post Gen Z generation and how these characteristics influence the learning of Pancasila, namely the Characteristics of the Post Gen Z Generation by having Digital Natives, where the post Gen Z Generation was born and grew up in an era of very advanced digital technology. They are familiar with electronic devices, the internet, social media and digital applications from an early age. Then there is the ability to multitask, where post-Gen Z children often do several activities at once, such as studying while listening to music or communicating with friends via social media. Then there is the Visual and Interactive Tendency, here they tend to be more responsive to visual and interactive content, such as videos, animations and games, than written text. Other characteristics are Critical and Skeptical, with this generation being more critical of the information they receive, especially because they are exposed to various different sources of information on the internet. Then there is a Collaborative Learning preference, where post Gen Z children tend to

prefer working in groups and collaboration compared to working individually. Furthermore, there is a focus on Relevance and Real Context. They are more interested in lessons that have real relevance to their daily lives and the current world situation.

This research has explored various learning methods, such as project-based learning, the use of technology, and collaborative approaches, as well as the effectiveness of each method in forming critical thinking skills. Effective learning methods in forming critical reasoning character in post Gen Z generation students in the context of Pancasila subjects. Through the Problem-Based Learning method, in description: Students are given real problems that are relevant to Pancasila values to be analyzed and solved. Here there are benefits: Developing critical thinking, analysis and problem solving skills. Students also learn the importance of Pancasila values in the context of everyday life. For example, this has been done in discussions about how to apply the principles of social justice in certain situations. Then another method used is Collaborative Learning, in description: Students work in groups to discuss and solve tasks together. This has benefits: it encourages collaboration, communication and critical thinking. Students learn to respect the views of others and work effectively in teams. An example of what has been carried out is a group discussion regarding the application of the value of unity in school activities. Then use technology media and Digital Media, with a brief description, namely using digital tools and applications to support learning. This has benefits, it can increase student involvement and motivation. Technology can provide interactive and engaging content, as well as innovative evaluation tools. For example, there has been the use of online learning platforms, educational videos about the history and values of Pancasila, as well as educational games that teach Pancasila values.

This research has evaluated the role of technology in learning, including digital tools and applications that can be used to teach Pancasila and develop critical thinking skills. The advantage of using technology can support the learning of Pancasila and the formation of critical reasoning character in post Gen Z generation students, namely Access to Wide and Varied Learning Resources, technologically means access to various digital learning resources, such as e-books, educational videos, articles and online journal. So support for learning: Students can explore Pancasila material from various perspectives and sources that are richer and deeper. This is the formation of Critical Character: Accessing various sources helps students develop analytical and evaluation skills of different information. Interactive Learning, with descriptions of the use of interactive learning applications and platforms specifically designed to teach Pancasila values. Support for Learning: Educational games, simulations and interactive applications make learning more interesting and easy to understand. Critical Character Formation: Interactivity motivates students to actively participate, think critically, and make decisions based on simulated situations. Then there is Online Collaboration, where online collaboration platforms such as Google Classroom, Microsoft Teams, and Zoom allow students to work together on projects and discussions. Even support for learning: Facilitate group work and discussions on Pancasila topics virtually, which is flexible and can be accessed at any time. Critical Character Building: Online collaboration teaches communication, cooperation and critical problem solving skills. Social media can be used as a learning tool to discuss Pancasila values and share educational content. Platforms like Facebook, Instagram, and Twitter can be used to host discussions, share educational videos, and group projects. Then there is Independent Learning through E-Learning, through e-learning platforms such as Khan Academy, Coursera, and other local platforms providing courses and learning materials that can be accessed independently. Support for Learning: Students can learn at their own pace and repeat material they have not yet understood. Formation of Critical Character: E-learning encourages independence, responsibility and critical thinking skills in managing time and learning resources. Critical Character Formation: Social media makes students develop digital literacy skills and think critically about the content they consume and share. Use of digital evaluation tools such as online quizzes, surveys, and assessment applications. Learning Support: Facilitates real-time evaluation and provides fast feedback to students. Critical Character Formation: Varied and interactive digital evaluations can measure students' understanding of Pancasila values and their critical thinking abilities. Virtual Reality (VR) and Augmented Reality (AR), in the VR and AR technology section, can be used to create immersive and in-depth learning experiences about the history and values of Pancasila. Support for Learning: Provide more realistic and engaging learning experiences, such as virtual tours of historical places or simulated social situations. Critical Character Building: Immersive experiences help students better understand historical and social contexts, and develop empathy and critical thinking. Using online discussion forums such as Reddit, Quora, or school discussion platforms to debate issues related to Pancasila. Support for Learning: Encourage students to ask questions, discuss and exchange ideas about the topic of Pancasila. Critical Character Building: Online discussions hone critical thinking skills, argumentation, and respect for various points of view.

Challenges faced by teachers in teaching Pancasila subjects to post-Gen Z generation students. This research has identified various challenges faced by teachers, such as the digital divide, lack of training, and resistance to changes in teaching methods. Limited Understanding of History and Social Context: Students currently have limited knowledge of Indonesian history and the social context that shapes Pancasila values. This can be a challenge for teachers in providing adequate and relevant context so that students can appreciate and understand

the meaning of each Pancasila value. Lack of interest in material that is not directly related to careers: The post-Gen Z generation tends to focus on skills that are practical and directly related to careers. Subjects such as Pancasila which focus more on moral and social values can be considered less relevant for some students. Teachers need to find ways to make learning Pancasila more interesting and meaningful for students. Digital Ethics Challenges and False Information: Post Gen Z generation students are highly exposed to information from the internet and social media. The challenge for teachers is to help students become critical and intelligent consumers of information, and be able to differentiate between correct information and incorrect or tendentious information. Resistance to Conventional Learning: Post Gen Z generation students have a preference for more interactive, collaborative and technology-based learning. The challenge for teachers is to adapt traditional teaching methods into a format that is more dynamic and responsive to students' current learning styles. To overcome this challenge, it is important for teachers to continue to develop their skills in using technology, adapting learning approaches to student learning styles, and linking Pancasila values with real situations that are relevant for the post Gen Z generation. Collaboration with fellow teachers, use of learning methods an innovative, and personalized approach can help facilitate a deeper understanding and application of Pancasila values in students' daily lives.

This research has explored students' views regarding the Pancasila subject, the values taught, and how they apply these values in everyday life. Various perceptions of post-Gen Z generation students regarding the Pancasila subject and its relevance to their daily lives. Perceived relevance of Pancasila values to daily life, positively: Some students consider Pancasila values, such as mutual cooperation, social justice and unity, to be relevant in the context of their daily lives. They see these values as moral guidelines that can help them interact with others, resolve conflicts, and build harmonious relationships. Perception of Learning Material through Varied Interests: Some students have been interested in learning history and the origins of Pancasila values, while others have been more interested in the practical application of these values in the context of current social and political life. Then the perception of Social Media and Digital Information, this has a positive influence, through social media it can be used as a tool to campaign for Pancasila values and disseminate relevant information. Some students have used this platform to learn more about the values of Pancasila and develop a deeper understanding. Furthermore, the perception of discussing and increasing understanding, through discussions in class: Students are more involved in Pancasila subjects if there is an opportunity to discuss, question and apply these concepts in a context that they understand. This method uses personal experience, where students' personal experiences can also influence their perceptions of Pancasila values. Students who have direct experience with values such as mutual cooperation or tolerance are more likely to appreciate the importance of these values in their lives. This research has identified and developed indicators to measure the success of character formation and students' critical thinking abilities in the context of Pancasila subjects.

This research has evaluated the role of the school environment, including school culture and support from the family, in shaping students' character and critical thinking skills. Indicators of success in forming critical reasoning character in post Gen Z generation students through Pancasila subjects using clear success indicators and relevant evaluation methods, teachers can measure the extent to which post Gen Z generation students are successful in forming critical reasoning character through learning Pancasila subjects. Indicators of success in developing critical reasoning character in post Gen Z generation students through Pancasila subjects can include the following: 1. Critical Thinking Ability, Students are able to identify complex problems in the context of Pancasila values. Able to analyze information, evaluate arguments, and make decisions based on rational and ethical considerations. Demonstrated ability to construct logical, evidence-based arguments. Deep Understanding of Pancasila Values: Have a deep understanding of the meaning and purpose of each Pancasila value (eg, Belief in One God, Just and Civilized Humanity). Able to explain the application of Pancasila values in social, political and personal life. 2. Attitudes and Behavior Based on Pancasila Values, showing mutual respect, tolerance, justice and mutual cooperation in daily interactions. Behave ethically and responsibly in social and community life. 3. Collaboration and Communication Skills: Able to work together in a team to achieve common goals, by appreciating the contribution of each team member. Ability to communicate effectively, both in conveying ideas and opinions and in listening and responding to the opinions of others. 4. Independence in Thinking and Acting, Students can take the initiative to search for information, explore the topic of Pancasila more deeply, and understand it independently. Able to make the right decisions based on critical thinking and learned values. 5. Reflection and Self-Development, Able to regularly reflect on learning experiences and the application of Pancasila values in personal life. Committed to continuing to develop oneself and hone critical thinking skills and the application of moral values. 6. Active participation in discussions and debates. Students actively participate in class discussions or extracurricular activities involving the topic of Pancasila. Able to express opinions with clear and supporting arguments.

#### IV. CONCLUSION

Based on analysis And discussion can concluded a number of matter following, Requirements Relevance And Connectivity: Students the post Gen Z generation needs approach relevant learning with life they everyday, which involves use technology, social media, and interactive approach. Values Pancasila must integrated with context adequate contemporary, in order more easy understood And accepted by student. Then importance Skills Think Critical: Formation character reason critical need development Skills think analytical, evaluative, and creative. Student must invited For No only understand values Pancasila in a way conceptual, but Also capable apply it in finish problem real And in life daily. Furthermore use Technology as Tool Learning: Digital technology and social media can made as effective tool For enrich learning Pancasila. With utilise application learning, simulation, and interesting digital content, teachers can increase participation student And deepen understanding they to values Pancasila. Then method Innovative Learning: Approaches learning must more dynamic And innovative, incl use method projects, discussions group, and learning based problem. This matter will help student For more active in Study And develop ability think critical they. Furthermore exists Integration Education Character And Digital Ethics: Education character must covers aspect digital ethics, teaches student For using the internet and social media with wise. This important For form students who don't only intelligent in a way intellectual, but Also ethical And responsible answer in use technology. Then exists Holistic evaluation And Continuous: Evaluation to formation character reason critical must nature holistic And sustainable, combining evaluation based projects, portfolios, and reflection self. This will give more picture comprehensive about development character And ability think critical student. With thus, formation character reason critical on eye lesson Pancasila in schools base based the post Gen Z generation needs an integrated, innovative, and approach relevant with demands era. Through application strategy Appropriate learning is expected student can understand And internalize values Pancasila with more OK, as well capable implement it in life they daily.

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# Influence Clarity Target Budget, Control Accounting, and Systems Reporting to Performance Accountability

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## ABSTRACT

**Purpose:** This research aims to analyze the influence of clarity of budget objectives, accounting control, and reporting systems on performance accountability in government agencies.

**Design/methodology/approach:** The respondents in this study were staff in all sections of one government agency, the secretariat of the Palopo City DPRD. This research uses a causality-based quantitative method through distributing questionnaires. The population in this study were employees who worked at the Palopo City DPRD Secretariat with a sampling technique using saturated sampling (census), which means sampling utilized the entire population. The data were analyzed using SPSS software.

**Findings:** The results of this research show that clarity of budget targets, accounting controls, and reporting systems have a positive and significant effect on performance accountability.

**Paper type:** Research paper.

**Keywords:** Budget, Accounting Control, Reporting System, Accountability.

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## I. INTRODUCTION

Agency performance government now more Lots get highlight Because the more many agencies government seen No care to effort repair more performance efficient Because still many performances agency government that hasn't showing enhancement significant. Circumstances the cause the more increasing the demands submitted public to government on more public services good (good *governance*). Demands will more performance Good from public This happen almost everywhere government along with draft autonomy area and determination regulation legislation related management government (Auditya et al., 2013) .

Every agency government or the party given mandate and trust must give report accountability on tasks that have been done entrusted to her with disclose all something done, seen, felt, good that reflects success nor failure. In other words, reports accountability the No just report compliance and fairness implementation task in accordance with applicable provisions, however including performance from implementation something management capable strategic answer question fundamental about What should accountable. In terms of This agency government must can report success that has been accomplished and courageous disclose failure occurred related with policies that have been issued by the other party tall. Almost all over agencies and institutions government require draft accountability This specifically in operate function administrative governance. Inability apply draft accountability in a way consistent in each line governance is one of reason weak organization so that result appearance deviation management finance and state administration in Indonesia. ( Pratama et al., 2019) .

According to Presidential Instruction Number 7 of 1999, government must responsibly answer on success implementation mission organization in reach goals and objectives that have been set through accountability carried out in a way periodically. For face accountability this, the government must notice a number of things, like budget, control accounting, effectiveness implementation budget, and control accountancy.

Based on results monitoring and evaluation from the Ministry of Utilization State Apparatus and Bureaucratic Reform about accountability performance mention that lack of commitment in put forward accountability from side performance so accountability performance Not yet get great attention, especially at the Ministry/Institution/ Government level area. That matter show that accountability performance agency government in Indonesia which still weak.

related phenomena with Accountability performance agency Regional Government ( Pemda) in Palopo City so far This Not yet reach accountability satisfactory performance. Government city palopo get ranking performance namely "B" on the report results evaluation For System Accountability for Agency Performance Government (SAKIP) at 3 years final. that value Still Not yet satisfying and necessary exists enhancement. Findings This based on the results released in 2021 were presented by the Regional Secretary of Palopo City, Drs. H. Firmanza DP., SH, M.Si who virtually participated System Accountability for Agency Performance Government (SAKIP) Award in 2020 organized by the Ministry of Empowerment State Apparatus and Bureaucratic Reform ( Kemenpan -RB) In room meeting Regional Secretary of Palopo City.

Clarity target budget will help employee reach expected performance, which can be achieved with know target budget. With exists target a clear budget, will more easy For accountable success or failure implementation task organization For reach goals and objectives that have been set previously. Obscurity target budget will cause executor budget become confused, no calm and no satisfied in Work. In success clarity target budget so expected will achieved task something organization so that will realize accountability public (Laksana, Agung Puja; Handayani, 2014) .

Accountability performance agency increasing government signify the more high level of control the accounting. Control accountancy in government can control and evaluate all activities and responsibilities answer done agency the. Control accounting also has ability For evaluate is activities performed government area economical, efficient and effective in give service to public is one of indicator performance government area. Achieved indicator the is achievements that have capacity For increase level accountability performance agency government the area concerned.

Apart from control accounting, system reporting also becomes decider in create accountability good performance. State Administration Institutions (LAN) and Supervisory Bodies Finance and Development (BPKP) stated that prepared report with honest, objective and transparent is the report said Good. For monitor, supervise and assess How manager carry out budget, required system good reporting. Government as public fund manager must capable provide information financials presented in a way accurate, relevant, consistent, and capable trusted.

A number of researcher previous show exists inconsistency between study One with other research such as research conducted by ( Pratama et al., 2019) with title " Influence Control Accounting, Systems Reporting, and Clarity Target Budget To Accountability for Agency Performance Government " which results show that clarity target budget in a way Partial No influential positive to accountability performance, meanwhile control accounting and systems reporting in a way Partial influential positive to accountability performance. As for research (Mikoshi, 2020) namely " Influence Clarity Target Budget, Control Accounting and Systems Reporting To Koni Performance Accountability throughout West Sumatra" shows that clarity target budget and systems reporting in a way Partial No influential positive to accountability performance Koni in West Sumatra, meanwhile control accountancy in a way Partial influential positive to accountability performance Koni in West Sumatra. By simultaneous show that clarity target budget, control accounting, and systems reporting to accountability performance Koni in West Sumatra. Study (Mulya & Fauzihardani, 2022) show that clarity target budget influential significant positive to accountability performance whereas control accounting and systems reporting No influential significant to accountability performance. There are several difference results to study the make researcher interested For do study about clarity target budget, control accounting, and systems reporting influential Good in a way Partial nor in a way simultaneous to accountability performance at the secretariat DPRD city palopo.

As for goals study This is For give proof empirical about influence clarity target budget, control accounting, and systems reporting to accountability performance agency government area specifically at the secretariat DPRD city palopo. Expected study This will help government area increase accountability performance them and give contribution information as well as base study furthermore about accountability performance.

## **A. Literature Review and Hypothesis Development**

### **1. Contingency Theory (*Contingency Theory*)**

The theory of possibility (Contingency Theory) states that design and use design system control management depends characteristics organization and conditions environment Where system the will applied (Fisher, 1995). Approach theory contingency is theory that emerged in the mid- 1960s and with fast develop in field accountancy management (Otley, 1980). Contingency theory mention only in organizations or company can applied system control suitable management (Mulya & Fauzihardani, 2022) . Otley (1980) stated that company can adapt face condition contingency with arrange elements that can controlled (owned by the company) for form appropriate



configuration (fit) as expected produce effectiveness performance organization. More suitability Good between system control with variable contingency hypothesized produce performance increased organization (Fisher, 1998). Use draft suitability in theory contingency show level suitability between factor contextual and system accountancy management ( eg system budgeting, controlling accounting, and systems reporting) which will possible manager For increase performance organization (Mulya & Fauzihardani, 2022) . In space scope government suitability between factors contextual for example accountability performance and system accountancy management in matter This system budgeting, system accounting, and systems the reporting will possible in increase accountability performance.

## **2. Agency Theory (Agency Theory)**

Draft suitability theory agency with accountability be marked with exists differentiation between *principal* and *agent*. *Agent* that is owner and *principal* called management. Connection between agency in institutions or agency government is something grounded understanding in perspective agency. Government in matter This role become intermediaries ( agents) have authority in provide transparent data as well as accurate to audience as principal so that with thereby they can understand and do evaluation level succeed or failure in operate responsibility and trust carried out (prencelina, 2019) in (Harianto et al., 2021) .

## **3. Accountability for Agency Performance Government**

Accountability in government that is is something must For accountable action a individual or organizations that have order. According to Mardiasmo, Accountability is something form obligation For accountable success or failure implementation mission organization in reach goals and objectives that have been set before, through a medium of accountability that is implemented in a way periodic. That means the government must accountable management state finances, good accountability financial ( accountability) as well as accountability performance (performance accountability) to achieve it accountable government.

A person's performance can influenced by implementation accountability including Act honest, obedient law, no abuse power, avoid corruption, collusion, and nepotism, as well Act effective and efficient, behaving responsiveness, and accuracy time service to Society.

In Presidential Instruction Number 7 of 1999, government must responsible answer on success implementation mission organization in reach goals and objectives that have been set through accountability carried out in a way periodically. For face accountability this, the government must notice a number of things, like effectiveness implementation budget, control accounting, and systems reporting.

Poured in Article 1, Regulations Mayor Palopo Number 6 of 2019 concerning guidelines evaluation on implementation System Accountability performance Institution Government (SAKIP) Scope Government that System Accountability for Agency Performance Government, which is next abbreviated SAKIP, is Suite systematic from various designed activities, tools and procedures For objective determining and measuring, collecting data, classifying, summarizing, and reporting performance in the agency government, in frame accountability and improvement performance agency government. SAKIP is System Accountability for Agency Performance Government, where system This is integration from system planning, system budgeting and systems reporting performance, which is aligned with implementation system accountability finance. In terms of this, every organization required record and report every use state finances as well suitability with applicable provision.

LAKIP evaluated by KemenPAN - RB aims For evaluate performance agency government and encourage repair quality implementation the AKIP system is also encouraging development pilot *Island of Integrity* that is something government area /region that is used as a model for implementation principle *good governance* so that the region can realize clean and free government from KKN ( Corruption, Collusion and Nepotism), as well as can used as a model/ example for government area other.

## **4. Clarity Target Budget**

The budget is the amount of money that will be spent For carry out an internal program period a certain time ( period) in the future come. Before realize something budget, company stage preparation budget the goal is to achieve it efficiency and effectiveness from activities performed can measurable with clear.

Budgeting is a process or method For make budget. Budgeting This refers to the determination process level funding For every program and activity unit monetary. Planning sector budget public must started from planning, implementation and reporting.

## **5. Control Accountancy**

Opinion (Carter, 2009:165) regarding control finance or the usual one known with control accountancy is set policies and procedures that limit and become guidelines for activities in financial data processing with objective prevent or detect mistakes and actions cheating. Halim (2007: 42) explains that accountancy finance area is the process of understanding, assessing, writing, and reporting finance from entity government created area

as pointer in the determination economic needs party external gatra Local Government. Whereas according to Bastian (2007:112) procedure control accountancy own purpose, that is information finance must can trusted so that manager get accurate information For program planning and retrieval decision others, assets and records organization No stolen, misused or damaged with deliberately, policies foundation followed, and regulations government fulfilled.

Something agency undergo internal inspection or audit as base tool taking decision to plan work and budget stated has realized with clear and comprehensive. Benefit from control accounting in it there is control cost that is responsibility on control cost. Control cost should given to individual certain person is responsible answer For budget existing costs under control they (Diah Precelina & Wuryani, 2015) .

## **6. System Reporting**

System reporting is something system used For monitor and control performance in implement budget that has been define and describe system accountability from subordinate ( budget unit head) to superior ( head part budget), which is the system reporting used For monitor results Work center accountability. Statement This be measured with use three indicator variable, ie making accountability Report reports, and clarity report (Mulya & Fauzihardani, 2022) .

System reporting is the report shows realization budget based on trigger budget to the responsible organizational unit answer to budget. “ a reflective report system accountability from subordinate to superior. system good reporting needed so Can supervise as well as control performance managerial in the operate existing budget decided ”.

## **7. Clarity Target Budget with Performance Accountability**

No explanation target budget make wrong, no silent as well as satisfied in work, its relationship to shrinkage performance or accountability performance government. Real budget goals that is, to make things easier in mandate success / failure application task his organization fulfil objective as well as existing targets decided previous.

Opinion This supported by research investigated by ( Mulya & Fauzihardani, 2022) disclose that clarity target budget impact positive on accountability performance agency government.

H 1: Clarity Target Budget Influential Positive To Performance Accountability

## **8. Control Accountancy with Performance Accountability**

Control accountancy is a process created for give reliable confidence about achievement objective government reflected area from reliability report finance, efficiency and effectiveness implementation of programs and activities as well as he complied regulation legislation ( Permendagri No. 13 of 2006). Achieved indicator the is something attainable achievements increase quality accountability performance agency government the area concerned ( Indudewi, 2008). Research conducted (Mulya & Fauzihardani, 2022) that control accountancy No influential significant to accountability performance. Whereas according to (Pratama et al., 2019) Control accountancy influential significant to accountability performance.

H2: Control Accountancy Influential Positive To Performance Accountability

## **9. System Reporting with Performance Accountability**

System good reporting necessary in order to do so monitor and control performance managerial in implement budget that has been set. Report bait feedback is required For measure activity activities carried out in frame increase performance and accountability in implementation something plan or time implement something budget, so management can know results from implementation plan or achievement target set budget (Setiawan, 2013) . BPKP (2011) states, in part characteristic good report for example relevant, precise time, yes Hopefully, it's easy understand, firmly as well as consistent, no contradictory between units, power competitive high, testable, complete, neutral, solid as well as standardized. Government area as public fund manager must capable provide information necessary finances secar accurate, relevant, precise time, consistent and able trusted ( Kusumaningrum, 2010). Based on research conducted by ( Mikoshi, 2020) that system reporting to accountability performance No influential significant to accountability performance whereas study (Pratama et al., 2019) show exists influence system reporting to accountability performance.

H3: System Reporting Influential Positive To Performance Accountability

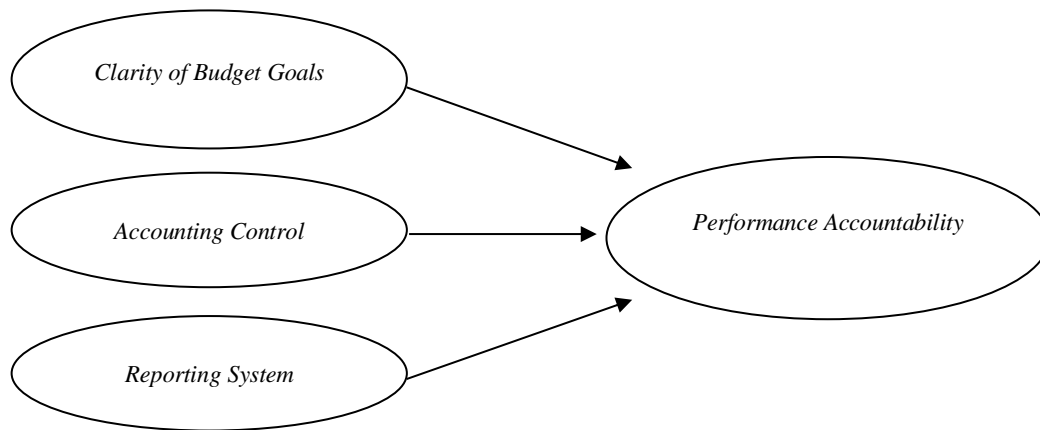


Figure 1. Framework Think

## II. METHODS

Type of research used in study This is study quantitative. Study quantitative is technique scientific where the data is in the form numbers or numbers that can processed and analyzed with use calculation mathematical or statistics (Sekaran, 2017).

Retrieval technique sample in study This using Saturated Sampling Technique, where all population in study This made sample. According to Saturated Sampling is technique election sample if all member population made sample.

Research sample This that is part general and financial, section supervision and budgeting, trials and legislation, public relations and publications, equipment, TU and staffing, as well as functional other.

Data sources used are primary data and secondary data. The definition of primary data is data that is collected in a way direct from source the original (Sekaran, 2017). Collected data the chosen like that appearance as data source so that the data is obtained truly accurate and capable prove what is hypothesized. Secondary data in the form of additional data from article journal study previous, e-book, book print and news.

Data collection techniques were carried out with use questionnaire For measure reliable or or not questionnaire used analysis validity and reliability. Valid and reliable instrument in collecting data is very necessary For get results research that is also valid and reliable. Valid instruments can be disclose something that becomes target principal measurement (Hadi, 2000:11). Reliable instrument is instrument which if used several times for measure the same object, then will produces the same data. using a systematic list of questions ( questionnaire), the aim is provide data or information that researchers need from Institution Palopo City Regional Secretariat as respondents in study This.

In method data analysis, all “data that has been collected in study This will analyzed For give answer on the problems discussed. For analyzing data, researcher use SPSS program assistance. Stages testing in study This consists of, analysis statistics descriptive, data quality test, assumption test classic, analysis multiple linear regression, hypothesis and coefficient testing determination.”

Following This is equation used in study:

$$Y = a + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + e$$

Information:

- Y = Performance Accountability
- a = coefficient constant
- $\beta_1\beta_2\beta_3$  = coefficient regression from variable independent
- X1 = Clarity Target Budget
- X2 = Control Accountancy
- X3 = System Reporting
- E = error

**III. RESULTS AND DISCUSSION**

**A. Results**

**1. Analysis Statistics Descriptive**

*Table 1. Analysis Results Descriptive*

	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std. Deviation</i>
<i>X1</i>	100	16.0	25.00	22.5600	1.82751
<i>X2</i>	100	15.00	25.00	22.0200	1.75798
<i>X3</i>	100	15.00	25.00	21.7200	2.29219
<i>Y</i>	100	15.00	25.00	22.1100	2.03453
<i>Valid N (listwise)</i>	100				

Source: IBM SPSS 26 output, 2023

Based on table 1 above can concluded that the questionnaire data can researched is as many as 100 samples. Variable Clarity Target Budget ( $X_1$ ) has minimum score of 16 and score maximum equal to 25. Calculation results from the mean on variable  $X_1$  amounting to 22.5600 with standard deviation 1.82751. Variable Control Accounting ( $X_2$ ) has minimum score of 15 and score maximum equal to 25. Calculation results from the mean on variable  $X_2$  amounting to 22,0200 with standard deviation 1.75798. Variable System Reporting ( $X_3$ ) has minimum score of 15 and score maximum equal to 25. Calculation results from the mean of variable  $X_3$  amounting to 21.7200 with standard deviation 2.29219. Variable accountability performance ( $Y$ ) has minimum score of 15 and score maximum equal to 25. Calculation results of the mean of variable  $Y$  is 22.1100 with standard deviation 2.03453. Standard sufficient deviation big show that each item is considered valid. Following is the results table testing validity:

**2. Validity test**

*Table 2 Validity Test Results*

<i>Variable</i>	<i>Items</i>	<i>N</i>	<i>Significant</i>	<i>r- count</i>	<i>r- table</i>	<i>Information</i>
<i>Clarity Target Budget (X1)</i>	<i>KSA1</i>	100	0.00	6.03	0.195	<i>Valid</i>
	<i>KSA2</i>	100	0.00	6.15	0.195	<i>Valid</i>
	<i>KSA3</i>	100	0.00	5.80	0.195	<i>Valid</i>
	<i>KSA4</i>	100	0.00	6.32	0.195	<i>Valid</i>
	<i>KSA5</i>	100	0.00	7.40	0.195	<i>Valid</i>
	<i>PA1</i>	100	0.00	5.99	0.195	<i>Valid</i>

	PA2	100	0.00	5.97	0.195	Valid
Control Accounting (X2)	PA3	100	0.00	7.04	0.195	Valid
	PA4	100	0.00	6.30	0.195	Valid
	PA5	100	0.00	5.57	0.195	Valid
System Reporting (X3)	SP1	100	0.00	5.50	0.195	Valid
	SP2	100	0.00	6.05	0.195	Valid
	SP3	100	0.00	6.89	0.195	Valid
	SP4	100	0.00	7.33	0.195	Valid
	SP5	100	0.00	7.49	0.195	Valid
Accountability (Y)	AK1	100	0.00	6.98	0.195	Valid
	AK2	100	0.00	5.90	0.195	Valid
	AK3	100	0.00	7.15	0.195	Valid
	AK4	100	0.00	7.11	0.195	Valid
	AK5	100	0.00	6.02	0.195	Valid

Source: Primary data processed in 2023

If from SPSS output display shows that correlation between each indicator to the total score construct show significant results, can be concluded that each indicator question is valid. Whole variable study This consists of 15 statement items declared valid. Testing This done with using Pearson Correlation, a model is said to be valid if level the significance is below 0.05 for every item statement.

### 3. Reliability Test

*Table 3. Reliability Test Results*

<i>Variable</i>	<i>Cronbach Alpha</i>	<i>Information</i>
<i>Clarity Target Budget</i>	<i>0.628</i>	<i>Reliable</i>
<i>Control Accountancy</i>	<i>0.594</i>	<i>Reliable</i>
<i>System Reporting</i>	<i>0.688</i>	<i>Reliable</i>

*Performance Accountability*

0.682

*Reliable*

Source: IBM SPSS 26 output, 2023

Reliability consistency between items or coefficient reliability Cronbach's Alpha are in the table above that is For clarity target budget (X1) of 0.628, whereas For control accounting (X2) of 0.594, System Reporting (X3) 0.688 and Performance Accountability (Y) 0.682. This data show mark is in range above 0.5 with thereby all instrument study can said reliable.

**4. Normality test**

*Table 4. Normality Test Results*

		<i>Unstandardized</i>
		<i>Residual</i>
<i>N</i>		100
<i>Normal Parameters ab</i>	<i>Mean</i>	.0000000
	<i>Std. Deviation</i>	1.12282051
<i>Most Extreme Differences</i>	<i>Absolute</i>	.074
	<i>Positive</i>	.050
	<i>Negative</i>	-.074
<i>Statistical Tests</i>		.074
<i>Asymp. Sig. (2-Tailed)</i>		.200 c,d

*Test distribution is normal.*

*Calculated from data.*

*Liliefors significance correction.*

*This is a lower bound of the true significance.*

Source: IBM SPSS 26 output, 2023

On research This is a normality test done with method *Kolmogorov-Smirnov* with see Significant level 5% *Kolmogorov-Smirnov test* can done with test whether the residuals are distributed normally. Basis for decision making from this test is if mark significant *Kolmogorov-Smirnov test* > 0.05 means the residual is stated normally distributed, and vice versa.

*Table 5. Analysis Results Multiple linear regression*

		<i>Coefficients</i>		
		<i>Unstandardized</i>	<i>coefficients</i>	<i>Standardized</i>
<i>Model</i>		<i>B</i>	<i>Std. Error</i>	<i>Beta</i>
1	<i>(Constant)</i>	-1,094	1,736	
	<i>Clarity Target Budget</i>	,315	,070	,283
	<i>Control Accountancy</i>	,407	,095	,351
	<i>System Reporting</i>	,329	,075	,371

Dependent Variable: Performance Accountability

Source: IBM SPSS 26 output, 2023

a. Dependent Variable: Performance Accountability

as table on so arranged equality multiple linear regression as following:

$$Y = 0.315 + 0.407 + 0.329$$

Based on equality multiple linear regression, then can outlined as following.

1. Mark constant worth - 1,094 is constant moment variable Clarity Target Budget (X1), Control Accounting (X2), System Reporting (X3), Performance Accountability (Y)
2. Coefficient regression Clarity Target Budget (X1) with Performance Accountability (Y) is valuable positive that is of 0.315. This matter shows if Clarity Target Budget (X1) experienced enhancement mark One units, then Performance Accountability (Y) will increase of 0.315.
3. Coefficient regression Control Accounting (X2) with Performance Accountability is valuable positive namely 0.407. This matter shows if Control Accounting (X2) experiences increase mark One units, then Performance Accountability (Y) increases of 0.407.
4. Coefficient regression System Reporting (X3) with Performance Accountability is valuable positive namely 0.329. This matter shows if System Reporting (X3) experienced increase mark One units, then Performance Accountability (Y) increases of 0.329.

*Table 6. Coefficient Test R determination*

<i>Model Summary</i>				
<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	.834 a	,695	,686	1.14023

*Predictors: (Constant), System Reporting, Clarity Target Budget, Control Accountancy*

Dependent Variable: Performance Accountability

Source: IBM SPSS 26 output, 2023

As The picture shown, shows mark from *R Square* amounted to 0.695 (69.5%). This matter explained that influence variable clarity target budget, control accounting and systems reporting to variable accountability performance. By 69.5% or variation variable free to use capable explain amounting to 69.5% variation dependent, whereas the rest amounting to 30.5% describes variables free others who don't observed in study This.

Table 7. F Test Results

		ANOVA a				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	284,978	3	94,993	73,064	,000 b
	Residual	124,812	96	1,300		
	Total	409,790	99			

a. Dependent Variable: Performance Accountability  
 b. Predictors: (Constant), System Reporting, Clarity Target Budget, Control Accountancy

Source: IBM SPSS 26 output, 2023

Research result obtained a p-value of  $0.000 < 0.05$ , then  $H_0$  is rejected, so the regression model used appropriate in predict influence clarity target budget, control accounting and systems reporting to accountability performance agency government and there are significant influence from variable clarity target budget, control accounting and systems reporting in a way together ( simultaneous).

Based on results testing in a way simultaneous, known that the calculated F is obtained is amounting to 73,064 which was strengthened mark significance 0.000. The significance value is  $< \alpha 0.05$  then his decision is hypothesis accepted so that can concluded that Clarity Target Budget, Control Accounting and Systems Reporting in a way simultaneously influential significant to Performance Accountability.

Table 8. Partial Test (T Test)

		Coefficients a				
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	Q	Sig.
1	(Constant)	-1,094	1,736		-.630	,530
	Clarity Target Budget	,315	,070	,283	4,499	,000
	Control Accountancy	,407	,095	,351	4,274	,000
	System Reporting	,329	,075	,371	4,366	,000

a. Dependent Variable: Performance Accountability

Source: IBM SPSS 26 output, 2023

Equality Multiple linear regression

Table above visible significant t - test statistics For produce mark:

$$Y = -1.094 + 0.315X_1 + 0.407X_2 + 0.329X_3$$



## **B. Discussion**

### **1. Influence Clarity Target Budget To Performance Accountability**

Basically, accountability is giving information and disclosure (disclosure) on activity and performance financial to interested parties. Government, fine center nor area, must can become subject giver information in frame fulfillment rights public that is right For you know, right For given information, and rights For heard his aspirations. PP 105 of 2000 and PP 108 of 2000 have state about preparation of APBD based on APBD performance and accountability for evaluation performance based on reject measuring strategic plan. Clarity target budget is as far as the goal budget set in a way clear and specific with budget goal the can understood by the person in charge answer on achievement target budget ( Suharono and Solichin, 2006). Management finance government area of accountability No free from budget government area. This matter in accordance with opinion Mardiasmo (2002) stated form from maintenance autonomy area is benefit source power exerted in a way economical, efficient, effective, fair and equitable For reach accountability public. Budget required in management source Power the with Good For reach performance expected by society and creates accountability to public. Study This in line with study (Apriliani, 2022) that clarity target budget have influence positive and significant to *job-related attitudes* and *budget related attitudes* and also on performance. Reaction the is enhancement satisfaction performance, decline tension work, improvement attitude employee to budget, performance budget and efficient implementation costs budget in a way significant If target budget stated in a way clear. Accounting and reports finance contain understanding as a process of collecting, managing and communicating useful information For making decisions and for evaluate performance organization. Mardiasmo (2009). " Government agencies sued For can make report finance external which includes report formal finance, such as surplus/ deficit report, report realization budgets, reports profit loss, report cash flow, as well stated performance in financial and non-financial measures ". In line with study (Saharani & Suharni, 2023) which states that clarity budget show in a way Certain desired target achieved by the government, above achievement the government own enough information about target budget adequacy information This push performance apparatus in achievement objective organization, with clarity target budget implemented by the government can help realize accountability performance agency government. Study This agree with study previously by (Sadeli, 2019) whose conclusion is is that with exists target the right budget so will make it easier For accountable success or failure implementation task organization in frame reach goals that have been achieved set beforehand to achieve it Accountability for Agency Performance Government

First hypothesis in study This test about influence clarity target budget to accountability performance. From the results of hypothesis testing can concluded that clarity target budget influential positive and significant to accountability performance. The research results show that Clarity Target Budget influential positive to accountability performance Palopo City DPRD Secretariat. This matter means that results study This Already in accordance with the author 's hypothesis put it forward before done study. Study This agree with study previously by (Wardani Desiana & Silvia, 2021) whose conclusion is is If clarity target increasing budget OK, then will determine rising accountability performance. Research result showed that budget created has fulfil necessary criteria so that budget Can channeled clear and specific as required in scope his responsibility. With thereby hypothesis First accepted (H1) accepted. Research result This show that success application accountability performance Palopo City DPRD Secretariat. There is target a real, meaningful budget will make it easier in mandate success / failure application task his organization fulfil objective as well as existing targets decided previous.

### **2. Influence Control Accountancy To Performance Accountability**

Second hypothesis about control accountancy influential to accountability performance agency government in office Palopo City DPRD Secretariat. Can concluded that control accountancy influential significant to accountability performance government in office Secretariat Palopo City DPRD. This is also supported by (Harianto et al., 2021) that control accountancy influential significant impact on accountability performance agency government. Control accountancy can measure is activities carried out something agency government That is optimal and effective in guard source power and guarantee accuracy and constraints document. The more Good procedure control accountancy will increase accountability performance agency government. If any agency government own system reliable accounting expected with healthy practice, then information resulting accounting can help For increase performance the agency concerned. In connection with study (Diah Precelina & Wuryani, 2015) , results This show that control accountancy through mechanism preparation report finance must honest, as something form transparency which is condition supporter exists accountability in the form of government openness on activity management source Power public. Control accountancy with use programmed system can produce report finance integrated so that more trustworthy and reliable increase accountability performance agency government. Control accountancy give receptacle realization transparency information, esp information financial and fiscal must done in relevant and easy form understood For enhancement accountability performance agency government as well as prevent emergence deviation. Related information with interest public in a way

direct can obtained by those who need it. (Kosadi et al., 2020) Control accountancy required Because For avoid possibility happen deviation by certain people. There is control accountancy so agency government can control and evaluate all over activities and responsibilities answer done. Control accountancy can evaluate is activities carried out government the has economical, efficient and effective service from agency government area to public (Widaryati, 2020)

Second hypothesis in study This test about influence control accountancy to accountability performance. From the results of hypothesis testing can concluded that control accountancy influential positive and significant to accountability performance. The research results show that control accountancy influential positive to accountability performance Palopo City DPRD Secretariat. This matter means that results study This Already in accordance with the author 's hypothesis put it forward before done study. Study This agree with study previously by (Apriliani, 2022) whose conclusion is is if each agency government own control good accounting will push accountability increasing performance good too. This matter caused use system control accountancy possible make more decisions good and doing control operations with more effective and efficient. With thereby hypothesis second accepted (H2) accepted. Research result This show that Control accountancy own important role in increase accountability performance in A agency city council government palopo. With Thus, control accountancy own impact significant positive to accountability performance organization, with help in monitor performance, managing risk, comply regulation, preventing cheating, and improving transparency.

### **3. Influence System Reporting To Performance Accountability**

Third hypothesis about system reporting influential to accountability performance agency government in office Palopo City DPRD Secretariat. Research result This show that variable system reporting influential positive to accountability performance in the office Palopo City Regional Secretariat. Study this is also in line with study (Pratama et al., 2019 ) stated that the more tall accountability performance agency government, system management finance area covered system reporting, will create management finance transparent and accountable area, where system Good reporting, then will created transparent and accountable management so that accountability performance agency government will the more increase. If system reporting increases, then accountability performance agency the government will too increase. It means system reporting done in accordance with rules that have been set related with reporting budget, then system reporting can monitor and control performance apparatus in implement set budget. Besides that System reporting is also a illustrative report system accountability from subordinate to superior. System good reporting required For convey and report information in a way accountable and transparent in taking decisions that have been taken government area in something period (Rahman & Yusuf, 2021) . According to Midjan (1986: 85) in journal (Rahman & Yusuf, 2021) system good reporting is “ Got it monitor and control performance manager in implement the budget that has been made set. Government obliged For give information finance and information others will used For collection decision economic, social and political by interested parties ”.

Third hypothesis in study This test about influence system reporting to accountability performance. From the results of hypothesis testing can concluded that system reporting influential positive and significant to accountability performance. The research results show that system reporting influential positive to accountability performance Palopo City DPRD Secretariat. This matter means that results study This Already in accordance with the author 's hypothesis put it forward before done study. With thereby hypothesis third accepted (H3) accepted. Research result This show that system reporting own important role in increase accountability performance in the agency city council government palopo. System effective reporting play role important in increase accountability performance in A agency. With so, system effective reporting own impact significant positive to accountability performance organization, with increase transparency, facilitating monitoring and retrieval decision, strengthen communication, and enable more evaluation Good to performance agency city council government Palopo.

## **IV. CONCLUSION**

Based on results research and data processing by researchers do so can withdraw conclusion that clarity target budget influential positive to accountability performance in the office Secretariat Palopo City DPRD, meaning the taller clarity target budget so the better accountability performance in the office secretariat DPRD city palopo. With target clear budget will easier for accountable success or failure implementation task organization For reach goals and objectives that have been achieved previously at the secretariat DPRD city palopo. As for control influential accounting positive to accountability performance in the office secretariat DPRD city palopo. If something agency government own control good accounting will push accountability performance Control good accounting signify accountability increasing performance good too. Activities and responsibilities answer that has been done agency government Already good, economical, efficient and effective in give service

to public. System reporting also matters positive to accountability performance secretariat area city palopo. System reporting to the office secretariat DPRD city palopo Already arranged with honest, objective and transparent.

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# The Influence of Independent Commissioners, Institutional Ownership, and Fiscal Loss Compensation on Tax Avoidance in Health Sector Companies in 2018-2022

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## ABSTRACT

**Purpose:** This study aims to analyze the effect of independent commissioners, institutional ownership, and fiscal loss compensation on tax avoidance in health sector companies in Indonesia during the 2018-2022 period.

**Design/methodology/approach:** This research method is quantitative, using secondary data in the form of financial reports obtained from the official website of the Indonesia Stock Exchange. The sample used was 14 companies using purposive sampling method. The data analysis method used is multiple linear regression analysis method by conducting several tests. The results of this study indicate that independent commissioners, institutional ownership, and fiscal loss compensation have a negative and insignificant effect on tax avoidance. Quantitative research method using multiple linear regression analysis method.

**Findings:** Independent commissioners significantly do not affect Tax Avoidance in health sector companies in 2018-2022. Institutional ownership significantly does not affect Tax Avoidance in health sector companies in 2018-2022. Fiscal loss compensation significantly does not affect Tax Avoidance in health sector companies in 2018-2022.

**Paper type:** Research Paper

**Keywords:** Tax Avoidance, Independent Commissioner, Institutional Ownership, Fiscal Loss Compensation.

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## I. INTRODUCTION

### A. Background

Tax avoidance is an act of reducing the tax burden by utilizing the weakness of tax provisions in a country (Faradiza, 2019). In Indonesia, tax avoidance includes legal activities that can be carried out by utilizing legal loopholes or by making transfers to avoid taxation. The practice of tax avoidance has been widely practiced in every country in accordance with the regulations that have been enacted in that country. There are three tax avoidance practices that actually occur in Indonesia, namely grants based on Article 4 paragraph (3) Letter a Number 2 in Law No. 36 of 2008 concerning income tax, large nominal loans to banks by citing Article 6 paragraph (1) Letter a in the Income Tax Law, and utilization of PP No. 23 of 2018 (Ley 25,632, 2002).

There are several factors that influence tax avoidance practices, including Good Corporate Governance, Corporate Social Responsibility, profitability, leverage, and capital intensity.

Based on the factors discussed above, this study will use the Good Corporate Governance factor proxied through independent commissioners, institutional ownership, and fiscal loss compensation.

Independent commissioners have a role in monitoring and representing the interests of shareholders, efforts are made to minimize tax avoidance by forming an independent board of commissioners who are able to control management performance (Taebenu and Valentine Siagian, 2023). However, in Indonesia, the number of

independent commissioners is proportional to the number of shares owned by non-controlling shareholders (Puspita and Harto, 2014) This indicates that independent commissioners represent the interests of minority shareholders or public shareholders. Where public shareholders usually tend to be more tax compliant. That way, independent commissioners will fight for corporate tax compliance, thereby preventing tax avoidance practices.

According to Putri & Lawita (2019) institutional ownership has a positive effect on tax avoidance, the small practice of tax avoidance is caused by the high level of supervision from institutions which causes the tax burden paid to be higher. Meanwhile, in other studies, high institutional ownership in the company encourages an increase in more optimal supervision of management performance and institutional ownership indicates pressure from institutional parties on management to carry out tax rate efficiency policies in obtaining maximum profits, thereby reducing financial fraud behavior including tax avoidance (Sujannah, 2021).

Apart from the two factors above, according to (Sitorus et al., 2022), it is also possible to use fiscal loss compensation as a way to avoid tax obligations. However, previous studies also mention that there are inconsistent results (Research gap) on the fiscal loss compensation variable.

Therefore, the authors are interested in conducting research with the title "The Effect of Independent Commissioners, Institutional Ownership, and Fiscal Gain Compensation on Tax Avoidance In Health Sector COMPANIES 2018-2022".

## **B. Theoretical Foundation**

### **1. Tax Avoidance**

Tax avoidance is an act of reducing the tax burden by utilizing the weakness of tax provisions in a country (Faradiza, 2019). If the taxpayer does not have a business substance or personal motive for the transaction or plan he makes, then the taxpayer's action can be considered as tax avoidance. (Ley 25,632, 2002) In Indonesia, tax avoidance includes legal activities that can be done by utilizing legal loopholes or by making transfers to avoid taxation.

The types of tax avoidance based on law, according to James Kessler, are divided into:

#### **a. Acceptable tax avoidance.**

Tax avoidance is allowed by taxpayers by conducting real transactions and without any transaction manipulation. This tax avoidance practice is so named because it is believed to have a legitimate reason and is not carried out by using fake transactions.

#### **b. Unacceptable Tax Avoidance.**

Tax avoidance that is not allowed is a transaction carried out with the aim of avoiding taxes and manipulating transactions. Taxpayers who do this cannot be accepted by the law. This tax avoidance practice is called illegal because there is a malicious purpose and fake transactions in order to avoid tax payment obligations.

There are three tax avoidance practices that actually occur in Indonesia, namely grants based on Article 4 paragraph (3) Letter a Number 2 in Law No. 36 of 2008, large nominal loans to banks by citing Article 6 paragraph (1) Letter a in the Income Tax Law, and utilization of PP No. 23 of 2018 (Ley 25,632, 2002).

### **2. Independent Commissioner**

According to OJK regulation No. 57/POJK.04/2017 on the implementation of governance of securities companies that conduct business as securities underwriters and securities brokerage, independent commissioners are members of the board of commissioners who are not affiliated with securities companies, have no authority to control securities companies, come from outside the securities company, and meet the requirements to become independent commissioners.

As a member who does not have a share ownership, financial or authority relationship to control the company, the existence of independent commissioners is able to oversee company management activities because it can encourage management to disclose information about the company to shareholders.

#### **1) Institutional Ownership**

Institutional ownership is an institution that has a strong interest in the investments made, including stock investments. In managing the company's investments, institutions usually hand over responsibility to certain departments.

Basically, institutional ownership seeks to maximize profits in order to obtain high enough dividends or convert them back into equity. This is related to tax avoidance (Ashari et al., 2017).

The existence of institutional ownership can increase external party supervision of a company so as to minimize the company's deviant behavior. The level of institutional ownership can encourage management to conduct Tax Avoidance and maximize company profits.

#### **2) Fiscal Loss Compensation**

Fiscal loss compensation is the process of a company experiencing a loss from one tax year to the next (timothy). According to (Sitorus et al., 2022), fiscal loss compensation is used by companies to avoid paying

taxpayers. If the loss is obtained past the fifth year, then the loss cannot be compensated for in the following year, then the tax liability can return to normal.

Fiscal loss compensation can also be used as a way to trick to avoid tax obligations. (Mulyana 2020) because based on the political cost hypothesis theory, large companies will prefer accounting methods that display lower profits than small companies.

## II. METHODS

### A. Research Design



Figure 1 Flowchart

### B. Research Stages

The research stage begins with searching for data on health sector companies listed on the Indonesia Stock Exchange in the 2018-2022 period by accessing the idx.co.id website. After that, collect data on the annual financial statements of the health sector companies and recap them in Ms.Excel in order to find out what companies qualify as research samples by showing the completeness of the annual financial statements for 5 years. The next stage is collecting research data according to the independent variables and dependent variables that the author uses. The final step is to process the data in the SPSS application.

### C. Research Variables and Indicators

This study uses one dependent variable, namely Tax Avoidance and three independent variables, namely Independent Commissioner, Institutional Ownership, Fiscal Loss Compensation. Variable measurements are carried out as follows:

1. Dependent Variable

Tax Avoidance This variable is measured using the CETR indicator with the calculation formula Tax payment divided by profit before tax.

2. Independent Variable

1) Independent Commissioner

This variable is measured by the percentage indicator of the number of independent members of the board of commissioners to the total number of members of the board of commissioners.

2) Institutional Ownership

This variable is measured by the indicator of the percentage of institutional ownership shares to the number of shares outstanding.

3) Fiscal Loss Compensation

This variable is measured by a dummy variable indicator, namely if there is fiscal loss compensation, it is worth 1, but if there is no fiscal loss compensation, it is worth 0.

**D. Data Collection Sources and Techniques**

The data source comes from the annual financial statements of health sector companies listed on the Indonesia Stock Exchange for the period 2018-2022. The data collection technique is to access the IDX official website, namely the idx.co.id website. for the retrieval of annual financial reports of health sector companies listed in that year period.

**E. Data Analysis Technique**

The data analysis technique used in this study is to use multiple linear regression methods. Multiple linear regression is a regression model that involves more than one independent variable. By using multiple linear regression analysis, it will determine the direction and how much influence the independent variable has on the dependent variable. The following multiple linear regression equation will be used in the research analysis:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

$$Y = a + b X_{11} + b X_{22} + b X_{33}$$

$$Y = a + b X_{11} + b X_{22} + b X_{33}$$

$$Y = a + b X_{11} + b X_{22} + b X_{33}$$

Description:

Y = Tax Avoidance

a = Constant

X<sub>1</sub> = Independent Commissioner

X<sub>2</sub> = Institutional Ownership

X<sub>3</sub> = Fiscal Loss Compensation

b<sub>1</sub> = b<sub>2</sub> = b<sub>3</sub> = Regression Coefficient

**F. Summarizing Research Results**

The conclusion of the results of this research is that there is no influence of independent commissioners, institutional ownership, and fiscal loss compensation on tax avoidance in health sector companies in 2018-2022 which is tested using multiple linear regression analysis methods.

**III. RESULTS AND DISCUSSION**

In this study, the number of samples used was 14 companies from 28 health sector companies listed on the Indonesia Stock Exchange in 2018-2022. The classification is based on the completeness of the research subject, namely the company's financial statements and annual reports taken directly from the official website of the Indonesia Stock Exchange (IDX), namely www.idx.co.id and the official website of each company.

The results of data analysis using multiple linear regression methods by showing the results of hypothesis testing as follows:

**A. Multiple linear regression analysis test results**

Figure 2. Multiple Linear Regression Analysis Test Results

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,654	,793		,824	,413		
	Komisaris Independen	,010	1,284	,001	,008	,994	,979	1,022
	Kepemilikan Institusional	-,085	,773	-,014	-,110	,913	,989	1,012
	Kompensasi Rugi Fiskal	,570	,850	,083	,671	,505	,980	1,021

a. Dependent Variable: Tax Avoidance

Based on the table above shows the results of multiple linear regression testing at a significance level of 5%, the following equation is obtained:

Based on the results of calculations using SPSS, the number of constants  $\alpha$  0.793 is obtained, the regression coefficient  $\beta_1$  for independent commissioners is 1.284,  $\beta_2$  for institutional ownership is 0.773,  $\beta_3$  for fiscal loss

compensation is 0.850. The results of multiple linear regression analysis using SPSS 29 can be seen in Figure 3.1 below:

$$Y = a + b X_{11} + b X_{22} + b X_{33}$$

$$TA = 0.793 + 1.284 KOM + 0.773 KEP + 0.850 KRF$$

**B. T statistical test (Partial Test)**

*Figure 3. T Statistical Test Results*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.654	.793		.824	.413		
	Komisaris Independen	.010	1,284	.001	.008	.994	.979	1,022
	Kepemilikan Institusional	-.085	.773	-.014	-.110	.913	.989	1,012
	Kompensasi Rugi Fiskal	.570	.850	.083	.671	.505	.980	1,021

a. Dependent Variable: Tax Avoidance

The partial t test was conducted to determine the partial effect between the independent variables, namely independent commissioners, institutional ownership, and fiscal loss compensation with the dependent variable, namely tax avoidance. This test is done by comparing the significance value of t with the significance level used in this study. The significance level used in this study is 0.05. If the significance of  $t < 0.05$  then individually one independent variable affects the dependent variable. If the significance of  $t > 0.05$  then individually one independent variable has no effect on the dependent variable.

The results of the research above show that the significance value on the variables of independent commissioners, institutional ownership, and fiscal loss compensation is more than 0.05. The independent commissioner variable has a significance value of 0.994, the institutional ownership variable has a significance value of 0.913, and the fiscal loss compensation variable has a significance value of 0.505. This indicates that the three independent variables are partially rejected / have no effect on the dependent variable, namely tax avoidance.

**C. Test the coefficient of determination**

The coefficient of determination test aims to test how far the model's ability to explain the dependent variable.

*Figure 4 Coefficient of Determination Test Results*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change	Durbin-Watson
						F Change	df1	df2		
1	.083 <sup>a</sup>	.007	-.038	1,4256	.007	.154	3	66	.927	2,024

a. Predictors: (Constant), Kompensasi Rugi Fiskal, Kepemilikan Institusional, Komisaris Independen  
b. Dependent Variable: Tax Avoidance

Based on the test results of the coefficient of determination above, the R Square number is 0.007. This means that the detection of tax avoidance by the variables of independent commissioners, institutional ownership, and fiscal loss compensation is 0.7%. And the other 99.3% is caused by other factors not included in this study.

With the results of this study, of course, there are several other factors that influence it, including:

1. Indeed, there is no relationship between the independent variable and the dependent variable.
2. Selection of company sectors that are different from previous research so as to produce different data.
3. Sample limitations that have completeness of research subjects

**IV. CONCLUSION**

This research aims to determine the effect of independent commissioners, institutional ownership, and fiscal loss compensation on Tax Avoidance, so that it can be used as a reference to obtain information related to the influence of Tax Avoidance. For that, it is necessary to understand in advance the results of the analysis of the effect of independent commissioners, institutional ownership, and fiscal loss compensation on Tax Avoidance as follows:

1. Independent commissioners significantly have no influence on Tax Avoidance in health sector companies in 2018-2022. This result is different from the development of the first hypothesis which states that independent



- commissioners have a positive effect on tax avoidance. This means that the existence of an independent board of commissioners is not effective in preventing tax avoidance.
2. Institutional ownership significantly has no influence on Tax Avoidance in health sector companies in 2018-2022. The results of the second hypothesis are different from the development of the second hypothesis which states that institutional ownership has a positive influence on tax avoidance, so (H2) is rejected. According to Fadhilah (2014) the results of the second hypothesis have no effect because institutional owners are less concerned with the company's image. So that any management decision as long as it can maximize their welfare will be supported. Even though the decision is to do tax avoidance.
  3. Fiscal loss compensation significantly has no influence on Tax Avoidance in health sector companies in 2018-2022. This result is different from the development of the third hypothesis which states that fiscal loss compensation has a positive effect on tax avoidance. This means that whether or not fiscal loss compensation occurs cannot prevent tax avoidance.

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# Penta Helix Model Approach Strategy Towards the Effectiveness of Stunting Reduction Programs in Surabaya City

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## ABSTRACT

**Purpose:** This study examines the effectiveness of the Penta Helix model—integrating academia, business, community, government, and media—in reducing stunting rates in Surabaya, Indonesia. Through path analysis, the research assesses the individual and collective impacts of these sectors on the effectiveness of the stunting reduction program. The findings reveal that government, business, and media sectors play significant roles in the success of the program, with government involvement being the most critical factor. In contrast, academia and community involvement demonstrate limited impact, suggesting potential gaps in research application and community engagement.

**Design/methodology/approach:** This study employs a quantitative research design to examine the effectiveness of the Penta Helix model in reducing stunting rates in Surabaya. The research uses Structural Equation Modeling (SEM) with Smart PLS 3 to analyze the relationships between various variables within the model. A total of 250 respondents were selected for the study. The sample size was determined based on the recommendations for SEM, which suggest a minimum of 200 respondents for robust analysis.

**Findings:** The study's results are contextualized within Indonesia's national policies, particularly the National Strategy to Accelerate Stunting Prevention (Stranas Stunting), highlighting the importance of governmental support and coordinated efforts across sectors. The positive contributions of the business sector underscore the value of public-private partnerships, while the significant role of media reinforces the importance of strategic communication in public health initiatives.

**Research limitations/implications:** The need for stronger linkages between academic research and practical implementation, as well as more robust community engagement strategies. These insights have important implications for refining the Penta Helix model to achieve more effective and sustainable stunting reduction outcomes in Surabaya and other regions. By addressing these gaps, the model can be optimized to better support Indonesia's ongoing efforts to combat stunting, ultimately contributing to improved public health outcomes nationwide.

**Practical implications:** Given that a majority of the sectors (Government, Business, and Media) show significant individual contributions, it is reasonable to conclude that the hypothesis that all variables collectively have a significant effect on the effectiveness of the stunting reduction program is likely accepted. However, this conclusion is based on the assumption that the combined effect of the variables is assessed through an appropriate overall model fit measure, which is typically significant if most individual paths are significant.

**Originality/value:** This research represents an original contribution to the field of public health and urban development through its innovative application of the Penta Helix model to the issue of stunting reduction in Surabaya. While existing studies have explored various approaches to addressing stunting, this study distinguishes itself by integrating a Penta Helix framework a multi-stakeholder model involving academia, business, government, community, and media into the analysis of program effectiveness.

**Paper type:** Research Paper

**Keywords:** *Stunting, Public Health, Academic, Community, Business, Government, Media, People, Surabaya.*

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## I. INTRODUCTION

Achieving the vision of a "Golden Generation 2045" is a critical ambition for Indonesia as the country approaches its 100th anniversary. The objective is to capitalize on the demographic dividend, which offers a unique opportunity to propel the nation forward through the development of a high-quality human resource pool. These resources include individuals who are healthy, intelligent, creative, and competitive. The cornerstone of this national vision lies in the preparation of a superior generation that will lead Indonesia into a prosperous future. However, one of the major challenges in achieving this goal is the prevalence of stunting among Indonesian children.

Stunting is a condition marked by impaired growth and development that children experience as a result of chronic malnutrition, especially during the first 1,000 days of life—from conception to the child's second birthday (Siswati et al., 2024). This issue is a major public health concern because it not only affects the physical growth of a child but also has significant impacts on cognitive development, educational performance, and productivity in adulthood. The immediate impacts of stunting include hindered brain development, reduced intelligence, stunted physical growth, and metabolic disorders. In the long term, stunted children are at risk of having diminished cognitive development, learning difficulties, weakened immunity, and a higher likelihood of chronic diseases later in life (Darumurti, Atmojo and ..., 2023).

Given these severe consequences, the Indonesian government has made stunting prevention a top priority. President Joko Widodo has set an ambitious target to reduce stunting prevalence to 14% by 2024. Efforts at the national and local levels have included various programs aimed at improving nutrition, promoting maternal and child health, and ensuring adequate access to health services (Arieffiani and Ekowanti, 2024). In the city of Surabaya, numerous initiatives have been rolled out to reduce stunting rates, including specific strategies that focus on family-based interventions. These interventions target high-risk groups, such as prospective brides and grooms, pregnant women, new mothers, and children aged 0–59 months.

Despite the significant efforts by the Surabaya city government, including providing nutritional education, supplements, and routine health check-ups, the effectiveness of these interventions remains less than optimal. Although Surabaya boasts the lowest stunting prevalence in East Java and Indonesia—standing at 4.8% in 2022, compared to the national average of 21.6%—there are still challenges in fully eliminating stunting (Arieffiani and Ekowanti, 2024). One key question that arises is why, despite intensive intervention efforts, new cases of stunting continue to appear.

This challenge suggests that the existing strategies may not be fully addressing all dimensions of the problem. The effectiveness of stunting reduction programs can be influenced by various stakeholders, including academics, community groups, businesses, government bodies, and media organizations. A holistic approach involving these stakeholders—known as the Penta Helix model—could potentially enhance the success of stunting reduction initiatives. The Penta Helix model emphasizes the synergy and strong commitment among these five types of stakeholders, which is essential for addressing complex social issues like stunting.

In Surabaya, the Penta Helix model could play a crucial role in optimizing stunting reduction efforts by facilitating collaboration among stakeholders. For instance, academia can contribute through research and evidence-based policy recommendations. Community groups can raise awareness and encourage behavioral changes at the grassroots level. Businesses can support through corporate social responsibility initiatives that provide resources and funding for nutrition programs. Government bodies are responsible for policy formulation, coordination, and implementation of stunting reduction strategies. Finally, media organizations can amplify messages about the importance of proper nutrition and health practices, reaching a broad audience to create a supportive environment for these initiatives.

To illustrate, one of Surabaya's ongoing programs involves weekly distribution and socialization of the benefits of Iron Tablets (Tablet Tambah Darah or TTD) to adolescent girls in schools. This program, aimed at preventing anemia and promoting better health, is essential because anemia in adolescence can increase the risk of stunting in future generations (Pratama et al., 2024). Additionally, health checks and nutritional education sessions are conducted for young mothers and their children. This includes counseling on complementary feeding and the provision of special foods for children with specific medical conditions, prescribed by pediatricians. Various other initiatives, such as ASI (breastfeeding) villages, food fortification, and healthy cooking demonstrations, further support stunting prevention efforts.

Despite these comprehensive interventions, challenges remain, particularly concerning the emergence of new stunting cases post-intervention. This raises questions about the existing gaps in the implementation and monitoring of stunting reduction programs. One potential explanation is the lack of sustained engagement and accountability among stakeholders, which is where the Penta Helix approach can add value. By integrating the roles and expertise of different stakeholders, this model can help to identify and address barriers that may not be evident from a single perspective (Kania et al., 2023).

Research on the effectiveness of the Penta Helix approach in stunting reduction is essential because it provides insights into how stakeholder collaboration can be optimized to enhance program outcomes. Previous studies, such as Priyono's research on stunting prevention strategies in rural areas, have highlighted the importance of community engagement and cross-sectoral collaboration. Similarly, Dewi and colleagues have explored how targeted interventions in Banten province can accelerate stunting reduction (Erison, 2024), while Siswati et al. (2022), have examined the role of corporate social responsibility in supporting stunting prevention initiatives. These studies provide valuable lessons but are primarily qualitative in nature, focusing on specific contexts. The research questions concluded with:

1. Does the role of Academic (X1) positively influences the Effectiveness of Stunting Reduction Programs (Y) in Surabaya?
2. Does the role of the Community (X2) positively influences the Effectiveness of Stunting Reduction Programs (Y) in Surabaya?
3. Does the role of Business (Economic Sector) (X3) positively influences the Effectiveness of Stunting Reduction Programs (Y) in Surabaya?
4. Does the role of Government (X4) positively influences the Effectiveness of Stunting Reduction Programs (Y) in Surabaya?
5. Does the role of Media (X5) positively influences the Effectiveness of Stunting Reduction Programs (Y) in Surabaya?
6. Does the role of Academic, Community, Business (Economic Sector), Government, Media simultaneously positively influences the Effectiveness of Stunting Reduction Programs (Y) in Surabaya?

This research aims to expand on these findings by employing a quantitative approach to assess the effectiveness of the Penta Helix model in Surabaya. The study will examine the relationships between various stakeholders' involvement—academics, community groups, businesses, government, and media—and the overall effectiveness of stunting reduction programs. Specifically, it will measure key indicators such as program success rates, target achievement, participant satisfaction, input-output levels, and overall goal attainment.

The findings of this study are expected to have significant theoretical and practical implications. Theoretically, the research will provide a deeper understanding of the Penta Helix model's role in public health interventions, offering evidence-based recommendations for enhancing stakeholder engagement. Practically, the data obtained from this study will serve as a guide for policymakers and stakeholders in Surabaya, helping them refine their strategies to achieve stunting reduction goals. Furthermore, this research could serve as a reference for other regions looking to develop effective stunting reduction strategies aligned with national standards and regulations.

Ultimately, this study seeks to contribute to the broader body of knowledge on stunting prevention and provide actionable insights that can help Surabaya and other cities in Indonesia make strides toward realizing the vision of a Golden Generation 2045. By leveraging the strengths of the Penta Helix model, the hope is to foster a collaborative, sustainable, and impactful approach to stunting reduction, ensuring that future generations are given the best start in life.

## II. METHODS

This research uses a quantitative approach with Structural Equation Modeling-Partial Least Squares (SEM-PLS) to analyze the effectiveness of the Penta Helix model in reducing stunting rates in Surabaya. SEM-PLS is a robust statistical method that does not rely on numerous assumptions and is suitable for exploring complex relationships between latent variables. The data analysis is conducted using SmartPLS version 3, a software tool that provides advanced capabilities for SEM-PLS analysis (Al-Tawil, Gantasala and Younies, 2021).

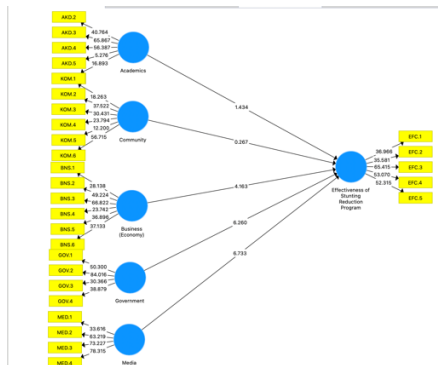
### A. Data Collection Techniques

Data collection was conducted using a structured questionnaire (survey) instrument. The questionnaire consists of 30 questions designed to measure respondents' perceptions of the effectiveness of stunting reduction programs and the roles of the five stakeholders involved in the Penta Helix model: academics, community, businesses, government, and media. The Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), is employed to assess these aspects. With 250 samples The data processing steps include:

1. Editing: Before data analysis, data checking (editing) is performed to ensure the completeness and consistency of responses.
2. Coding: The data is then coded by assigning numerical values (1–5) to the responses. For instance, "Strongly Agree" is coded with a score of 5. This step simplifies the data for further analysis.
3. Tabulation and Data Entry: After coding, data is tabulated and inputted into SmartPLS for statistical analysis.

**B. Hypotheses**

The study’s variables are divided into independent variables and a dependent variable related to Independent Variables (Penta Helix Model Components) related in this picture below:



*Picture 1. Hypotheses Framework  
Source: (Self-Identified, 2024)*

1. Hypothesis 1 (H1): The role of Academic (X1) positively influences the Effectiveness of Stunting Reduction Programs (Y) in Surabaya.  
This hypothesis tests whether the involvement of academic institutions contributes significantly to the success of stunting reduction initiatives, through research, training, and evidence-based interventions.
2. Hypothesis 2 (H2): The role of the Community (X2) positively influences the Effectiveness of Stunting Reduction Programs (Y) in Surabaya.  
This hypothesis examines the impact of community engagement and participation, such as local health volunteers and parental education, on the program's effectiveness.
3. Hypothesis 3 (H3): The role of Business (Economic Sector) (X3) positively influences the Effectiveness of Stunting Reduction Programs (Y) in Surabaya.  
This hypothesis investigates how businesses, through Corporate Social Responsibility (CSR) activities and nutritional support programs, contribute to reducing stunting rates.
4. Hypothesis 4 (H4): The role of Government (X4) positively influences the Effectiveness of Stunting Reduction Programs (Y) in Surabaya.  
This hypothesis assesses the impact of government policies, funding, and coordinated public health efforts on the program's outcomes.
5. Hypothesis 5 (H5): The role of Media (X5) positively influences the Effectiveness of Stunting Reduction Programs (Y) in Surabaya.  
This hypothesis examines the effect of media campaigns, awareness programs, and public information dissemination on improving community understanding and engagement in stunting reduction efforts.
6. Hypothesis 6: The role of Academic, Community, Business (Economic Sector), Government, Media simultaneously positively influences the Effectiveness of Stunting Reduction Programs (Y) in Surabaya.

**C. Data Analysis Technique**

The analysis of data is carried out using the Partial Least Square (PLS) method via SmartPLS version 3. PLS is selected because of its robustness, particularly when handling small sample sizes, complex models, and non-normal data distributions. PLS is also effective for both confirming theories and explaining relationships between latent variables (Sayer, 2020).

1. The outer model evaluates the validity and reliability of the measurement indicators for each latent variable. The tests conducted include the table below:
  - a. Convergent Validity: assessed using the Average Variance Extracted (AVE) and the factor loadings of each indicator. According to Ghazali, convergent validity is achieved when the AVE value is greater than 0.5, and the factor loadings for each item exceed 0.5.
  - b. Discriminant Validity: ensures that each construct is distinct and does not overly correlate with other constructs. Discriminant validity is checked by comparing the square root of the AVE with the inter-construct correlations.
  - c. Composite Reliability: the determine the consistency of the measurement model. A variable is considered reliable if it has a composite reliability score of 0.7 or higher, as suggested by Sekaran.

2. The structural model evaluates the relationships between latent variables based on substantive theories. This includes testing the paths between constructs and examining the overall fit of the model. Key evaluations include:
  - a. R-square ( $R^2$ )
  - b. Higher R-square values suggest that the model has strong explanatory power, indicating that the predictors (independent variables) effectively explain the variability in the outcome (dependent variable).
  - c. Bootstrapping Analysis
  - d. This technique is used in SmartPLS to generate t-values and standard errors for hypothesis testing. The bootstrapping procedure allows for resampling of the data to create a distribution of parameter estimates.
  - e. Criteria for Hypothesis Acceptance: Hypotheses are considered accepted when the calculated t-value exceeds the critical t-value from the t-table, typically set at a 95% confidence level ( $\alpha = 0.05$ ). If the t-statistic is higher than the critical value, the hypothesis is confirmed or proven.

### III. RESULTS AND DISCUSSION

#### A. Results

##### 1. Outer Model Analysis

The outer model, also known as the measurement model, assesses the validity and reliability of the indicators used to measure each latent variable. The primary objective is to ensure that the observed variables accurately represent the latent constructs. The evaluation involves the following tests:

##### 2. Convergent Validity

Convergent validity examines whether the indicators of a construct are correlated and truly represent the same underlying concept. It is assessed through:

*Table 5 Outer Model Analysis*

	<i>Cronbach's Alpha</i>	<i>rho_A</i>	<i>Composite Reliability</i>	<i>Average Variance Extracted (AVE)</i>
<i>Academics</i>	<i>0,825</i>	<i>0,881</i>	<i>0,882</i>	<i>0,612</i>
<i>Business (Economy)</i>	<i>0,929</i>	<i>0,933</i>	<i>0,944</i>	<i>0,739</i>
<i>Community</i>	<i>0,865</i>	<i>0,871</i>	<i>0,900</i>	<i>0,602</i>
<i>Effectiveness of Stunting Reduction Program</i>	<i>0,930</i>	<i>0,930</i>	<i>0,947</i>	<i>0,780</i>
<i>Government</i>	<i>0,916</i>	<i>0,926</i>	<i>0,941</i>	<i>0,799</i>
<i>Media</i>	<i>0,931</i>	<i>0,940</i>	<i>0,951</i>	<i>0,828</i>

Source: (Smart PLS 3, 2024)

The study utilized a Partial Least Squares Structural Equation Modeling (PLS-SEM) approach to assess the measurement model, focusing on the validity and reliability of the constructs involved in evaluating the effectiveness of stunting reduction programs in Surabaya through the Penta Helix approach. The analysis was conducted using key indicators, including Cronbach's Alpha, rho\_A, Composite Reliability, and Average Variance Extracted (AVE). These measures were critical in validating the constructs of Academics, Business (Economy), Community, Government, Media, and the Effectiveness of the Stunting Reduction Program. All constructs achieved AVE values above 0.5, the threshold indicating sufficient convergent validity. For instance, the Effectiveness of the Stunting Reduction Program had an AVE of 0.780, indicating that 78% of the variance in its indicators is explained by the construct itself. The Media construct showed the highest AVE (0.828),

confirming that the indicators robustly represent this latent variable. These AVE values ensure that the items share a substantial amount of common variance, strengthening the model's convergent validity.

**3. Discriminant Validity**

Discriminant validity tests whether a construct is distinct from other constructs within the model. This is crucial to ensure that each latent variable measures a unique aspect of the phenomenon under study. Discriminant validity is typically evaluated by comparing the square root of the AVE of each construct with the correlations between that construct and other constructs. A construct demonstrates adequate discriminant validity if its square root of AVE is greater than its correlation with any other construct, indicating that it shares more variance with its own indicators than with other constructs. While not directly mentioned, it is implied that discriminant validity was assessed by comparing the square root of the AVE values with inter-construct correlations. Sufficient discriminant validity ensures that constructs are distinct from each other, providing clarity in understanding their unique contributions within the model.

**4. Composite Reliability**

The Composite Reliability scores of all constructs exceeded the recommended threshold of 0.7, with values ranging from 0.882 to 0.951. High scores reflect that the indicators are reliable in measuring their respective constructs consistently. The highest reliability was observed in Media (0.951) and Business (Economy) (0.944), confirming the strong consistency of measurement in these constructs. The reliability evaluates the internal consistency of the indicators for each construct, assessing how well the items collectively measure the latent variable. A composite reliability in the results already above score of 0.7 or higher is considered acceptable, as it indicates that the measurement model is reliable and consistent in capturing the intended construct. According to Sekaran, meeting this threshold confirms that the indicators reliably measure the associated latent variable.

**5. Inner Model Analysis**

The structural model, also known as the inner model, examines the relationships between the latent variables based on theoretical expectations. This evaluation includes assessing the strength, direction, and significance of hypothesized relationships. The path coefficients and associated t-values were evaluated to determine the strength and significance of relationships between variables. Bootstrapping analysis provided a means to generate t-values and assess statistical significance, with hypotheses accepted if t-values exceeded critical values at the 95% confidence level. The significance of each relationship was established, confirming the hypothesized impacts of the constructs on the effectiveness of stunting reduction efforts. The use of SmartPLS 3 software enabled precise calculations of these relationships, supporting a robust statistical evaluation of the hypotheses.

**6. R-Square (R<sup>2</sup>)**

R-square measures the model's explanatory power, indicating the proportion of variance in the dependent variable that is explained by the independent variables.

*Table 6 R-Square Analysis*

	<i>R Square</i>	<i>R Square Adjusted</i>
<i>Effectiveness of Stunting Reduction Program</i>	0,728	0,722

Source: (Smart PLS 3, 2024)

This metric evaluates the explanatory power of the model for dependent variables. It indicates the proportion of variance in the dependent variable explained by the independent variables. The R-Square value of 0.728 indicates that 72.8% of the variance in the "Effectiveness of Stunting Reduction Program" is explained by the independent variables in the model. This high R-Square value suggests that the predictors (latent variables such as government policy, community involvement, private sector participation, academia, and media influence, which may be part of the Penta Helix model) have a substantial impact on the effectiveness of the stunting reduction program Hypotheses 6 accepted.

An R-Square value above 0.70 is generally considered strong in social sciences, implying that the model has a good fit and that the independent variables collectively explain a significant portion of the dependent variable's variability. Thus, the high explanatory power signifies that the model effectively captures the factors influencing the success of stunting reduction efforts.



**7. Path Coefficients and t-tests**

Path coefficients represent the strength and direction of the relationships between constructs in the model. Hypothesis testing is conducted using t-tests to determine whether the relationships are statistically significant. In this research, bootstrapping is a resampling technique used in SmartPLS to generate estimates of standard errors and t-values for hypothesis testing. By repeatedly resampling the data, bootstrapping creates a distribution of parameter estimates, allowing for robust testing of the model's paths. The generated t-values are then used to determine the statistical significance of the hypothesized relationships.

*Table 7 Path Coefficients Analysis*

	<i>Original Sample (O)</i>	<i>Sample Mean (M)</i>	<i>Standard Deviation (STDEV)</i>	<i>T Statistics ( O/STDEV )</i>	<i>P Values</i>
<i>Academics -&gt; Effectiveness of Stunting Reduction Program</i>	-0,083	-0,082	0,058	1,434	0,152
<i>Business (Economy) -&gt; Effectiveness of Stunting Reduction Program</i>	0,219	0,213	0,053	4,163	0,000
<i>Community -&gt; Effectiveness of Stunting Reduction Program</i>	0,024	0,030	0,090	0,267	0,789
<i>Government -&gt; Effectiveness of Stunting Reduction Program</i>	0,453	0,453	0,072	6,260	0,000
<i>Media -&gt; Effectiveness of Stunting Reduction Program</i>	0,369	0,369	0,055	6,733	0,000

Source: (Smart PLS 3, 2024)

- 1. Academics -> Effectiveness of Stunting Reduction Program:**  
 The path coefficient is -0.083, with a T-Statistic of 1.434 and a P-Value of 0.152. The negative coefficient suggests a slight negative relationship between academic involvement and the effectiveness of the stunting reduction program. However, the relationship is not statistically significant (P-Value > 0.05), meaning that we do not have sufficient evidence to say that academic contributions significantly influence the program's effectiveness.  
 The hypothesis that academic involvement positively affects the effectiveness of the stunting reduction program (H1) is not accepted.
- 2. Business (Economy) -> Effectiveness of Stunting Reduction Program:**  
 The path coefficient is 0.219, with a T-Statistic of 4.163 and a P-Value of 0.000. The positive coefficient indicates that economic activities from the business sector have a significant positive impact on the effectiveness of the stunting reduction program. The relationship is statistically significant (P-Value < 0.05). The hypothesis that business sector involvement positively affects the effectiveness of the stunting reduction program (H2) is accepted.
- 3. Community -> Effectiveness of Stunting Reduction Program:**  
 The path coefficient is 0.024, with a T-Statistic of 0.267 and a P-Value of 0.789. The community's involvement shows a very slight positive impact on the program's effectiveness, but the relationship is far from being statistically significant (P-Value > 0.05). The hypothesis that community involvement positively affects the effectiveness of the stunting reduction program (H3) is not accepted.
- 4. Government -> Effectiveness of Stunting Reduction Program:**  
 The path coefficient is 0.453, with a T-Statistic of 6.260 and a P-Value of 0.000. Government involvement has a strong and significant positive impact on the program's effectiveness. The high T-Statistic and low P-Value indicate a robust statistical significance (P-Value < 0.05). The hypothesis that government involvement positively affects the effectiveness of the stunting reduction program (H4) is accepted.

#### 5. Media -> Effectiveness of Stunting Reduction Program:

The path coefficient is 0.369, with a T-Statistic of 6.733 and a P-Value of 0.000. The media plays a significant positive role in enhancing the effectiveness of the stunting reduction program, with statistically significant results (P-Value < 0.05). The hypothesis that media involvement positively affects the effectiveness of the stunting reduction program (H5) is accepted.

### **B. Discussion**

#### **1. The role of Academic influences the Effectiveness of Stunting Reduction Programs in Surabaya**

The analysis indicated that the academic sector had a negative and statistically insignificant impact on the effectiveness of the stunting reduction program. This is surprising given the expectation that academia, through research, education, and evidence-based interventions, would play a crucial role in shaping effective strategies. However, the insignificant p-value (0.152) suggests that in the context of Surabaya, the contributions from academia might not be well-integrated or sufficiently targeted towards the practical needs of the program. This could point to potential gaps in the application of academic knowledge to real-world challenges or possibly a lack of collaboration between academic institutions and other stakeholders.

The role of academia in public health initiatives has been well-documented, particularly in the areas of research, policy development, and the provision of evidence-based practices. Studies have shown that academic institutions contribute by generating knowledge that informs effective interventions. The insignificant impact of academia found in your study diverges from the positive contributions generally noted in previous research. This discrepancy could be due to a gap between academic research and its application in the field different with previous research according to Yunas (2024). In Surabaya, it may indicate a disconnect between academic institutions and the practical implementation of stunting reduction programs. Similar challenges have been observed in other regions where academic contributions are not fully leveraged due to barriers in translating research into practice.

#### **2. The role of the Community influences the Effectiveness of Stunting Reduction Programs in Surabaya**

In contrast, the business sector exhibited a significant positive impact (path coefficient of 0.219, p-value of 0.000) on the program's effectiveness. This underscores the importance of economic support in public health initiatives. Businesses likely contribute through funding, corporate social responsibility (CSR) activities, and the provision of resources that enhance the reach and sustainability of stunting reduction efforts. The significant result has contradiction in Trisnaningtyas, et. al. (2023), emphasizes that economic factors and the involvement of private enterprises are crucial for the successful implementation of health programs. This finding supports the idea that public-private partnerships can be highly effective in addressing public health challenges.

The positive role of the business sector in public health has been highlighted in numerous studies, particularly through corporate social responsibility (CSR) initiatives and public-private partnerships. These collaborations often provide vital resources and innovative solutions to public health challenges.

Correlation: Your study's finding that the business sector has a significant positive impact aligns well with this body of research. In Indonesia, and particularly in urban areas like Surabaya, businesses have increasingly engaged in health-related CSR activities, supporting initiatives such as nutrition programs and community health services. This support has been crucial in scaling up efforts to reduce stunting.

#### **3. The role of Business (Economic Sector) influences the Effectiveness of Stunting Reduction Programs in Surabaya**

The community's involvement, surprisingly, showed a negligible and statistically insignificant effect (path coefficient of 0.024, p-value of 0.789) on the effectiveness of the program. This could indicate several potential issues, such as insufficient community engagement, lack of awareness, or cultural barriers that prevent the community from effectively contributing to the program's goals. This result suggests that merely involving the community is not enough; there needs to be a more strategic approach to ensure that community efforts are aligned with the program's objectives. Enhancing community participation through education, empowerment, and more inclusive decision-making processes could be necessary steps forward.

Community involvement is often considered a cornerstone of effective public health interventions, with participatory approaches leading to better outcomes. Studies have shown that when communities are actively engaged, there is greater ownership of health programs and improved sustainability of outcomes (Syamsuadi, Febrianita and Febriani, 2023). The insignificant role of the community in your study is somewhat surprising and suggests that the potential of community engagement may not be fully realized in the context of Surabaya. This could reflect challenges such as lack of awareness, cultural barriers, or insufficient empowerment of community members. Similar issues have been documented in other settings where community engagement has been more symbolic than substantive.

#### **4. The role of Government influences the Effectiveness of Stunting Reduction Programs in Surabaya**

The government's role stood out as the most significant, with a strong positive impact on the program's effectiveness (path coefficient of 0.453, p-value of 0.000). This is consistent with the understanding that government policies, regulations, and funding are foundational to the success of public health initiatives. The government's significant influence likely comes from its ability to create an enabling environment, provide essential resources, and mobilize large-scale efforts to combat stunting. This result underscores the importance of strong governmental leadership and coordination in public health campaigns.

Government leadership is consistently recognized as critical to the success of public health initiatives. Strong policy frameworks, adequate funding, and effective coordination are key factors that contribute to the success of programs like stunting reduction related to Daniel et al. (2023). The strong positive impact of government involvement in your study corroborates this established understanding. In Indonesia, the government has been a driving force behind national stunting reduction efforts, particularly through programs such as the National Strategy to Accelerate Stunting Prevention. The significant influence observed in your study reflects the effectiveness of these governmental efforts, particularly in urban centers like Surabaya.

#### **5. The role of Media influences the Effectiveness of Stunting Reduction Programs in Surabaya**

The media also showed a significant positive impact on the effectiveness of the stunting reduction program (path coefficient of 0.369, p-value of 0.000). Media's role in raising awareness, educating the public, and advocating for behavior change is critical in public health initiatives. The significant contribution of media highlights the power of communication in shaping public perceptions and behaviors, which are essential in tackling stunting. This finding suggests that media campaigns should be an integral part of public health strategies, ensuring that key messages about nutrition, hygiene, and health are effectively disseminated to the target population.

The media's role in shaping public health outcomes is well-documented, particularly in raising awareness and driving behavior change. Media campaigns have been effective in various public health areas, including nutrition, where they have helped to educate the public and promote healthier behaviors. The significant impact of media in this study is consistent with (Utami, Kosasih and Sayidin, 2023). In Surabaya, media campaigns likely played a crucial role in disseminating information about stunting and promoting practices that help prevent it. This finding underscores the importance of continued media engagement in public health initiatives.

#### **6. The role of Academic, Community, Business (Economic Sector), Government, Media simultaneously influences the Effectiveness of Stunting Reduction Programs in Surabaya**

Although individual analysis of the sectors shows that not all components of the Penta Helix model had significant impacts, the combined influence of the model is likely to be positive. The significant contributions from the government, business, and media sectors suggest that when these sectors work together, they can create a synergistic effect that enhances the overall effectiveness of the stunting reduction program. However, the insignificant results from academia and community involvement highlight areas that need further development to maximize the potential of the Penta Helix approach (Purnomo et al., 2023). Given the underwhelming impact of academia observed in your study, future efforts should focus on bridging the gap between academic research and field implementation. This could involve more collaborative research efforts and the development of frameworks that ensure research findings are effectively translated into practice.

The study's exploration of the Penta Helix model's effectiveness in reducing stunting rates in Surabaya provides valuable insights into the roles and contributions of various sectors—academia, business, community, government, and media—within the framework of public health initiatives. The results underscore the significance of certain sectors, while also highlighting areas where improvement is necessary, particularly in translating research into practice and engaging communities effectively.

The findings reveal that government involvement is the most significant contributor to the program's success. This aligns with existing research that emphasizes the critical role of governmental leadership in public health interventions. Government policies, such as Indonesia's National Strategy to Accelerate Stunting Prevention (Stranas Stunting), have been pivotal in coordinating nationwide efforts to reduce stunting (Afandi et al., 2022). The significant impact observed in this study reflects the effectiveness of these policies, particularly in urban centers like Surabaya, where governmental support has facilitated the implementation of large-scale public health initiatives. This finding reinforces the idea that strong policy frameworks, adequate funding, and effective coordination are essential components of successful public health programs.

The business sector also demonstrates a significant positive impact on the program's effectiveness, which is consistent with previous research highlighting the importance of economic support and public-private partnerships in public health. In Indonesia, the business sector has increasingly engaged in Corporate Social Responsibility (CSR) activities focused on health and nutrition, contributing to the broader efforts to combat stunting. These initiatives provide crucial resources and innovative solutions that complement governmental efforts. The positive

role of the business sector in this study suggests that economic contributions are not only beneficial but necessary for sustaining and scaling up stunting reduction programs. This aligns with the broader literature that advocates for the inclusion of the private sector in public health strategies, especially in resource-limited settings where government resources alone may be insufficient.

Media's role in the study is also significant, reflecting its power to influence public behavior and awareness. The effectiveness of media campaigns in shaping health outcomes has been well-documented, particularly in promoting behavior change related to nutrition and hygiene, which are critical in stunting prevention. In the context of Indonesia, where media penetration is high, media campaigns have been instrumental in disseminating health information to a broad audience, thereby amplifying the impact of public health interventions. The study's findings suggest that continued media engagement is vital for sustaining public awareness and encouraging behaviors that support stunting reduction. This resonates with previous research that underscores the importance of strategic communication in public health, particularly in reaching diverse and widespread populations.

However, the study also reveals significant gaps in the contributions of academia and community involvement. The negligible impact of academia is particularly concerning, as it suggests a disconnect between academic research and its application in the field. This divergence from previous research, which typically highlights the importance of evidence-based practices in public health, may indicate that academic institutions in Surabaya are not sufficiently integrated into the practical aspects of stunting reduction efforts. This gap could be due to various factors, including limited collaboration between researchers and practitioners, or a lack of mechanisms to translate research findings into actionable strategies (Caraka et al., 2021). The Indonesian government's policy initiatives, such as the Stranas Stunting, often rely on academic input for the development of effective interventions. Therefore, enhancing the role of academia in this context is crucial for ensuring that public health strategies are informed by the latest research and are tailored to address specific local challenges.

Similarly, the limited impact of community involvement suggests that efforts to engage communities in the stunting reduction program may not be fully effective. While community participation is often lauded as a key component of successful public health initiatives, the study's findings indicate that in Surabaya, this potential is not being fully realized. Previous research supports the idea that community engagement leads to better health outcomes through increased ownership and sustainability of programs. However, in practice, there may be barriers such as cultural differences, lack of awareness, or insufficient empowerment that hinder meaningful community participation. The Indonesian government's community-based health programs, such as Posyandu (integrated health service posts), are designed to engage local communities in health promotion activities. The insignificant role of the community in this study suggests that these programs may need to be re-evaluated and strengthened to ensure that they are effectively mobilizing community resources and participation.

#### IV. CONCLUSION

The results of this study have several implications for both policy and practice in Indonesia. First, the significant impact of government involvement underscores the importance of maintaining and strengthening governmental support for public health initiatives. The success of policies like Stranas Stunting in reducing stunting rates in Surabaya suggests that similar strategies could be effectively replicated in other regions of Indonesia. However, it is also important to ensure that these policies are adaptable to local contexts and are supported by adequate resources.

Second, the positive role of the business sector highlights the need for continued engagement with private enterprises in public health initiatives. Policies that encourage and facilitate public-private partnerships, particularly in areas such as health financing and resource allocation, could further enhance the effectiveness of stunting reduction programs. The Indonesian government could consider expanding incentives for businesses to participate in health-related CSR activities, thereby increasing the availability of resources for public health initiatives.

Third, the significant influence of media suggests that strategic communication should remain a central component of public health strategies. The government, in collaboration with media outlets, should continue to invest in public health campaigns that raise awareness and promote healthy behaviors. These campaigns should be culturally sensitive and tailored to the specific needs of different communities to maximize their impact.

Finally, the limited contributions of academia and community involvement indicate areas where policy interventions could be targeted to improve outcomes. Strengthening the link between academic research and public health practice is essential for developing evidence-based strategies that are effective in the local context. This could involve creating more opportunities for collaboration between academic institutions and public health practitioners, as well as providing support for the translation of research findings into practical interventions.

Additionally, enhancing community engagement through more inclusive and participatory approaches could help to ensure that public health programs are more responsive to the needs and preferences of the local population.

In conclusion, while the Penta Helix model demonstrates considerable potential in reducing stunting rates in Surabaya, the effectiveness of this approach depends on the active and meaningful involvement of all sectors. The significant contributions of government, business, and media sectors highlight the strengths of the model, but the limited roles of academia and community involvement suggest that there is room for improvement. By addressing these gaps and fostering greater collaboration across sectors, the Penta Helix model can be further optimized to effectively tackle the complex challenge of stunting, not only in Surabaya but across Indonesia. The findings of this study underscore the importance of a holistic and integrated approach to public health, where all sectors work together to achieve common goals and improve health outcomes for all.

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# Integration of Bumdes to Encourage Village Community Economic Activities

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## ABSTRACT

**Purpose:** The establishment of Village-Owned Enterprises (BUMDes) aims to stimulate economic growth in rural areas. Each BUMDes is expected to align with the community's needs, particularly in supporting local economic activities. As a result, BUMDes should be viewed not as competitors by local businesses, but as partners that strengthen the village economy. This research aims to compare the economic conditions of the village community before and after the establishment of BUMDes Wonosegoro, focusing on the positive impacts and significant changes that occurred.

**Design/methodology/approach:** This study uses a quantitative approach with Paired Sample t-test analysis to measure significant changes in community economic activities before and after the presence of BUMDes. The respondents in this study consisted of 30 residents of Cermo Village, Kare Sub-district, Madiun Regency, who were randomly selected to ensure good representation of the village population.

**Findings:** The results of this study show that there are significant differences in several economic variables after the establishment of BUMDes Wonosegoro. Specifically, there was an increase in variables X4 and X5, indicating that BUMDes has successfully increased income and economic activities in the village. However, other variables did not show significant changes, suggesting that the impact of BUMDes may take longer to materialize across all aspects of the village economy.

**Research limitations/implications:** This research focuses only on one BUMDes in Cermo Village. Therefore, the results may not be fully generalizable to BUMDes in other areas. Further research comparing multiple BUMDes in different villages is needed to provide a broader picture and enrich the findings of this study.

**Practical implications:** The results of this study can be used as evaluation material for BUMDes Wonosegoro managers to improve synergy with the needs of village communities. By optimizing the role of BUMDes, it is expected that community welfare will be enhanced through local job creation and sustainable economic empowerment.

**Originality/value:** This research offers an original comparative analysis of the impact of BUMDes on village economic activities using quantitative statistical methods. This study contributes to the literature on the role of BUMDes in rural economic development, especially in the context of Indonesian villages.

**Paper type:** Research paper

**Keyword:** BUMDes, village economy, Paired Sample t-test, community empowerment, economic development, local economic synergy.

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## I. INTRODUCTION

Economic development in rural areas is one of the main pillars in Indonesia's national development strategy (Rangka et al., 2023). Given that a significant portion of Indonesia's population resides in rural areas, enhancing the welfare of rural communities can have profound effects on the overall national economy. However, achieving

inclusive and sustainable economic growth in these regions poses considerable challenges due to factors such as limited infrastructure, restricted access to financial services, and low levels of education and skills (Bustamam et al., 2021). To address these challenges, various initiatives have been introduced, one of which is the establishment of Village-Owned Enterprises (BUMDes).

Wonosegoro Village, located in Kare District, Madiun Regency, has implemented a BUMDes as a strategic move to bolster the local economy. This village was selected due to its abundant natural resources and strong community support for local economic initiatives. The BUMDes model not only operates as a business entity but also serves as a development agent capable of driving socio-economic transformation in rural areas. With appropriate management (Sufi & Sos, 2021), BUMDes can effectively accelerate village development, create employment opportunities, and reduce the economic disparity between urban and rural areas. According to Yusran et al., (2023), BUMDes has the potential to empower often-overlooked local resources, such as agriculture (de Vos et al., 2023), agrotourism (Lestari et al., 2024), crafts, tourism, and creative industries, transforming them into profitable and sustainable businesses.

Before the advent of BUMDes, many villages in Indonesia struggled to stimulate their local economies. These villages often relied on external resources, whether in the form of capital, technology, or market access (Karim, 2019). This dependency resulted in many villages being trapped in a cycle of poverty and low economic productivity. Furthermore, limited access to infrastructure and financial services hindered the development of competitive local businesses. In this context, BUMDes emerged as a solution to these challenges by leveraging local potential and creating business models tailored to the specific characteristics and needs of the village community.

As a business entity owned and managed by the village government, BUMDes enjoys the flexibility to operate in various business sectors, ranging from primary sectors such as agriculture and fisheries to secondary sectors such as processing industries and tertiary sectors such as trade and services (Sinaga et al., 2016). This sectoral diversity allows BUMDes to adapt to the unique potential and needs of each village. In Wonosegoro Village, Kare District, Madiun Regency, BUMDes has played a crucial role in driving local economic growth. This study employs a quantitative approach, utilizing Paired Sample t-test analysis to measure significant changes in economic activities in Cermo Village before and after the establishment of BUMDes, with the aim of identifying the specific impacts generated.

Existing literature suggests that BUMDes not only serves as a tool for increasing village revenue but also functions as a mechanism for strengthening social ties and enhancing community participation in the development process. BUMDes also provides business capital loans to the community in accordance with the 2014 Village Law (Arta & Remaja, 2023). According to Husain et al., (2022), the presence of BUMDes enables village communities to be more actively involved in decision-making related to economic development. BUMDes offers a platform for the community to participate in the development of local enterprises, thereby increasing the sense of ownership and responsibility for the success of these enterprises. Additionally, BUMDes has the potential to reduce the gap between rural and urban areas by providing services and products typically only available in cities.

Furthermore, a recent study by Isa & Tamrin (2024) emphasizes that the success of BUMDes largely depends on the active involvement of all stakeholders, including the village government, community, and private sector. This research indicates that successful BUMDes are typically characterized by professional, transparent, and accountable management. Moreover, BUMDes that establish strategic networks and partnerships with external parties, such as financial institutions and private companies, are more likely to achieve long-term success. These findings highlight the importance of support and collaboration from various parties to ensure the sustainability of BUMDes.

In addition to its economic function, BUMDes also plays a significant role in achieving the Sustainable Development Goals (SDGs) at the local level (Lestari et al., 2024). According to Mulianingsih, (2022), BUMDes can directly contribute to several SDGs, such as poverty alleviation, reducing inequality, and increasing access to decent work and economic growth. In this context, BUMDes can act as a catalyst for change, delivering long-term benefits to rural communities. By integrating economic, social, and environmental aspects into its operations, BUMDes can help create more sustainable and resilient villages (Ferezagia et al., 2024).

This research seeks to make a significant contribution to the existing literature by providing an empirical analysis of the impact of BUMDes on village economic activities. The study focuses on Wonosegoro Village, one of the villages that has recently established a BUMDes. Utilizing a quantitative approach and statistical analyses such as the Paired Sample t-test (Ardiansyah et al., 2023) this study aims to evaluate the significant changes in economic variables before and after the establishment of BUMDes. The analysis is expected to provide deeper insights into the effectiveness of BUMDes as a tool for economic development at the village level.

As highlighted by Hekmatyar & Nugroho (2018) and Septiansyah & Kushartono (2022), BUMDes is a powerful instrument for driving economic development in rural areas. By harnessing local potential, engaging the community, and building strategic partnerships, BUMDes can serve as an effective force for improving the welfare of rural communities (Anggraeni, 2016). This research is anticipated to serve as a reference for future policy



development and best practices in BUMDes management. Additionally, the findings of this study can be utilized by other villages seeking to develop BUMDes as part of their economic development strategy.

## II. METHODS

### A. Research objectives

This study aims to analyse the impact of the establishment of the wonosegoro village enterprise on the economic activities of the community in Cermo village, Kare sub-district, Madison district. The focus of this research is to compare the usefulness of BUMDes in two different conditions, namely before and after the establishment of BUMDes. The usefulness of the BUMDes is measured through indicators of increased income, access to financial services, and local business development.

### B. Research Design

The approach used in this research is quantitative with a comparative method. This method was chosen because it allows researchers to compare one main variable, namely the usefulness of BUMDes, in two different temporal conditions (Imroh et al., 2024). This study used a before-after design to evaluate the changes that occurred in the economy of the Cermo Village community before and after the BUMDes was established. The comparative method has proven effective in evaluating the impact of public policies and development programmes in various contexts (Susanto et al., 2024).

### C. Research Materials and Instruments

The main instrument used in this study is a structured questionnaire designed to collect data related to indicators of BUMDes' usefulness. The questionnaire was developed based on relevant literature and has been validated through an initial pilot test (Pratama, 2019). In addition to the questionnaire, this study also uses secondary data from village annual reports and official statistical data from the Central Statistics Agency (BPS) as a comparison of economic conditions before the BUMDes was established.

Primary data was collected from 30 respondents who are residents of Cermo Village, purposively selected based on certain criteria, such as involvement in the BUMDes programme and business experience before and after the BUMDes. Data collection was conducted through direct interviews using a prepared questionnaire. The use of questionnaires in this study is in accordance with standard quantitative methods commonly used in socio-economic research (Roy et al., 2018).

### D. Research Procedure

This research procedure involved several stages, starting with the collection of secondary data (Syaifudin, 2021) related to the economic condition of the Cermo Village community prior to the establishment of the BUMDes. This data includes statistics on income, number of micro enterprises, and access to financial services taken from village reports and BPS data. After that, primary data was collected through a survey to selected respondents. The survey was conducted using a face-to-face interview method, which allowed the researcher to obtain more in-depth and accurate data.

The collected data was analysed using the Paired Sample t-test statistical method to evaluate the significant changes between the conditions before and after the establishment of BUMDes. The Paired Sample t-test is a technique often used in before-after studies due to its ability to compare two sets of interrelated data (Montolalu & Langi, 2018). This technique helps researchers to determine whether the changes observed after the BUMDes are statistically significant.

### E. Theoretical Background

This research is based on local economic development theory that emphasises the importance of local institutions in driving village economic growth. BUMDes, as a village-owned business entity, is considered a strategic instrument to empower local potential and improve the welfare of village communities. According to this theory, the success of BUMDes is measured by its ability to increase community income, expand access to financial services, and encourage local business development. Previous studies by (Chikmawati, 2019; Kafabih, 2018; Susilowati, 2020) show that BUMDes has a key role in reducing economic inequality between villages and cities, as well as increasing the economic independence of villages.

### III. RESULTS AND DISCUSSION

#### A. Results

##### 1. Analysis of Economic Changes in the Community Before and After BUMDes

The establishment of Village-Owned Enterprises (BUMDes) aims to empower the village economy and improve the welfare of village communities. In this study, a comparative analysis was conducted between the economic conditions before and after the establishment of BUMDes, using five main variables: X1, X2, X3, X4, and X5. Based on the descriptive statistics and t-test results, the changes in these variables reflect the impact of BUMDes on the economy of the Wonosegoro village community, as shown in Table 1.

The X1 variable showed an average of 3.93 before the establishment of BUMDes and increased to 4.10 after its establishment. Although there was an increase, the t-test resulted in a p-value of 0.283, indicating that the difference is not statistically significant. This suggests that, despite the change in variable X1, the change is not large enough to be considered a direct impact of BUMDes. This could be due to various factors, such as the presence of external factors affecting variable X1 or the lack of direct intervention from BUMDes in the aspect measured by this variable.

The X2 variable had the same average before and after the establishment of BUMDes, which was 4.17, with a p-value of 1.0, indicating no significant difference. This equality can be interpreted as an indicator that the aspect measured by variable X2 was not affected by the establishment of BUMDes, or that BUMDes has not yet contributed significantly to improvement in this variable. In this context, BUMDes may not have been able to, or has not focused on, developing the area represented by variable X2, hence no meaningful change has occurred.

For the X3 variable, the average before the establishment of BUMDes was 7.97, which then slightly decreased to 7.73 after the establishment of BUMDes, with a p-value of 0.319. Although not statistically significant, this decrease could indicate that other factors may have caused the decline, or that the establishment of BUMDes has not substantially strengthened this variable. This insignificant decrease suggests that although there is a change, it may not be a direct result of the establishment of BUMDes, but rather due to other factors not measured in this study.

The X4 variable showed a significant increase from an average of 4.03 before the establishment of BUMDes to 7.70 after the establishment of BUMDes, with a p-value of less than 0.001. This result indicates a significant and noticeable change in this variable after the establishment of BUMDes, which could be interpreted as the success of BUMDes in enhancing the aspect measured by this variable. This significant increase could be attributed to programmes or initiatives of BUMDes that are directly related to variable X4, demonstrating the effectiveness of BUMDes in empowering the local economy in the village. Factors contributing to this success may include skill training programmes, access to business capital, or support for small enterprises in the village.

Meanwhile, the X5 variable experienced a very significant increase from an average of 3.93 before the establishment of BUMDes to 15.70 after the establishment of BUMDes, with a p-value of less than 0.001. This significant increase indicates that BUMDes has successfully created a major impact on this variable, which may include increased income, job opportunities, or better access to economic services. This drastic increase demonstrates that the establishment of BUMDes has successfully brought profound and positive changes to the economic aspect measured by variable X5. This could reflect the success of BUMDes in creating programmes that meet the needs of the community, such as economic empowerment programmes or improving access to broader economic resources.

##### 2. The Impact of BUMDes on Improving the Village Community's Economy

The establishment of BUMDes in Wonosegoro Village has had a significant impact on several aspects of the village economy. Based on the results obtained, two out of the five analysed variables showed significant increases after the establishment of BUMDes. This indicates that BUMDes has succeeded in fulfilling some of its main objectives, namely improving the economic welfare of the village community.

However, not all variables showed significant increases. The variables that did not show significant differences may indicate that BUMDes has not been fully effective in addressing all aspects of the village economy, or that there are other factors influencing the results. In this context, further evaluation is needed of the strategies and programmes implemented by BUMDes to ensure that all aspects of the village economy receive sufficient attention and can experience significant improvements in the future.

##### 3. Policy Implications and Recommendations

The results of this study have important implications for policy-making at the village level. The success of BUMDes in improving several aspects of the village economy shows that this model can be an effective tool for empowering village communities and enhancing their welfare. However, to achieve more comprehensive results, BUMDes needs to adopt a more holistic approach, taking into account all relevant aspects of the village economy.

From these results, several recommendations can be made to enhance the effectiveness of BUMDes. Firstly, BUMDes needs to focus on developing programmes that can address the economic aspects that have not yet experienced significant improvement. For example, programmes that are more oriented towards developing the skills and capacities of village residents in the areas measured by variables X1 and X2 may be necessary. Secondly, BUMDes also needs to increase collaboration with other parties, such as local government, NGOs, and the private sector, to gain broader support and increase the impact of the programmes it implements.

#### 4. Discussion of the Impact of BUMDes in a Global Perspective

In addition to having a positive impact on the local village economy, the success of BUMDes in Wonosegoro Village can also be viewed in a broader context. This BUMDes model can serve as an example for other villages, not only in Indonesia but also in other developing countries facing similar challenges in terms of local economic empowerment. The successful implementation of BUMDes can inspire other countries to adopt similar models in efforts to alleviate poverty and improve the welfare of rural communities.

The success of BUMDes also shows that a community-based approach can be an effective solution in addressing economic problems faced by village communities. In the current era of globalisation, where many villages around the world face similar challenges, the BUMDes model can be a viable alternative for sustainably improving the welfare of village communities.

#### B. Discussion

The results of this study indicate that the establishment of BUMDes in Wonosegoro Village has had a significant impact on several aspects of the village economy, particularly those related to variables X4 and X5. The significant increase in these variables suggests that BUMDes has successfully achieved some of its primary objectives, namely empowering the village community's economy. However, these results also reveal that there are still some aspects that have not undergone significant changes, indicating that BUMDes needs to make improvements and adjustments to its strategies.

One of the main challenges faced by BUMDes is ensuring that all aspects of the village economy receive sufficient attention and can experience significant improvement. In this regard, BUMDes needs to adopt a more holistic and inclusive approach, considering the needs and potential of all elements of the village community. BUMDes also needs to enhance collaboration with various parties, both at the local and national levels, to gain broader support and strengthen its impact.

In a broader context, the BUMDes model also provides important lessons for other countries facing similar challenges. The successful implementation of BUMDes demonstrates that a community-based approach can be an effective solution in addressing the economic problems faced by village communities. This model can be adopted and adapted to local conditions in various countries to sustainably improve the welfare of village communities.

Overall, this study makes an important contribution to understanding the impact of BUMDes on the village economy and provides useful recommendations for improving its effectiveness in the future. However, this study also has limitations, particularly in terms of its limited scope, focusing on only one BUMDes. Further research with a broader scope, involving multiple BUMDes across different regions, is needed to provide a more comprehensive picture of the effectiveness of BUMDes in empowering the village economy.

*Table 1: Descriptive Statistics and T-Test for Each Variable*

Variable	Average Before	Average After	p-value	Significance
X1	3.93	4.10	0.283	Not Significant
X2	4.17	4.17	1.0	Not Significant
X3	7.97	7.73	0.319	Not Significant
X4	4.03	7.70	< 0.001	Significant
X5	3.93	15.70	< 0.001	Significant

The table summarises the averages, standard deviations, t-values, and p-values for each variable before and after the establishment of BUMDes.

The average before the establishment of BUMDes reflects the average values of the variables measured before BUMDes was established, illustrating the initial economic conditions of the community. In contrast, the average after the establishment of BUMDes represents the same values after BUMDes became operational, providing insight into the changes that occurred. The p-values obtained from the t-test are used to determine whether the differences between the data before and after the establishment of BUMDes are statistically significant. If the p-value is less than 0.05, the difference is considered significant, meaning that the observed changes between the pre- and post-establishment data of BUMDes are not due to chance but reflect real changes that can be attributed to the establishment of BUMDes. In this study, the variables with p-values less than 0.05 indicate significant changes after the establishment of BUMDes, while variables with p-values greater than 0.05 do not show significant differences, suggesting that the changes in these variables are not strong enough to be linked to the establishment of BUMDes. This explanation provides a comprehensive understanding of the impact of BUMDes on the community's economy, based on a comparison of statistical data before and after its establishment.

#### IV. CONCLUSION

The conclusion of this study is that the establishment of BUMDes in Wonosegoro Village has had a positive and significant impact on several aspects of the village economy, particularly on variables X4 and X5, which showed a marked improvement following the establishment of BUMDes. However, not all variables demonstrated significant changes, indicating that BUMDes needs to optimise its programmes to be more effective in enhancing the overall welfare of the community. This research underscores the importance of a more holistic and collaborative approach in developing the village's economic potential through BUMDes.

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# Evaluation of Financial Distress Prediction in the Telecommunications Industry Using the Ohlson and Taffler Model

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## ABSTRACT

**Purpose:** The company's large debt caused the company's operating income at PT Bakrie Telecom Tbk in 2020 - 2022 to decline because the company was unable to pay off its obligations and always had a negative net profit over several years, so the company had the potential to experience financial distress. The aim of this research is to determine and analyze the potential for financial distress at the company PT Bakrie Telecom Tbk using the Ohlson and Taffler model.

**Design/methodology/approach:** This research uses quantitative methods with library research techniques, namely collecting data related to the problem to be researched to obtain secondary data. The analysis tool uses the Ohlson and Taffler model.

**Findings:** The research results show that the Ohlson model predicts that PT Bakrie Telecom Tbk will experience bankruptcy with an O-Score value  $> 0.38$  for the period 2020 to 2022. The Taffler model predicts PT Bakrie Telecom Tbk will be unhealthy with a T-Score value  $< 0.2$  for the period 2020 to 2022. Based on the research results, it can be concluded that the Ohlson and Taffler model predicts that the company PT Bakrie Telecom will experience financial distress for the period 2020 - 2022.

**Paper type:** Research paper

**Keyword:** Financial Distress, Model Ohlson, Model Taffler.

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## I. INTRODUCTION

The dynamic pace of development of the world economy has given rise to intense business competition, requiring companies to continue to innovate, improve performance and expand their businesses in order to survive and compete. The main goal of the company is to maximize profits and prosperity of the company, where profits are a benchmark for management success. However, intense competition in the industry often prevents companies from making a profit.

Currently, a rapidly growing industry is the telecommunications industry, which focuses on providing long-distance communication services such as voice, data, and video using technologies such as telephone, internet, and cellular networks. Technological advances, especially smartphones, have increased demand for data access and telecommunications services, intensifying competition in this industry. Therefore, companies need to improve and develop management through evaluating strategies and policies. The company's inability to survive and compete will cause financial distress or even bankruptcy.

financial distress is a company's financial condition that occurs before it experiences bankruptcy due to experiencing problems, crises, or being unhealthy. (Maulidia & Asyik, 2020). Bankruptcy occurs when a company

does not have sufficient funds for its operations, often characterized by difficulty making a profit or experiencing losses. PT Bakrie Telecom Tbk is one of the companies experiencing financial distress, with declining performance during 2020-2022 due to debt being greater than operating income.

The company's net loss in 2020 was IDR 108,137 million, an increase of 1585.4% compared to the previous year. After that, net losses decreased by 12% in 2021 amounting to IDR 94,976 million compared to 2020, but again increased by 24% in 2022 amounting to IDR 117,926 million compared to 2021. Total debt of PT Bakrie Telecom Tbk in in 2020 it amounted to IDR 11,306,819 trillion, a decrease of 32% compared to 2019, then the total debt in 2021 amounted to IDR 5,735,886 trillion, a decrease of 49% from 2020, and in 2022 the debt value of PT Bakrie Telecom was IDR 5,865,827 trillion rising again by 2% from 2022. PT Bakrie Telecom Tbk shares have also been suspended for 24 months based on Exchange announcement No. : Peng00008/BEI.PP1/05-2021 so that the company has met the criteria for delisting shares on the IDX.

The data in the financial report shows that PT Bakrie Telecom Tbk is unable to pay off its obligations and always earns negative net profits, increasing the risk of financial distress or bankruptcy. Financial reports are the result of recording all financial transactions." This means that with the results of recording all financial report transactions, the company can see the potential for financial distress or even bankruptcy that will occur at PT Bakrie Telecom Tbk. Prihadi (2020:8) in(Syahrman, 2021:284).

The potential for bankruptcy can be predicted by analyzing financial ratios using the Ohlson (1980) and Taffler (1983) models. The two models have their own differences, including the Ohlson model which focuses more on profitability, leverage and company size variables which provide knowledge about the health of the company, and is designed to predict the probability of bankruptcy by combining accounting information and company size, while the Taffler model focuses more on Liquidity ratios, profitability and accumulated profits are maintained as financial indicators of companies in the short and medium term, designed to assess financial risks and predict financial failures.

The Ohlson model is a logit model, a further development of the linear probability model used to predict the level of company health(Sujimantoro & Muthmainnah, 2017). Results of research carried out(Octaviandri et al., 2017)shows that the Ohlson model is able to predict that 3 companies in the agricultural sector listed on the Indonesia Stock Exchange in the 2011-2015 period have the potential to experience bankruptcy.

The Taffler model is a model that has a prediction accuracy rate of 95.7% for companies that go bankrupt and 100% for companies that do not go bankrupt (Prakoso et al., 2022). Results of research carried out(Iswahyudi, 2022)shows that the taffler model predicts that two state-owned companies (GIAA and KRAS) will experience financial difficulties because the two companies cannot fulfill their third party obligations.

There are differences between this research and previous research, namely in the different methods used, different companies, and different years of the research period. This research uses the Ohlson and Taffler method to predict whether financial distress will occur or not at the company PT Bakrie Telecom Tbk for the 2020-2022 period. Based on the background description, the researcher is interested in conducting research with the title "Financial Distress Prediction Using the Ohlson and Taffler Model at PT Bakrie Telecom Tbk."

## **A. Research Objectives**

3. To determine and analyze the potential for financial distress in the company PT Bakrie Telecom Tbk using the Ohlson model in 2020 - 2022.
4. To determine and analyze the potential for financial distress in the company PT Bakrie Telecom Tbk using the Taffler model in 2020 - 2022.

## **B. Theoretical Foundation**

### **1. Financial Report Analysis**

Financial report analysis is a process that has been considered in order to help evaluate the financial position and results of company activities in the present and past, with the main aim of determining estimates and predictions regarding the company's condition and performance in the future.(Kariyoto, 2017).

### **2. Financial Distress**

Maulidia & Fun (2020)revealed that financial distress is a company's financial condition that occurs before it experiences bankruptcy due to experiencing problems, crises, or being unhealthy.

### **3. Ohlson's model**

Sujimantoro & Muthmainnah, (2017)said that the Ohlson model is a logit model, a further development of the linear probability model used in predicting the level of company health. The equations used are according to(Ohlson, 1980):

$$O\text{-Score} = -1.32 - 0.407X_1 + 6.03X_2 - 1.43X_3 + 0.0757X_4 - 2.37X_5 - 1.83X_6 + 0.285X_7 - 1.72X_8 - 0.521X_9$$

**Information :**

O = Financial distress index

X1 = Ln (Total Assets)

X2 = Total Debt to Total Assets

X3 = Working Capital to Total Assets

X4 = Current Debt to Current Assets

X5 = 1 If Total Debt > Total Assets; 0 If Total Debt < Total Assets

X6 = Net Profit to Total Assets

X7 = Operating Cash Flow to Total Debt

X8 = 1 If Net Profit is Negative in the Last 2 Years; 0 If Net Profit is Positive

X9 = net profit of touses-net profit-1 on net profit tahun + net profit touses-1

*Table 2. Benchmarks for the O-Score Formula*

<i>O-Score Value</i>	<i>Criteria</i>
<i>O-Score &gt; 0.38</i>	<i>Bankrupt</i>
<i>O-Score &lt; 0.38</i>	<i>Not Bankrupt</i>

Source : (Yuliana.I, 2018)

**4. Taffler Model**

The Taffler model is a model that has a prediction accuracy rate of 95.7% for companies that go bankrupt and 100% for companies that do not go bankrupt.(Prakoso et al., 2022). The taffler model equation according to (Iswahyudi, 2022):

$$T\text{-Score} = 3.2 + 12.18X1 + 2.50X2 - 10.68X3 + 0.0289X4$$

**Information :**

T = Financial distress index

X1 = Profit Before Tax: Current Liabilities

X2 = Current Assets : Total Liabilities

X3 = Current Liabilities: Total Assets

X4 = Net Profit After Tax: Total Assets

*Table 3. T-Score Formula Benchmarks*

<i>T-Score Value</i>	<i>Criteria</i>
<i>T-Score &gt; 0.3</i>	<i>Healthy</i>
<i>T-Score &lt; 0.2</i>	<i>Not healthy</i>

Source: (M. Iswahyudi 2022:132)

**II. METHODS**

This research uses quantitative methods which are measured with two (2) analytical tools, namely the Ohlson model and the Taffler model.

**A. Data Collection**

This research uses library data collection techniques (library research), namely collecting data related to the problem to be researched to obtain secondary data. The secondary data needed in this research is the financial report data of PT Bakrie Telecom Tbk for the 2020-2022 period and is sourced from the Indonesia Stock Exchange ([www.idx.co.id](http://www.idx.co.id)).



### III. RESULTS AND DISCUSSION

#### A. Numerical Results

This research uses the Ohlson and Taffler model to measure the level of financial distress that occurs at PT Bakrie Telecom Tbk. The results of the analysis using the Ohlson and Taffler model of PT Bakrie Telecom Tbk for the 2020 - 2022 period are as follows:

*Table 4. O-Results Score PT Bakrie Telecom Tbk Period 2020 to 2022*

Year	Ohlson										O-Score
	constant	0.407.X1	6.03.X2	1.43.X3	0.0757.X4	2.37.X5	1.83.X6	0.285.X7	1.72.X8	0.521.X9	
2020	-1.32	8,917	21,056.58	-384.78	31.26	2.37	-60.57	-0.000009	0	0.750	21,521.34
2021	-1.32	9,670	1672.24	-62.05	3,562	2.37	-8,363	0.000379	1.72	-0.031	1,731.16
2022	-1.32	9,862	1067.37	-40.68	6,349	2.37	-6,478	-0.000125	1.72	0.057	1,105.67

Source: Data processed by researchers, 2024.

*Table 5. PT Bakrie Telecom Tbk T-Score Results for the 2020 to 2022 Period*

Year	12.8.X1	2.50.X2	10.68.X3	0.0289.X4	T-Score	
2020	3.2	-1,574	0.005	2881.57	-0.96	-2,880.9
2021	3.2	-1,280	0.053	484.44	-0.13	-482.60
2022	3.2	-1,574	0.030	307.58	-0.10	-306.03

Source: Data processed by researchers, 2024.

Tables 4 and 5 above show that PT Bakrie Telecom Tbk is experiencing financial distress or even has the potential to experience bankruptcy based on the results of the analysis using the Ohlson and Taffler models. Where the o-score value from 2020 - 2022 is more than 0.38 and the t-score value for 2020-2022 is less than 0.2, this is caused by the company being unable to cover its short-term and long-term debt.

#### B. Discussion

Based on the results of data analysis, the financial conditions previously carried out can be obtained, so the following discussion can be carried out.

##### 1. Ohlson's model

*Table 6 Ohlson Model PT Bakrie Telecom Tbk Period 2020 to 2022*

Period	O-Score Results	Conclusion
2020	21,521.34	Potential bankruptcy (Financial Distress)

2021	1,731.16	Potential bankruptcy (Financial Distress)
2022	1,105.67	Potential Bankruptcy (Financial Distress)

Source: Data processed by researchers, 2024

The results of this research state that PT Bakrie Telecom Tbk for the 2020 - 2022 period using the Ohlson model analysis tool is in the bankruptcy category. With the final value for the 2020 period amounting to 21,521.34, it experienced a decrease of 92% in 2021 where the final value was 1,731.16, then the final value in 2021 decreased by 36% to 1,105.67 for the 2022 period. This means that there is a high probability that the company will experience financial distress. and has the potential for bankruptcy even though the final score obtained decreases every year because the O-Score value is > 0.38. This can be supported by research by Fadhila Wanda Hidayanti (2017) stating that if the O-Score value is > 0.38 then the company has the potential to experience bankruptcy, so in this research the first hypothesis is accepted.

## 2. Taffler Model

Table 7. PT Bakrie Telecom Tbk Taffler Model for the 2020 to 2022 Period

Period	T-Score Results	Conclusion
2020	-2,880.9	Unhealthy Company (Financial Distress)
2021	-482.60	Unhealthy Company (Financial Distress)
2022	-306.03	Unhealthy Company (Financial Distress)

Source: Data processed by researchers, 2024

The results of this research state that PT Bakrie Telecom Tbk for the 2020 - 2022 period using the Taffler model analysis tool is in the unhealthy category. The final value of the analysis for 2020 was -2,879.5, which represents a decrease of 83% in 2021, where the final value was -481.41. Furthermore, the final score for 2021 is -481.41, down 37% to -304.67 in 2022. This means that there is a high probability that the company will experience financial distress and potentially go bankrupt, because the T-Score value is <0.2.

This can be supported by research by Ninuk Riesmiyantiningtias, (2023) which states that if the T-Score value is <0.2 then the company has the potential to experience bankruptcy, so in this research the second hypothesis is accepted.

## IV. CONCLUSION

Based on the results of the analysis and discussion that has been carried out, the following conclusions can be drawn:

1. PT Bakrie Telecom Tbk in 2020 - 2022 has the potential to experience financial distress with poor financial conditions with an o-score > 0.38 and large debts do not always have an impact on bankruptcy based on the results of analysis using the Ohlson model.

2. PT Bakrie Telecom Tbk in 2020 - 2022 has the potential to experience financial distress with poor financial conditions with a t-score < 0.2 and large debts do not always have an impact on bankruptcy based on the results of analysis using the Taffler model.

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# Criminal Tax Law Perspective on General Criminal Law in Indonesia

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## ABSTRACT

**Purpose:** Taxes are income that is very important for the balance of state income. Currently, tax is the largest contributor to the Indonesian APBN. In tax obligations, taxpayers carry out their rights and obligations using the self-assessment method. Tax avoidance and even tax evasion are very likely to occur. Enforcement of criminal law in the field of taxation (tax enforcement) in order to increase taxpayer compliance. This research aims to look at the perspective of tax criminal law on general criminal law in Indonesia. This research uses a descriptive analytical method by collecting several literacy sources and discussing them in paragraph form.

**Design/methodology/approach:** The self-assessment method allows taxpayers to commit tax violations, tax violators as long as the perpetrator has committed an act or actus reus which is a prohibited act and knows that his actions cause losses to other parties, then it is sufficient for the perpetrator to be subject to criminal sanctions/punishments as stipulated in the provisions of ignoring the element of mens rea, as stipulated in the Tax Criminal Law (UU HPP).

**Findings:** Of the criminal acts contained in the Criminal Code, criminal acts in the field of taxation will always be related to and include the formulation of other criminal acts, whether general or specific.

**Paper type:** Review paper.

**Keywords:** *Embezzlement, Tax Offenders, General Crimes.*

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## I. INTRODUCTION

In line with developments in information technology, economics, social, political, and to create clean governance, changes to the Taxation Law have been made. These changes aim to provide more justice, improve services to taxpayers, provide more legal certainty, and anticipate advances in the field of information technology and changes in material provisions in the taxation sector. Apart from that, these changes are also intended to increase the professionalism of the tax apparatus, increase the openness of tax administration, and increase voluntary taxpayer compliance.

A simple system of mechanisms and procedures for implementing tax rights and obligations are the characteristics and features of the changes to this Law while still adhering to the self-assessment system. These changes are specifically aimed at establishing a balance of rights and obligations between Tax Officials and Taxpayers, maintaining a balance in tax revenues. as the backbone of APBN revenues and building a better institutional image of the Directorate General of Taxes. This law is Law of the Republic of Indonesia Number 6 of 1983 concerning General Provisions and Tax Procedures as most recently amended by Law of the Republic of Indonesia Number 26 of 2007 which was most recently amended by Law No. 16 of 2009.

## II. METHODS

This article only reviews the formulative policy regarding Tax Crimes contained in Law Number 28 of 2007, which was most recently amended by Law No. 16 of 2009. The scope reviewed in this paper includes policies in formulating Tax Crimes, Criminal Liability, and Criminal Sanctions against perpetrators of Tax Crimes.

## III. RESULTS AND DISCUSSION

One way of managing taxes that can be done is through tax avoidance, where companies try to reduce their tax burden in a legal way that does not conflict with tax laws, or as an alternative take advantage of weaknesses in applicable tax laws. Of course, the increasingly complex financial transaction plans in the business world will also open up opportunities for companies to plan their taxes (SITANGGANG et al., 2011). Tax planning can be done to reduce the taxes the company must pay. However, the government's efforts to optimize tax revenues have encountered many obstacles, one of which is tax avoidance activities. Tax avoidance is an effort to reduce the tax burden by not violating existing laws and regulations (Suryani, 2022). Even though no laws were broken, all parties agree that tax avoidance is unacceptable. This is because tax avoidance has a direct impact on reducing state revenues.

Almost the same research was also conducted by Nurchalis with the title "Effectiveness of Criminal Sanctions in the Law on General Tax Provisions in Overcoming Corporate Tax Avoidance." COUP. However, it turns out that the KUP Law still adheres to criminalization of individuals as adhered to by the Criminal Code/KUHAP without any further explanation, so that it becomes a problem in its application to corporations. Previous research focused on the effectiveness of sanctions, whereas in this research, the discussion focuses more on the sanctions that apply to tax violators who are subject to criminal penalties and then what the penalties are, such as general criminal penalties. So the problem formulation is as follows.

1. Can all taxpayers who violate taxes (commit tax evasion) be subject to criminal sanctions?
2. Are the tax criminal sanctions imposed on taxpayers the same as those in general criminal law?

As Bachelor of Law students and taxpayers in general, it is necessary to study this matter, remembering their rights and obligations as good citizens and there is no need to fight against the law. This is important for taxpayers to understand so that their business can run smoothly and their activities are not disrupted.

### B. Discussion

#### 1. Can all taxpayers who violate taxes (commit tax evasion) be subject to criminal sanctions?

Tax law is an important part of regulating tax obligations. Tax law is the regulations that regulate the rights and obligations as well as the relationship between taxpayers and the government as tax collectors. The legal position of tax is part of public law. When studying the legal field, *Lex Specialis Derogat Lex Generalis* applies. This means that special regulations take precedence over general regulations. If a provision has not been or is not regulated in special regulations, the provisions regulated in general regulations will apply. This means that the special regulation is tax law. Meanwhile, general regulations are public laws or other laws that have previously existed. Tax law adheres to an imperative understanding whose implementation cannot be postponed.

Things that are regulated in tax law. In tax law, there are several things that are regulated, namely:

- a. Who are the tax subjects and taxpayers
- b. What objects are tax objects
- c. Tax obligations to the government
- d. The emergence and elimination of tax debt
- e. How to collect taxes
- f. How to submit objections and appeals

Legal basis for tax collection. There are eight laws that form the legal basis for tax collection in Indonesia, including:

- a. Law No.13 of 1985 concerning Stamp Duty
- b. Law No.12 of 1994 concerning Land and Building Tax
- c. Law No.16 of 2000 concerning General Provisions and Tax Procedures
- d. Law No.17 of 2000 concerning Income
- e. Law No.18 of 2000 concerning Value Added Tax on goods and services and sales of luxury goods
- f. Law No.19 of 2000 concerning Tax Collection by Force Letter
- g. Law No. 20 of 2000 concerning Fees for Acquisition of Land and Building Rights
- h. Law No.14 of 2002 concerning Tax Court.

In order to ensure the continuity of tax revenues as the main source of the APBN and provide fairness in business (level of playing field), the government needs to expand the tax base by increasing the number of registered taxpayers to have NPWPs and at the same time comply.

The government will continue to strive to explore tax potential (tax coverage) as optimally as possible and also increase taxpayer compliance (taxpayers compliance). To overcome the above problems, the government carried out what is called tax reform. In this case, the government made various efforts by issuing a series of laws to change existing laws.

This is done to provide a greater sense of justice and legal certainty. The aim of improving the tax law is to extensify and intensify the imposition and collection of taxes, which is also an effort to increase the fairness of the tax burden, eliminate tax facilities that have no legal basis which will harm the national economy and close opportunities for tax avoidance (loopholes).

For this reason, in accordance with the regular function, it can generally be stated that the tax system must be able to encourage national economic activity and growth by encouraging investment from outside and securing state revenues. Meanwhile, carrying out the budgetary function as the main pillar of state revenue is carried out by expanding the scope of tax subjects and objects, and minimizing the possibility of transfer pricing and restrictions on the imposition of final income tax. In the long term, all of these policies are expected to increase tax compliance, increase investment and state revenues towards independence in development financing.

Promote outreach in the field of taxation. This is done to increase the insight of taxpayers. With increasing knowledge, it is hoped that it will raise awareness about paying taxes. In this way, it is hoped that state revenue through the tax sector can increase. Improving legal culture for both taxpayers and tax officers.

The parties are expected to be able to carry out their respective obligations in accordance with applicable tax provisions. The government must carry out strict supervision of tax collection. If irregularities are found, strict sanctions must be given. This is necessary to provide a deterrent effect for taxpayers and tax officers.

Enforcement of criminal law in the field of taxation is part of law enforcement in the field of taxation (tax enforcement), which according to Barry Larking is a series of tax activities to ensure that taxpayers or potential taxpayers have exercised their rights and fulfilled their obligations in accordance with applicable regulations, for example reporting themselves to obtain status as a Taxable Entrepreneur, assessment of tax payable, filling out the Tax Return correctly, completely and clearly, and submitting actual tax data and information.

In general, efforts are made to reduce the tax burden through tax planning. Tax planning can be done in various ways, both tax compliant (legal) and tax violative (illegal). Tax evasion or resistance is an obstacle in tax collection and administration, which results in a decrease in state treasury revenues. Resistance to taxation includes active resistance and passive resistance. In Indonesian tax books, tax avoidance is always defined as a legal activity (for example minimizing the tax burden without violating tax regulations), while tax avoidance (tax fraud) is defined as an illegal activity (for example by manipulating bookkeeping to reduce taxes).

Tax Evasion occurs before the SKP is issued. This is contrary to law and the aim is to avoid tax/reduce the basis for tax assessment by hiding part of the income. Tax evasion is a crime against Indonesian tax law. Because taxpayers try to reduce the tax owed by illegal means. Tax evasion is a violation of tax law, for example a taxpayer submitting a tax return on income that is lower than actual (underreporting income) or reporting costs that are higher than actual (overreporting income). reduction) on the other hand. A more serious form of tax avoidance is that taxpayers (WP) do not report their income at all (not reporting income). Taxpayers see taxes as a threat because they reduce income. Avoiding taxes by illegal means is tax evasion. In this case it can be shown that the Taxpayer is acting to his own detriment, and the Taxpayer often tries not to report the tax that has been paid properly. This action is a criminal offense because it violates applicable regulations, including intentionally incomplete and clear reporting of tax recipients.

Tax Avoidance is a legal act and can be said to be justified because it does not violate the law, and in this case it absolutely does not. The aim of tax avoidance is to suppress or reduce the amount of tax that must be paid (Darmawan & Sukartha, 2014). Tax avoidance by taxpayers, especially entities, in the form of tax avoidance is indeed possible, or in this case does not conflict with applicable laws or legal provisions, because it is believed that practices related to tax avoidance are more of an exploitation or loophole or perhaps a loophole in tax code. Tax avoidance is often associated with tax planning, either using legal means to reduce or even eliminate tax obligations. Tax planning is the taxpayer's ability to manage financial activities in order to obtain minimum tax expenditure (burden) (Rioni, 2019). Tax avoidance occurs before the SKP is issued. In this tax avoidance, taxpayers do not clearly violate the law, in fact sometimes the law is clearly interpreted as not being in accordance with the aims and objectives of the legislator. Tax evasion can be classified as legal activity or illegal activity (Inkiriwang, 2017). Tax evasion is illegal if the transaction is solely for the purpose of tax avoidance or if the transaction has no real business purpose. Therefore, to prevent tax avoidance by multinational companies, most countries have anti-tax avoidance regulations. (Lingga, 2012). Taxes are a burden for companies, so it is natural that not a single company (taxpayer) is happy and willing to pay taxes (Gula & Mulyani, 2020).

The laws and regulations governing criminal and administrative provisions related to corporate taxation are regulated and described as follows:

- 1) Law Number 28 of 2007  
Law Number 28 of 2007 concerning the Third Amendment to Law Number 6 of 1983 concerning General Provisions and Tax Procedures. The KUP Law is the basis of tax law in Indonesia to determine whether a wrongful act by a Taxpayer will be subject to administrative sanctions or criminal sanctions. However, Prof. Eddy OS Hiarej is of the opinion that tax law enforcement does not have clear parameters regarding which are administrative cases and criminal acts. 10 The Asian Agri Group case is an example of law enforcement in tax cases with the imposition of criminal sanctions, the Supreme Court decided that the defendant was proven to have submitted a notification letter and /or information whose contents are continuously incorrect or incomplete. Subject to Article 39 paragraph (1) letter c of the 2000 KUP Law jo. Article 43 paragraph (1) of the 1983 KUP Law jo. Article 64 paragraph (1) of the Criminal Code. However, it is different from decision number 394/Pid.Sus/2015.PN.Plg
- 2) Law Number 36 of 2008  
Law Number 36 of 2008 concerning the Fourth Amendment to Law Number 7 of 1983 concerning Income Tax (UU PPh). The provisions of Article 18 paragraph (3) do not mention the obligation to strictly organize transfer pricing documents. In practice, many tax inspectors find that there are taxpayers who do not provide transfer pricing documents, so the legal basis for conducting an audit of alleged transfer pricing is Article 18 paragraph 3 of the Income Tax Law. To prepare transfer pricing documents, a transfer price agreement is required between the taxpayer and the Director General of Taxes. The transfer price agreement is also called an Advance Pricing Agreement which is abbreviated as APA. The provisions related to APA are regulated in Article 18 paragraph 3a. The transfer pricing agreement aims to reduce the occurrence of abusive transfer pricing practices by multinational companies. With an agreement between the Taxpayer and the Director General of Taxes, an agreement will result that includes the product selling price, royalty amount, production and operational costs, loans and other things depending on the agreement.
- 3) Government Regulation Number 80 of 2007  
Government Regulation (PP) Number 80 of 2007 concerning Procedures for Implementing Tax Rights and Obligations Based on Law Number 6 of 1983 concerning General Provisions and Tax Procedures as has been amended several times, the latest being Law Number 28 of 2007. Article 16 paragraph 2 Number 80 of 2007 stipulates that in the event that a taxpayer carries out transactions with parties who have a special relationship, the taxpayer is required to keep additional documents and/or information in addition to the books, notes and documents that are the basis for bookkeeping or recording. Storing these documents is needed to prove that taxpayers who have special relationships with other parties have applied the principles of fairness and business practice in every transfer pricing transaction. In line with Government Regulation Number 28 of 2007 (UU KUP), it has been indirectly interpreted that the obligation to prove the fairness of transactions that occur between parties who have a special relationship lies with the taxpayer. The following is the text of PP Number 80 of 2007 Article 16 paragraph 1. In the event that the Taxpayer carries out transactions with parties who have a special relationship with the Taxpayer, the obligation to keep other documents as intended in paragraph (1) includes additional documents and/or information to support that transactions carried out with parties who have special relationships are in accordance with the principles of fairness and business practice. However, PP Number 80 of 2007 does not fully discuss how to carry out transfer pricing documents, because it only provides an order or obligation that transfer pricing documents absolutely must be held for taxpayers who are included in the intended target. Meanwhile, the main point of article 16 paragraph 2 is to verify the similarity of the contents of transfer pricing documents with books, records and other documents as an obligation to be maintained as regulated in article 16 paragraph 1.
- 4) Minister of Finance Regulation Number 213/PMK.03/2016  
The Indonesian government on December 30 2016 issued Minister of Finance Regulation Number 213/PMK.03/2016 concerning Types of Documents and/or Additional Information that must be kept by Taxpayers who Conduct Transactions with Parties in Special Relationships and Procedures for Managing Them.
- 5) Minister of Finance Regulation Number 22/PMK.03/2020  
As a form of the Minister of Finance's seriousness in avoiding transfer pricing practices in Indonesia, procedures for implementing transfer pricing agreements (advance pricing agreements) were created. To correct problems in implementing rules related to transfer pricing, the Ministry of Finance issued PMK Number 22/PMK.03/2020 which regulates in detail the implementation of transfer pricing agreements between taxpayers and the Director and Director General of Taxes with government tax authorities of P3B partner countries. involving Indonesian taxpayers.
- 6) Regulation of the Director General of Taxes PER-43/PJ/2010

For the first time, Indonesia has regulated in detail how to implement transfer pricing documents in a broad, clear and detailed manner, regulated in the Director General of Tax Regulation PER-43/PJ/2010 concerning the application of the principles of fairness and business customs in transactions between taxpayers and parties who have special relationships. PER-43/PJ/2010 has regulated price determination methods, comparability analysis and transfer pricing documents. However, this regulation cannot be implemented effectively because the implementation provisions are not clear. So the government changed and improved it by issuing PER-32/PJ/2011 concerning Amendments to the Application of the Principles of Fairness and Business Practices in Transactions Between Taxpayers and Parties Who Have Special Relationships.

- 7) Regulation of the Director General of Taxes PER-32/PJ/2011  
Still in the same realm as PER-43/PJ/2010, this regulation was issued to improve the previous regulation. Even though the rules regarding transfer pricing methods are still the same, the most important changes are removing hierarchical provisions for method use, explaining comparability analysis more fully, and also regulating obligations for implementing transfer pricing documents. PER32/PJ/2011 also introduces the scope of transfer pricing between foreign taxpayers and domestic taxpayers as well as transfer pricing between domestic taxpayers.
- 8) Circular Letter of the Director General of Taxes Number SE-04/PJ.7/1993  
Circular Letter of the Director General of Taxes Number SE-04/PJ.7/1993 concerning Instructions for Handling transfer pricing cases (TP-1 Series). Issued for the purpose of assisting tax auditors in handling transfer pricing cases in terms of tax treatment.
- 9) Circular Letter of the Director General of Taxes Number: SE-50/PJ/2013  
Circular Letter of the Director General of Taxes Number SE-50/PJ/2013 concerning Technical Instructions for Audits of Taxpayers Who Have Special Relationships. Established to support the ease and uniformity of tax auditors in examining taxpayers who have special relationships for quality audits, in addition to improving SE-04/PJ.7/199.

In dealing with criminal offenses committed by corporations, the imposition of criminal liability and punishment on corporations is seen through two theories, namely vicarious liability and strict liability theories. The vicarious liability theory is a doctrine of corporate criminal liability adopted from civil law which is based on the existence of an employment relationship between the corporation and its management. When the management commits an offense that provides benefits to the company and there is no prevention effort by the corporation, then the offense can be held accountable by the corporation in which the management acts in the name of their actions. However, the imposition of responsibility is limited to the scope related to the management's work within the corporation.

Criminal liability is automatically imposed on the perpetrator if a mistake is made without looking at his inner attitude according to the theory of strict liability (absolute liability theory). As long as the perpetrator has committed an act or actus reus which is a prohibited act and knows that his action will cause harm to another party, then it is sufficient for the perpetrator to be subject to criminal sanctions by ignoring the element of mens rea. Mens rea is an inner attitude that includes malicious intent, deliberate intent, negligence or ignorance when a criminal offense is committed.

In the theory of vicarious liability, someone who has not done anything wrong can be held responsible for mistakes made by other people or what is often called "vicarious liability". Explanation in number 126 attachment 1 Law 12/2011 jo. Law 13/2022 determines that penalties for criminal acts committed by corporations are imposed on: a) Legal entities including Companies, Associations, Foundations, or Corporations, and/or b) Those who give orders to commit criminal acts or who act as leaders in committing acts. criminal.

It can be said that if there are employees who commit acts against tax law on behalf of the corporation, providing benefits to the corporation, and there is no prevention from the corporation, criminal liability will be borne by the corporation and/or management who have a high position and the authority to determine corporate policy (the directing mind and the will of the company). Criminal sanctions regulated in Articles 38, 39 and 39A of the KUP Law include criminal sanctions in the form of imprisonment, prison sentences and fines. In Article 39 and Article 39A, the perpetrator of the offense will be subject to imprisonment and a fine, so it is very possible to criminalize the corporation and its management at the same time.

Article 43 of the KUP Law also confirms that the punishment as referred to in Article 39 and Article 39A is not limited to taxpayers, taxpayer representatives, taxpayer proxies, taxpayer employees, public accountants, tax consultants, or other parties, but also to those who order the crime. , who participates in committing, advocates, or assists in committing criminal acts in the field of taxation.

Violators of the law in the field of taxation are given priority to be subject to administrative sanctions. This administrative sanction is an early warning for violators of tax law which aims to encourage tax payment compliance from the public. The state requires tax payments from the public as a source of revenue and the public has a legal obligation to pay taxes to the state so that legal issues in tax imposition are resolved persuasively



through law and administrative sanctions. Even so, it is necessary to regulate criminal sanctions so that they have a deterrent effect for perpetrators of tax offenses who do not show good faith in administrative settlements, especially for corporate taxpayers, so as not to cause greater state financial losses due to non-compliance with tax payments in the future.

Administrative sanctions are payments for losses caused by taxpayers to the state. Payment of these losses can be in the form of fines, interest and increases. The amount of sanctions imposed follows the type of violation or error committed by the taxpayer.

In the realm of taxation, not only administrative sanctions can be imposed on taxpayers who commit violations, but criminal sanctions can also be imposed. Criminal sanctions are applied if it is indicated that there has been a violation even though there is an element of unintentional action, or a crime that was intentionally committed in paying taxes. In addition, criminal sanctions are given if violations or serious mistakes are committed that can cause losses to the state. These violations and crimes can take the form of incorrect data, hiding data, falsifying data and not paying taxes. Criminal sanctions are the government's final step as an effort to enforce compliance with paying taxes.

The types of violations and criminal sanctions that apply in Indonesia are as follows:

- 1) Imprisonment for a minimum of 3 months and a maximum of 1 year with a fine of at least once and a maximum of twice the tax owed. This sanction is given to taxpayers who deliberately do not submit their SPT or submit their SPT but the contents are incorrect so that it can harm the state.
- 2) Imprisonment for a minimum of 6 years and a fine of at least 2 times and a maximum of 4 times the amount of tax owed. This is given for several violations, including: Not registering to be given a Taxpayer Identification Number (NPWP) or attempting to be confirmed as a PKP. Misusing NPWP/PKP without rights Not submitting SPT or submitting it incompletely Refusal to carry out an inspection Showing falsified books, records or other documents Not carrying out bookkeeping/recording in Indonesia Not keeping books, records or documents which are the basis for bookkeeping/recording Not making deposits taxes that have been withheld, resulting in state losses
- 3) Two criminal sanctions for a minimum of 6 years and a fine of at least 2 times and a maximum of 4 times the amount of tax owed. This is given if the taxpayer re-commits a criminal tax action before one year has passed since the completion of the criminal period.
- 4) Criminal sanctions for a minimum of 2 years and a maximum of 6 years as well as a fine of at least 2 times and a maximum of 6 times the amount of tax in the tax invoice/bupot/tax receipt. This sanction is given for several violations, including: Issuing or using tax invoices, bupot, tax busets that are not based on actual data Issuing tax invoices but they have not been confirmed as PKP
- 5) A maximum imprisonment of 1 year and a maximum fine of IDR 25 million, if the taxpayer intentionally provides false information during a tax audit.
- 6) Imprisonment for a maximum of 3 years or a fine of a maximum of IDR 75 million, if the taxpayer deliberately destroys the investigation or examination process.
- 7) Imprisonment for a maximum of 1 year with a fine of a maximum of IDR 1 billion, if the taxpayer deliberately keeps something secret during the investigation or inspection process.
- 8) Imprisonment for a maximum of 10 months and/or a fine of a maximum of IDR 800 million, if the taxpayer deliberately discloses secrets during the investigation or examination process.
- 9) The maximum penalty of imprisonment is 1 year with a maximum fine of IDR 500 million, if the taxpayer deliberately does not provide the requested data and information or misuses the data during the audit process.

Thus, tax violators, as long as the perpetrator has committed an act or *actus reus* which is an act that is prohibited and knows that his or her action causes harm to another party, then it is sufficient for the perpetrator to be subject to criminal sanctions/punishment as stated in the provisions above, ignoring the element of *mens rea*.

## **2. Are the tax criminal sanctions imposed on taxpayers the same as those in general criminal law?**

In criminal law, there are two different types of crimes, namely general crimes and special crimes. In this article, we will discuss the differences between these two types of crime.

- a. General criminal definition is a type of criminal law that includes all criminal acts regulated in criminal law, such as murder, robbery and embezzlement. Meanwhile, special criminal law is a type of criminal law that only covers certain criminal acts, such as narcotics, corruption or terrorism.
- b. General criminal subjects apply to all persons regulated in the criminal law, while special crimes only apply to subjects who commit certain criminal acts regulated in the special criminal law.
- c. Penal sanctions in general crimes are more varied, including fines, imprisonment, or even the death penalty. Meanwhile, punitive sanctions in special crimes are usually more specific, such as revocation of business permits, revocation of political rights, or detention.

General criminal law is criminal law which has been deliberately established to apply to everyone in general, while special criminal law is criminal law which has been deliberately established to apply only to certain people, for example, to members of the Armed Forces, or is a criminal law that regulates certain criminal acts only, for example, fiscal crimes. Briefly, we can also see the division between general criminal law and special criminal law with existing regulations, namely that the criminal law regulated in the Criminal Code is general criminal law, because the provisions therein apply to everyone. Meanwhile, special criminal law can be seen from statutory regulations that regulate criminal provisions outside the Criminal Code, for example the Corruption Crime Law, the Money Laundering Crime Law, and others.

Provisions of Criminal Law in the Tax Sector. There are several criminal offenses related to the field of taxation which are listed in the provisions of the old Criminal Code which were still in effect at the time this article was published and Law 1/2023 which came into effect 3 years from the date of promulgation, namely in 2026, for example:

- a. Crime of providing false information under oath (Article 242 of the Criminal Code and Article 291 of Law 1/2023)
- b. Crime of stamp falsification (Article 253 of the Criminal Code and Article 382 of Law 1/2023)
- c. Crime of document forgery (Article 263 of the Criminal Code and Article 391 of Law 1/2023)
- d. Criminal act of disclosing secrets (Article 322 of the Criminal Code and Article 443 of Law 1/2023)
- e. Crime of embezzlement (Article 372 of the Criminal Code and Article 486 of Law 1/2023)
- f. The crime of committing deception/fraudulent acts (Article 378 of the Criminal Code and Articles 492 and 495 of Law 1/2023).

From the criminal acts contained in the Criminal Code, in our view, criminal acts in the field of taxation will always be related to and include the formulation of other criminal acts, whether general or specific in nature. However, the resolution of criminal acts in the field of taxation is carried out using the legal basis of Law 6/1983 and its amendments. Tax law often stands on several legs because of its highly administrative nature. In fact, tax law is often referred to as administrative law which carries criminal threats to enforce the administrative law contained therein. This includes the provisions of Article 43A of the HPP Law which regulates criminal provisions in the form of procedures for examining evidence of the beginning of a criminal act.

So the HPP Law, which contains provisions for criminal offenses in the field of taxation, meets the qualifications as a law that has systematic specificities. So that Minister of Finance Regulation Number 177/PMK/03/2022 as a delegation regulation which regulates the procedures for examining evidence of the beginning of criminal acts in the field of taxation, is in accordance with the nature of tax criminal law itself.

Tax crimes include:

- a. misuse or unauthorized use of Taxpayer Identification Number ("NPWP")
- b. refused to carry out an inspection
- c. showing fake bookkeeping or documents
- d. not remitting taxes that have been withheld or collected so that it can cause losses in state revenue
- e. issuing and/or using fake tax invoices, proof of tax collection, proof of tax withholding, and/or proof of fake tax deposits (not based on actual transactions)
- f. attaching information whose contents are incorrect, etc.

In a criminal act, clearly knowing the criminal act that occurred is a must. The meaning and definition of several criminal acts that occur must be known, including the crime of embezzlement. Embezzlement means having goods or something that belongs to someone else but the action is not a crime. In Article 372 of the Criminal Code (KUHP) it is stated:

"Any person who intentionally violates the law owns something or wholly or partly belonging to another person, but which is within his control not because of a crime, is threatened with embezzlement, with a maximum penalty of four years or a maximum fine of nine hundred rupiah."

Criminal acts as referred to in CHAPTER XXIV of the Criminal Code are more accurately referred to as "criminal acts of abuse of rights" or "abuse of trust". Because, the essence of the criminal act regulated in CHAPTER XXIV of the Criminal Code is "abuse of rights" or "abuse of trust". Because with this mention it will make it easier for everyone to know what actions are actually prohibited and punishable by crime in these provisions.

If an object is in someone's control not because of a criminal act, but because of a legal act, for example because of storage, an agreement to safekeeping goods, and so on. Then the person who is entrusted to store and so on controls the goods for themselves unlawfully, then that person is committing "embezzlement".

Various laws in Indonesia have included corporations as the subject of criminal acts, such as the Environmental Law, Draft Criminal Code, Corruption Crime Law. Formulative policies regarding Tax Crimes are regulated in Chapter VIII concerning Criminal Provisions" Articles 38, 39, 39A, 40,41, 41A, 41B, 41C, 43,

43A. The types of tax crimes are divided into tax crimes in the form of violations (*culpa*) as unintentional acts and tax crimes in the form of crimes (*dolus*) as acts carried out intentionally.

By definition, general criminal law can be interpreted as criminal legislation and general application, which is contained in the criminal law book (KHUP), as well as all legislation that amends and adds to the Criminal Code. General criminal law is criminal law that has been deliberately formed to apply to everyone (general),

The types of crimes according to the Criminal Code, as contained in Article 10 of the Criminal Code, are divided into two types:

- a. a. The main penalties, namely: 1) Death penalty, 2) Imprisonment penalty, 3) Imprisonment penalty, 4) Fine, 5) Cover-up penalty (added based on Law Number 20 of 1946)
- b. b. Additional penalties are: 1) Revocation of certain rights, 2) Confiscation of certain items, 3) Announcement of the judge's decision.

Apart from the types of sanctions in the form of criminal law, positive criminal law also includes types of action, for example:

- a. a. Placement in a mental hospital for people who cannot be accounted for because their souls are disabled in their development or disturbed by disease. (See and as regulated in Article 44 paragraph (2) of the Criminal Code).
- b. b. For children who commit criminal acts before the age of 16. Judges can impose measures in the form of (See Article 45 of the Criminal Code but this has been revoked since Law Number 3 of 1997 concerning Juvenile Justice): 1) Returning them to their parents, guardians or custodians; or, 2) Order that the child be handed over to the government. In case (2), the child is placed in a state educational home whose administration is regulated in the Forced Education Regulations.
- c. c. Placement in state workplaces for unemployed people who are lazy to work and have no means of livelihood and disturb public order by begging, vagrancy or asocial acts.
- d. d. Disciplinary measures in the case of Economic Crimes (Article 8 of Law Number 7 Drt/1995) can take the form of: 1) Placing the convicted person's company under guardianship for a certain period of time (3 years for TPE crimes and 2 years for TPE violations). 2) Payment of security deposit for a certain time. 3) Payment of a sum of money as disgorgement of profits according to the estimates obtained. 4) The obligation to do what was neglected without right, to cancel what was done without right and to perform services to repair the consequences for each other, all at the expense of the condemned but the judge does not determine otherwise.

#### IV. CONCLUSION

In order to ensure the continuity of tax revenues as the main source of the APBN and provide fairness in business (level of playing field), the government needs to expand the tax base by increasing the number of registered taxpayers to have NPWPs and at the same time comply.

The government will continue to strive to explore tax potential (tax coverage) as optimally as possible and also increase taxpayer compliance (taxpayers' compliance). To overcome the above problems, the government carried out what is called tax reform. In this case, the government made various efforts by issuing a series of laws to change existing laws.

This is done to provide a greater sense of justice and legal certainty. The aim of improving the tax law is to intensify and intensify the imposition and collection of taxes, which is also an effort to increase the fairness of the tax burden, eliminate tax facilities that have no legal basis which will harm the national economy and close opportunities for tax avoidance (loopholes). There are still many who do not understand taxation in Indonesia.

Tax avoidance or resistance is an obstacle in tax collection, resulting in a decrease in state treasury revenues. Resistance to taxation includes active resistance and passive resistance. In Indonesian tax accounting, tax avoidance is always defined as a legal activity (for example minimizing the tax burden without violating tax avoidance tax regulations), while tax avoidance (tax fraud) is defined as an illegal activity (for example through book manipulation to reduce tax on expense accounts). The Criminal Law Against the Crime of Tax Evasion is contained in; Law Number 28 of 2007, Law Number 36 of 2008, PP Number 80 of 2007, Minister of Finance Regulation Number 213/PMK.03/2016, Minister of Finance Regulation Number 22/PMK.03/2020, Regulation of the Director General of Taxes PER-43/ PJ/2010, Regulation of the Director General of Taxes PER-32/PJ/2011, Regulation of the Director General of Taxes PER-32/PJ/2011, Circular Letter of the Director General of Taxes Number SE-04/PJ.7/1993, Circular Letter of the Director General of Taxes Number : SE-50/PJ/2013.

Thus, tax violators, as long as the perpetrator has committed an act or *actus reus* which is an act that is prohibited and knows that his or her action causes harm to another party, then it is sufficient for the perpetrator to be subject to criminal sanctions/punishment as stated in the provisions above, ignoring the element of *mens rea*.

Of the criminal acts contained in the Criminal Code, criminal acts in the field of taxation will always be related to and include the formulation of other criminal acts, whether general or specific. However, the resolution of criminal acts in the field of taxation is carried out using the legal basis of Law 6/1983 and its amendments. Tax law often stands on several legs because of its highly administrative nature. In fact, tax law is often referred to as administrative law which carries criminal threats to enforce the administrative law contained therein. This includes the provisions of Article 43A of the HPP Law which regulates criminal provisions in the form of procedures for examining evidence of the beginning of a criminal act.

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# The Effect of Liquidity, Profitability, Solvency, Activity, and Capital Structure on Company Value with Dividend Policy as an Intervening Variable in Healthcare Subsector Companies Listed on the Indonesia Stock Exchange in 2019 - 2023

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## ABSTRACT

**Purpose:** This research aims to find out the impact of the financial ratio of liquidity, profitability, solvency and capital structure on the value of the company with the policy of dividend as an intervening variable on the healthcare subsector companies listed on the Indonesian stock exchange period 2017-2019. This is a causality study that seeks cause-effect relationships between three variables: an exogenous (free or independent) variable that affects, an endogenic variable (binding or dependent) that is affected, and an intervening variable which affects the relationship between the two indirectly and not directly observable.

**Design/methodology/approach:** This researcher uses inferential quantitative methods. The research used financial reports on healthcare subsector companies listed on the Indonesian Stock Exchange in 2019, 2020, 2021, 2022 and 2023 by accessing the website [www.idx.co.id](http://www.idx.co.id), the corporate site on the research object, and sites that support the enrichment of research material. Sampling techniques used purposive sampling and produced a sample of 36 healthcare subsector companies. The source of data used in this study is annual secondary data. Data analysis using SmartPLS 3.2.9.

**Finding:** The results of the analysis showed that liquidity had a positive and significant influence on the value of the company. Results of analysis indicated that profitability had a negative and no significant impact on the company's value. The result of analysis revealed that the profitability has a negative influence and did not have a significant effect on the corporate value. There is no direct and nonsignificant influence between profitability on the company's value and the policy of dividends as the intervening variable is not proved to be mediated. The analysis results there is a positive and significant direct influence on the value of the company with the dividend policy as the intervenient variable was proven to be Mediated. There is a direct and significant positive influence among the capital structure on the corporate value with the dividend policy of the intervened variable as the mediated variable.

**Paper type:** Research paper

**Keyword:** Profitability, Liquidity, Solvability, Capital Structure, Dividend, Company Value

## I. INTRODUCTION

The healthcare industry in Indonesia has experienced significant growth in recent years. One of the main factors supporting this growth is the increase in public awareness of the importance of health as well as increasing family income. More and more people are realizing the importance of taking care of their health, and with increasing incomes, they are better able to access quality health care (Social et al ., t.t.) . A hospital is a health service institution that provides complete individual health services that provide inpatient, outpatient, and emergency services. According to the law, hospital management is divided into two, namely public hospitals and private hospitals (Bob Wahyuddin, t.t.)

Indonesia is a developing country with a population of 270 million people and has various kinds of population problems, especially population health problems. With a large population, Indonesia has significant market potential for various hospital industries. The demand for quality health services continues to increase in line with economic growth and development as well as public awareness of the importance of health (Nur Djannah

et al., 2020). The growth of hospitals in Indonesia also experienced a very rapid increase in the period 2010-2020, especially for for-profit private hospitals accompanied by an increasing trend of network/group hospitals. In the last 11 years (2010-2020), the number of hospitals in Indonesia has increased by 80% or more than 1300 hospitals from 1632 to 2943. Most of the hospitals are General Hospitals (82%), while for Special Hospitals, most of them are Maternal and Child Hospitals (RSIA), which is 67% (353/528) (ICC, 2020).

Based on research, the pandemic effect also made the financial performance of hospital issuers until the end of the third quarter look strong, with all of them able to record profits. Then RS shares became the target of investors to buy and include in the portfolio. The share price of a company is one of the indicators of the company's value in the capital market. Investors tend to be attracted to stocks from companies that have achieved good results because they are considered to have the potential to provide profitable returns. By studying these financial statements, investors can conduct a better analysis of the company's health and prospects. (Latif, 2022) (Nur'aidawati, 2018)

When viewed from the facts and explanations above, the factors that have an impact on the company's value are always an interesting topic to analyze. With the argument, that research on factors that affect the value of companies in Indonesia can provide results that are varied and contradictory to each other, so it is interesting to conduct further studies. Therefore, the author conducted a study with the title: The Effect of Liquidity, Profitability, Solvency, and Capital Structure on Company Value with Dividend Policy as an Intervening Variable in Healthcare Subsector Companies Listed on the Indonesia Stock Exchange in 2019-2023.

## **A. Literature Review**

### **1. Profitability Ratio**

The profitability ratio is used to measure the company's ability to generate profits for the company. The profitability ratio is considered to have a crucial role for the continuity of the company because the "vein" of a company will depend on the extent to which the company can make a profit.

### **2. Liquidity Ratio**

Liquidity ratio is used to measure a company's ability to pay or pay off debts or obligations on a short-term scale that must be fulfilled immediately (Sianipar et al., 2018).

### **3. Solvency ratio**

Financial performance analysis is a process of critically reviewing data, calculating, measuring, interpreting, and providing solutions to the company's finances in a certain period. Financial Performance can be assessed with several analysis tools.

### **4. Financial Ratio Analysis**

This ratio is used to measure the bank's ability to find sources of funds to finance bank activities or a measuring tool to see the bank's wealth and see the efficiency of the bank's management. The calculation of this ratio is carried out by (Sianipar et al., 2018).

### **5. Capital Structure**

Deep (Sriyani & Purwasih, 2022) Understanding the capital structure of a company is important because it reflects the way the company funds its operations. An optimal capital structure is the key to achieving maximum company value. When a company chooses a funding method, they must pay attention to the balance between risk and return. Therefore, financial management must carefully consider factors such as borrowing costs, dividend policies, and shareholder preferences to create an optimal capital structure.

### **6. Dividend Policy**

(Hauteas dan Muslichah 2019) (Sriyani & Purwasih, 2022) explained that the dividend policy is a decision on how the profits earned by the company will be decided, whether it will be held for use by the company in the future or distributed to shareholders. This dividend policy is closely related to the decision whether the company's profits will be distributed to shareholders as dividends or will be held for use in future investments.

Dividend policy is a strategic decision taken by the company's management related to the distribution of profits to shareholders. The dividend policy determines whether the profits earned by the company will be distributed to shareholders in the form of cash dividends or will be held by the company for use in business operations or for future investments (Asrini, 2020).

## II. METHODS

This research uses a quantitative approach, which is a systematic scientific approach to parts and phenomena and their relationships. The goal is to develop and use mathematical models, theories, and/or hypotheses related to the observed phenomena. This study is a causality study that looks for a cause-and-effect relationship between three variables: exogenous variables (free or independent) that affect, endogenous variables (bound or dependent) that are influenced, and intervening variables that affect the relationship between the two indirectly and cannot be directly observed. This is important to understand in order to understand the dynamics of the relationship between variables that are the focus of the research (Warsono & Zoebaedi, 2019). Based on the description above, this study relates the variables of financial ratios (liquidity, profitability, solvency, activity) and capital structure to company value with dividend policy as an intervening variable in healthcare subsector companies listed on the Indonesia stock exchange in 2019-2023. The analysis technique chosen is *Partial Least Square Path Modeling*. *Partial Least Square* has a similar modeling concept to path analysis, where both methods involve latent variables. Therefore, the determination of the minimum sample size is adapted to the concept of path analysis. Using Partial Least Square, this study can test the relationship between latent variables as well as the significance of the population parameters involved in the developed model.

The object of this research is on healthcare subsector companies listed on the Indonesia stock exchange in 2019, 2020, 2021, 2022 and 2023 by accessing the [www.idx.co.id](http://www.idx.co.id) website. This study uses a type of quantitative data, with the main data source coming from secondary data. The secondary data includes liquidity, profitability, solvency, activities, and capital structure of 11 healthcare subsector companies that are the research sample on the IDX. The population in this study is the main listed board issuers in the *healthy public* subsector listed on the Indonesia Stock Exchange from 2019, 2020, 2021, 2022, and 2023. The sample is part of the population used as the object of research. In this study, the sample was determined using the purposive sampling method.

The type of data used in this study is in the form of *time series* data with quantitative sources Siregar, 2015 in (Latif, 2022). Quantitative data is data in the form of numbers or qualitative data that is calculated (scoring). Quantitative data is in the form of numbers, in this study the quantitative data used is in the form of data related to financial statements: including information on liquidity, profitability, solvency, activities, and the company's capital structure, as well as considering dividend policies, from the period of 2019, 2020, 2021, 2022, 2023. In this study, secondary data in the form of annual annual reports and financial statements from companies downloaded from the company's official website and the official website of the Indonesia Stock Exchange (IDX) in [www.idx.co.id](http://www.idx.co.id).

This study uses the *Partial Least Square* (PLS) methodology. In an effort to process data and draw conclusions, the researcher used the *Microsoft Excel 2010* program and the *Smart PLS 3.00* program. Hypothesis testing was carried out using the *Smart PLS 3.00* program. The analysis technique in this study uses SmartPLS 3.0.0. Partial Least Square (PLS) is a powerful analysis method (Ghozali, 2006).

## III. RESULTS AND DISCUSSION

### A. Results

#### 1. Analysis of the Measurement Model (Outer Model)

The *outer model* or structural model describes the relationship between indicator blocks and their latent variables (Abdillah and Hartono, 2015:188). There are several indicators in the *analysis of the outer model*, including: construct validity test, validity of discrimination, and reliability

##### 1. Construct Validity Test

###### a. Convergent Validity Test

The convergence validity test in PLS with reflective indicators is assessed based on the *loading factor* (correlation between item score/component score and construct score) of the indicators that measure the construct. The *rule of thumb* used for convergent validity is the *outer loading* > 0.7 (Abdillah and Hartono, 2015:195). The *loading factor* value can be seen as follows:

Table 2 Results of Loading Factor Value Analysis

Variable	Measurement Item	Factor Loading	Rule	Status
Dividend	DPS	0.806	0,5	Valid

	<i>RDP</i>	<i>0.911</i>	<i>0,5</i>	<i>Valid</i>
<i>Liquidity</i>	<i>CR</i>	<i>0.953</i>	<i>0,5</i>	<i>Valid</i>
	<i>QR</i>	<i>0.960</i>	<i>0,5</i>	<i>Valid</i>
<i>Company values</i>	<i>PER</i>	<i>1.000</i>	<i>0,5</i>	<i>Valid</i>
<i>Profitability</i>	<i>ROE</i>	<i>0.842</i>	<i>0,5</i>	<i>Valid</i>
	<i>ROI</i>	<i>0.925</i>	<i>0,5</i>	<i>Valid</i>
<i>Solvency</i>	<i>DAR</i>	<i>1.000</i>	<i>0,5</i>	<i>Valid</i>
<i>Capital Structure</i>	<i>DER</i>	<i>1.000</i>	<i>0,5</i>	<i>Valid</i>

Source : Smart PLS Program 3.2.9/Self-processed (2024)

Table 2 shows the results of the validity test for 6 instruments showing valid results, because each instrument has an AVE value of more than 0.5.

**b. Reliability Test**

*Table 3 Results of Cronbach alpha analysis,*

<i>Variable</i>	<i>Cronbach's Alpha</i>	<i>rho_A</i>	<i>Composite Reliability</i>	<i>AVE</i>	<i>Status</i>
<i>Dividend</i>	<i>0.657</i>	<i>0.714</i>	<i>0.850</i>	<i>0.739</i>	<i>Reliable</i>
<i>Liquidity</i>	<i>0.907</i>	<i>0.910</i>	<i>0.956</i>	<i>0.915</i>	<i>Reliable</i>
<i>Company values</i>	<i>1.000</i>	<i>1.000</i>	<i>1.000</i>	<i>1.000</i>	<i>Reliable</i>
<i>Profitability</i>	<i>0.729</i>	<i>0.790</i>	<i>0.877</i>	<i>0.782</i>	<i>Reliable</i>
<i>Solvency</i>	<i>1.000</i>	<i>1.000</i>	<i>1.000</i>	<i>1.000</i>	<i>Reliable</i>
<i>Capital Structure</i>	<i>1.000</i>	<i>1.000</i>	<i>1.000</i>	<i>1.000</i>	<i>Reliable</i>

Source : Smart PLS Program 3.2.9/Self-processed (2024)

Table 3 shows the results of the reliability test on 6 instruments showing reliable results, because each instrument has a cronbach's alpha and composite reliability value of more than 0.70 and an AVE of more than 0.5. In the dividend variable, Cronbach's Alpha value of 0.657 is less than 0.70 but the Average Variance Extracted (AVE) value is 0.739, so the author maintains it and enters the Liable status.

**2. Structural Model Analysis (Inner Model)**

Evaluate the structural model or inner model. According to Abdillah and Hartono (2015:197), a structural model or inner model is a model that describes the relationship between latent variables and manifest variables. The analysis of this structural model was carried out by looking at the values of the coefficient of determination (R<sup>2</sup>), Goodness of Fit (GoF) and the value of Q<sup>2</sup> predictive relevance. After modifying the model to obtain the best model, the following structural model is obtained:



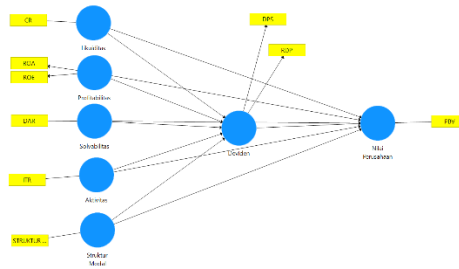


Figure 5 Structure Model

Source : Smart PLS Program 3.2.9/Self-processed (2024)

1. R Square ( $R^2$ )

The R Square value ( $R^2$ ) is a measure of the proportion of variation in the value of the variable that is affected (endogenous) that can be explained by the variable that affects it (exogenous). This is useful to see if the model is good or bad. The R Square value has several criteria, including 0.75 models are said to be substantial (strong), 0.50 models are said to be moderate (moderate), and 0.25 models are said to be weak (Ghazali, 2015). Below are the results of R-Square's analysis.

Table 4 R Square Analysis Results

Variable	R Square	R Square Adjusted
Dividend	0.509	0.430
Company values	0.699	0.636

Source : Smart PLS Program 3.2.9/Self-processed (2024)

Based on table 4 above, the Adjusted R Square magnitude is 0.430 and 0.636, this means that 43% of the Dividend can be explained by the financial performance ratio as intervening, while the rest (100% -43%) = 57% is explained by other factors outside the model; 63% of a company's value can be explained by the financial performance ratio while the rest (100%-63%) = 37% is explained by other factors outside the model.

2. Goodness of Fit

*Goodness of fit* (GoF) is used to validate the model as a whole (Yamin and Kurniawan (2011:21). The Goodness of Fit test is used to find out whether your data to measure the relationship between variables is good or not. The indicator used in this test is the model conformity test.

a. Model conformance test.

The model suitability test uses several statistical indicators including, Standardized Root Mean Square Residual (SRMR), Normed Fit Index (NFI) and RMS\_theta. To get a suitable model, the indicator must meet a value, namely SRMS < 0.08; NFI > 0.90; RMS\_theta close to zero.

Table 5 Results of Fit Model Analysis

	Saturated Model	Estimated Model
SRMR	0.066	0.094
d_ULS	0.198	0.394
d_G	0.335	0.366

Chi-Square	48.953	52.813
NFI	0.701	0.677

Source : Smart PLS Program 3.2.9/Self-processed (2024)

Based on the output, it was obtained that the SRMS value was 0.066, which was less than 0.08. In addition, the NFI value of 0.701 is less than 0.900. The RMS\_theta value was 0.313, which is close to the value of 0. From these three indicators, it can be concluded that the model formed has met the conformity criteria so that the model can be used and is good at describing the relationship between variables.

3. Q2 Value

In the context of model testing, Q2 predictive relevance is used to measure the extent to which the model is able to predict endogenous variables by considering the exogenous latent variables present in the model. If the Q<sup>2</sup> predictive relevance value is greater than 0, it indicates that the exogenous latent variable (predictor variable or explanatory variable) in the model has a good or appropriate ability to predict the observed endogenous variable (Y).

$$Q2 = 1 - (1 - R1^2) (1 - R2^2) \dots (1 - R^2)$$

$$Q2 = 1 - (1 - 0.417) (1 - 0.532)$$

$$Q2 = 1 - (0.583) (0.468)$$

$$Q2 = 0.727$$

The result of the calculation of the Q-Square value in this study is 0.727 which shows that the Q-Square value in this study is greater than 0, thus it can be concluded that the exogenous latent variable is good (appropriate) as an explanatory variable that is able to predict the endogenous variable.

Based on the results of the inner model test, it can be concluded that the structural model built in this research is robust and accurate.

4. Hypothesis Testing

Furthermore, the results of the research will be tested with a T-test using the bootstrapping method. The goal is to allow the application of freely distributed data, does not require normal distribution assumptions and does not require large samples (minimum 30 samples). There are two types of hypothesis testing with the T-test, namely partial hypothesis and simultaneous hypothesis.

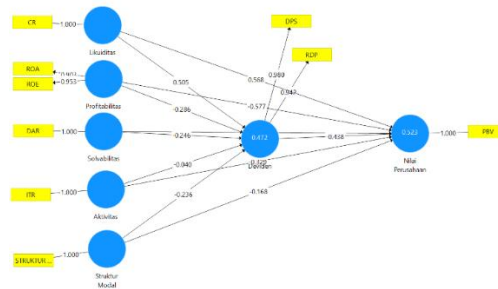


Figure 1. Direct effect empirical model

Source : Smart PLS Program 3.2.9/Self-processed (2024)

Below are the results of the direct effect analysis.

This hypothesis analysis aims to test the significance between constructs. In PLS, hypothesis testing is carried out by bootstrapping method on samples. After bootstrapping, in looking at the results of the main effect hypothesis test, it can be seen in the Path Coefficients table as follows:

*Table 6 Results of Direct Effect Analysis*

<i>Variable</i>	<i>Original Sample (O)</i>	<i>T Values</i>	<i>P Values</i>	<i>Hypothesis Statement</i>
<i>Dividends -&gt; Company value</i>	-0.368	2.342	0.019	<i>Significant</i>
<i>Liquidity &gt; Dividends</i>	-0.615	3.042	0.002	<i>Significant</i>
<i>Liquidity -&gt; Company value</i>	0.563	3.306	0.001	<i>Significant</i>
<i>Profitability -&gt; Dividends</i>	0.238	1.217	0.224	<i>Insignificant</i>
<i>Profitability -&gt; Company value</i>	0.494	1.597	0.110	<i>Insignificant</i>
<i>Solvency -&gt; Dividend</i>	-0.419	2.360	0.018	<i>Significant</i>
<i>Solvency -&gt; Company value</i>	0.563	3.263	0.001	<i>Significant</i>
<i>Capital Structure -&gt; Dividends</i>	-0.671	3.385	0.001	<i>Significant</i>
<i>Capital Structure -&gt; Company Value</i>	0.008	0.054	0.957	<i>Insignificant</i>

Source : Smart PLS Program 3.2.9/Self-processed (2024)

Based on table 6, it is the result of Path Coefficients Direct Effect which shows that Dividends have a significant positive influence on Company Value. Judging from the results of the beta coefficient test of -0.368 or -36.8% with T-values of 2,342 > 1.96 and P-values of 0.019 < 0.05. Showing that H<sub>1</sub> was accepted.

The test results show that Liquidity has a significant positive influence on Dividends. Judging from the results of the beta coefficient test of -0.615 or -61.5% with T-values of 3,042 > 1.96 and P-values of 0.002 < 0.05. Showing that H<sub>2</sub> was accepted.

The test results show that Liquidity has a significant positive influence on the Company's Value. Judging from the results of the beta coefficient test of 0.563 or 56.3% with T-values of 3,306 > 1.96 and P-values of 0.001 < 0.05. Showing that H<sub>3</sub> was accepted.

The test results show that Profitability has a negative influence on Dividends is not significant. Judging from the results of the beta coefficient test of 0.238 or 23.8% with T-values of 1,217 > 1.96 and P-values of 0.224 < 0.05. Showing H<sub>4</sub> was rejected.

The test results show that Profitability has a negative insignificant influence on the Company's Value. Judging from the results of the beta coefficient test of 0.494 or 49.4% with T-values of 1,597 > 1.96 and P-values of 0.110 < 0.05. Showing H<sub>5</sub> is rejected.

The test results show that Solvency has a significant positive influence on Dividends. Judging from the results of the beta coefficient test of -0.419 or 41.9% with T-values 2,360 > 1.96 and P-values 0.018 < 0.05. Showing that H<sub>6</sub> was accepted.

The test results show that Capital Structure has a significant positive influence on Devident. Judging from the results of the beta coefficient test of -0.671 or 67.1% with T-values of 3,263 > 1.96 and P-values of 0.001 < 0.05. Showing that H<sub>7</sub> was accepted.

The test results show that Solvency has a significant positive influence on Dividends. Judging from the results of the beta coefficient test of 0.563 or 56.3% with T-values of 3,385 > 1.96 and P-values of 0.001 < 0.05. Showing H<sub>8</sub> received.

The test results show that Solvency has a significant positive influence on the Company's Value. Judging from the results of the beta coefficient test of 0.008 or 00.8% with T-values 0.054 > 1.96 and P-values 0.957 < 0.05. Showing that H<sub>9</sub> was rejected.

5. Specific Indirect Effect Value

*Table 7 Results of Specific Indirect Effect Analysis*

<i>Variable</i>	<i>Original Sample (O)</i>	<i>T Values</i>	<i>P Values</i>	<i>Hypothesis Statement</i>
<i>Liquidity -&gt; Dividends -&gt; Company value</i>	<i>0.226</i>	<i>2.077</i>	<i>0.038</i>	<i>Significant</i>
<i>Profitability -&gt; Dividends -&gt; Company value</i>	<i>-0.088</i>	<i>1.131</i>	<i>0.258</i>	<i>Insignificant</i>
<i>Solvency -&gt; Dividends -&gt; Company value</i>	<i>0.154</i>	<i>2.045</i>	<i>0.041</i>	<i>Significant</i>
<i>Capital Structure -&gt; Dividends -&gt; Company value</i>	<i>0.247</i>	<i>2.181</i>	<i>0.029</i>	<i>Significant</i>

*Source : Smart PLS Program 3.2.9/Self-processed (2024)*

The results of the bootstrapping test from the PLS analysis on the Specific Indirect Effects table are as follows:

The results of the test by bootstrapping from the PLS analysis on the Specific Indirect Effects table Based on the results of Table 7. shows that liquidity has a significant positive influence on the company's value through Dividends. Judging from the beta coefficient test value of 0.226 or 22.6% with T-values 2,077 > 1.96 and P-values 0.038 < 0.05. So H10 is accepted.

The test results show that Profitability does not have a significant positive influence on the company's value through Dividends. Judging from the beta coefficient test value of -0.088 or 08.8% with T-values of 1,131 > 1.96 and P-values of 0.258 < 0.05. H11 was rejected.

The test results show that Solvency has a significant positive influence on the company's value through Dividends. Judging from the beta coefficient test value of 0.154 or 15.4% with T-values of 2,181 > 1.96 and P-values of 0.041 < 0.05. H12 accepted.

The test results show that Capital Structure has a significant positive influence on the company's value through Dividends. Judging from the beta coefficient test value of 0.247 or 24.7% with T-values of 2,045 > 1.96 and P-values of 0.029 < 0.05. H13 accepted.

**IV. CONCLUSION**

Based on the research on "The Effect of Liquidity, Profitability, Solvency, and Capital Structure on Company Value with Dividend Policy as an Intervening Variable in Healthcare Subsector Companies Listed on the Indonesia Stock Exchange in 2019 – 2023", the following conclusions can be drawn:

- 1). Dividend policy has a positive and significant effect on the company's value. So that the first hypothesis (H1) is accepted, meaning that the higher the Dividend value, the higher the company's value.
- 2). Liquidity has a positive and significant effect on dividend policy. So the second hypothesis (H2) is accepted, meaning that a company's ability to meet its short-term obligations in a timely manner. The higher the amount of current assets against current liabilities, the greater the confidence that the current liabilities will be paid, which will have a positive impact on the increase or the amount of dividends received.
- 3). Liquidity has a positive and significant effect on the company's value. So that the first hypothesis (H3) is accepted, meaning that the shorter and more timely in fulfilling obligations, the more the company's value will increase.
- 4). Profitability has a negative and insignificant effect on dividend policy, meaning that the company's ability to generate profit from its revenue has no effect on dividend policy. So that the first hypothesis (H4) is accepted
- 5). Profitability has a negative and insignificant effect on the company's value. So that the first hypothesis (H5) is accepted, meaning that the size of profitability cannot affect the value of the company or cannot be a benchmark in the value of the company.
- 6). Solvency has a positive and significant effect on dividend policy. So that the first hypothesis (H6) is accepted
- 7). Solvency has a positive and significant effect on the company's value. So that the first hypothesis (H7) is accepted
- 8). capital structure has a positive and significant effect on dividend policy. So the first hypothesis (H8) is accepted
- 9). Capital structure has a positive and significant effect on the company's value. So the first hypothesis (H9) is

accepted 10). Liquidity has a positive and significant effect on the company's value through dividend policy. So the first hypothesis (H10) is accepted 11). Profitability has a positive and significant effect on the company's value through dividend policy. So the first hypothesis (H11) is accepted 12). Solvency has a positive and significant effect on the company's value through dividend policy. So the first hypothesis (H12) is accepted 13). Capital structure has a positive and significant effect on the company's value through dividend policy. So the first hypothesis (H13) is accepted.

### A. Suggestions

Based on the results of the analysis and discussion that has been carried out, the author can provide suggestions for further research so that

obtain even better research results in the future. Among them are the following:

- a. There are many other variables that can be used as indicators in explaining variables such as Tobins-Q, PER, and so on to explain the company's value. Dividend Yield to explain the dividend policy. GPM, NPM, and others to explain profitability. Net working to capital ratio, cash ratio, and so on to explain liquidity. Long term to debt equity ratio and so on to explain solvency, so that it can affect the results of the analysis in the study.
- b. The observation period is relatively short, namely 5 (five) years so that further research can add an even longer observation period.
- c. Model Development: Conducting model development taking into account additional factors that may affect dividend policy and company value in the healthcare sector.
- d. Increase in Sample and Study Period: Expand the number of company samples and extend the study period to obtain more representative and accurate results.
- e. Advanced Analysis: Perform advanced analysis such as mediation analysis or influence analysis between variables to better understand the relationships between more complex variables.
- f. Addition of Control Variables: Adding relevant control variables such as company size or managerial characteristics to correct for better research results.
- g. Application of Other Methods: Consider the application of other analysis methods that may be more suitable for the data and objectives of this study.

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# Sedimentation and Mitigation Strategies to Maintain Benanga Dam Capacity, North Samarinda

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## ABSTRACT

**Purpose:** Benanga Dam, located in Lempake, North Samarinda, East Kalimantan, plays a crucial role in controlling water flow and storage. Initially designed with a capacity of 1.6 million cubic meters, the dam's capacity has significantly reduced to approximately 500,000 cubic meters due to sedimentation over time, exacerbated by human activities such as illegal mining and deforestation in the upstream areas. This sedimentation has not only decreased the dam's capacity but also increased flood risks in the Karang Mumus River Basin, as evidenced by severe flooding events in recent years.

**Design/methodology/approach:** To address this issue, a bathymetric survey using echosounder technology was conducted to assess the current state of the dam's capacity.

**Findings:** The survey results from 2018 and 2022 reveal an increase in reservoir volume by 111,941 cubic meters, attributed to dredging activities in 2021 by the Ministry of Public Works and Housing. However, ongoing sedimentation, estimated at 27,985 cubic meters per year, poses a significant threat to the dam's capacity. Without effective mitigation strategies, it is projected that the reservoir will reach its normal water level elevation of +7.2 meters within 7 to 8 years. This study underscores the urgent need for regular contour measurements and dredging efforts to maintain the dam's functionality and mitigate flood risks in the surrounding areas.

**Paper type:** Research Paper

**Keyword:** *Benanga Dam, Sedimentation, Capacity Reduction and Flood Risk*

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## I. INTRODUCTION

Benanga Dam, located in Lempake, North Samarinda, East Kalimantan, is a vital infrastructure for controlling and storing water. Originally designed with a capacity of 1.6 million cubic meters, the dam has experienced a significant reduction in capacity to approximately 500,000 cubic meters (Liana, U.W.M, et al., 2023). This decline is primarily due to sedimentation over time (Santoso, 2015). Sedimentation is often driven by human activities such as illegal mining and deforestation in the surrounding areas. The forests upstream of the dam play a crucial role in filtering water before it reaches the dam, but deforestation has led to direct water flow from upstream into the reservoir. This reduction in the dam's storage capacity has become a critical issue, threatening the sustainability and optimal functioning of this infrastructure.

The situation is particularly concerning for residents living in the Karang Mumus River Basin. The high water levels in the dam, which overflow into the Karang Mumus River, have caused flooding in nearby residential areas. A notable flood in June 2019 inundated several neighborhoods across three districts, affecting 56,000 people and leading the Samarinda city government to declare a two-week emergency response. Similar incidents occurred in December 2019 when heavy rainfall caused the dam's water level to reach a critical point, resulting in prolonged flooding in several areas.

Benanga Dam covers a large area, originally spanning 200 hectares, but its effective area has now reduced to less than 100 hectares due to activities like land clearing for housing and mining upstream. These activities have contributed to the dam's siltation and reduced its water storage capacity. The dam now only reduces flood volume by about 10 percent.

To address these challenges, it is essential to regularly monitor the dam's contour and capacity. In 2022, the government responded to this need by initiating a program for water resource management, including bathymetric analysis and measurements at Benanga Dam. This study aims to analyze the impact of sedimentation on Benanga Dam's capacity and propose effective mitigation strategies to minimize the negative effects and ensure the dam's continued functionality

## II. METHODS

### A. Study Location

The research was conducted at Benanga Dam, located in Lempake, North Samarinda, East Kalimantan. This dam is critical for water management, particularly in controlling flood risks in the Karang Mumus River Basin.



Fig. 1. The research location.

### B. Bathymetric Survey

A bathymetric survey was carried out to determine the depth and contour of the reservoir, providing insights into sediment accumulation. The survey employed an echosounder device, specifically the GARMIN GPSMAP 585Plus model. This device measures water depth by emitting ultrasonic waves from the surface to the bottom of the reservoir and receiving the reflected waves back to the transducer.



Fig. 2. Bathymetry Recording Process at Study Location

**C. Equipment and Data Collection**

Echosounder: The echosounder works by emitting ultrasonic pulses vertically from the surface of the water to the reservoir bed. The time taken for the pulses to travel down and back is used to calculate depth using the following formula (Poerbandono, 2005):

$$d = v \cdot t$$

where:

$d$  is the depth (in meters),

$v$  is the speed of sound in water (in meters per second), and

$t$  is the time for the ultrasonic pulse to travel to the bottom and back (in seconds).

The speed of sound in water ( $v$ ) typically ranges from 1,480 to 1,530 m/s depending on factors such as temperature, salinity, and pressure (Urlick, 1983).

Table 1. Raw Data of Bathymetry Measurements of Study Locations

NO	Y	X	Z	POINT_ID
1	521551.555	954806.928	9.613	"BM"
2	521551.555	955020.264	-6.6543	"Bathimetri 1"
3	521551.555	9954936.412	-6.7085	"Bathimetri 2"
4	521556.531	9954936.9	-6.5701	"Bathimetri 3"
5	521561.507	9954937.389	-6.2883	"Bathimetri 4"
6	521566.483	9954937.878	-6.3208	"Bathimetri 5"
7	521571.287	9954939.243	-6.2238	"Bathimetri 6"
8	521585.655	9954943.55	-6.4194	"Bathimetri 7"
9	521590.445	9954944.986	-6.3246	"Bathimetri 8"
10	521595.234	9954946.421	-6.2389	"Bathimetri 9"

GPS (Global Positioning System): Integrated with the echosounder, the GPS records the precise coordinates (latitude and longitude) of each depth measurement, which is crucial for creating an accurate bathymetric map.

Survey Boat: A small boat was used to follow predetermined transects across the reservoir, ensuring that depth measurements were taken systematically.

**D. Survey Procedure**

Transect Planning: The reservoir was divided into several transects, which are planned paths across the water surface. The survey boat followed these transects, taking depth measurements at regular intervals.

Data Recording: As the boat traveled along each transect, the echosounder continuously recorded water depths, while the GPS logged the corresponding coordinates, resulting in a dataset containing  $X$  (longitude),  $Y$  (latitude), and  $Z$  (depth) values.

Data Processing: The collected data were processed to create a bathymetric map of the reservoir. This map showed the current contours of the reservoir bed, highlighting areas with significant sediment deposition.





*Fig. 3. Location Bathymetric Recording Flow Map*

### **E. Sediment Accumulation Analysis**

To analyze sediment accumulation, the bathymetric data from the 2022 survey was compared with data from a previous survey conducted in 2018. The volume of sediment deposited over the four years was calculated using the following method (Demers, 2002):

$$\text{Sediment Volume} = \text{Initial Volume} - \text{Final Volume}$$

The sedimentation rate was then determined using the formula:

$$\text{Sedimentation Rate} = \frac{\text{Sediment Volume}}{\text{Time Period}}$$

This rate was used to project future sedimentation impacts on the dam's capacity and to estimate when critical levels of sedimentation might occur.

## **III. RESULTS AND DISCUSSION**

### **A. Bathymetric Survey Findings**

The bathymetric survey of Benanga Dam, conducted in 2022, revealed significant changes in the reservoir's depth profile compared to the previous survey in 2018. The data indicated an increase in reservoir volume by 111,941 m<sup>3</sup>, largely due to sediment dredging efforts carried out in 2021 by the Ministry of Public Works and Public Housing. Despite this increase, the dam's capacity remains substantially lower than its original design capacity of 1.6 million m<sup>3</sup>, currently holding only about 500,000 m<sup>3</sup>.

### **B. Sedimentation Analysis**

The comparison between the 2018 and 2022 bathymetric surveys indicated a consistent rate of sedimentation in the reservoir. The estimated sedimentation rate was calculated to be approximately 27,985 m<sup>3</sup> per year. This rate is alarming, as it suggests that, without ongoing and effective dredging, the dam's storage capacity will continue to diminish rapidly.

The sedimentation is primarily caused by upstream human activities, including illegal mining and deforestation. These activities have increased the amount of sediment entering the dam, leading to a faster rate of siltation. The deforestation in the catchment area, in particular, has reduced the natural filtration capacity of the land, allowing more sediment to be washed into the reservoir during rainfall.

### **C. Impact on Dam Functionality**

The reduction in the dam's capacity has significant implications for its ability to manage water flow and prevent flooding. The diminished storage volume means that Benanga Dam can only reduce flood risks by about 10%, far less than its intended capacity.

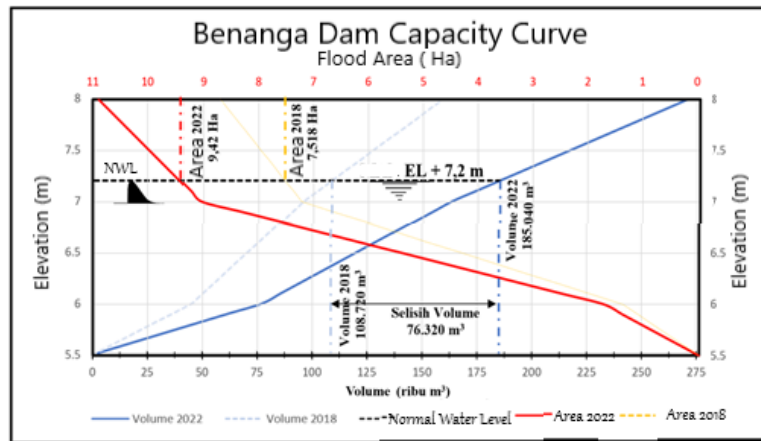


Fig. 4. Benanga Dam Capacity Curve, 2018 and 2022

This reduced functionality was evident during the severe floods of June 2019, when the dam’s inability to hold back water contributed to widespread flooding in the Karang Mumus River Basin, affecting 56,000 residents and causing significant damage across three districts.

The analysis also suggests that if the current rate of sedimentation continues unchecked, the reservoir will reach critical levels of siltation within the next 7 to 8 years. At this point, the water level could rise to the normal water surface elevation of +7.2 meters, severely compromising the dam's flood mitigation capabilities.

#### D. Mitigation Strategies

To address these challenges, it is crucial to implement effective sediment management strategies. The key recommendation is to establish a regular dredging schedule that corresponds with the observed sedimentation rate of 27,985 m<sup>3</sup> per year. By removing this volume of sediment annually, it may be possible to maintain the current capacity of the dam and prevent further reduction in its effectiveness.

In addition to dredging, upstream land management practices need to be improved. Reforestation efforts in the catchment area, combined with strict regulations against illegal mining and land clearing, could significantly reduce the amount of sediment entering the reservoir. These actions would not only protect the dam’s capacity but also contribute to the overall health of the watershed.

#### E. Long-term Considerations

The results of this study underscore the importance of proactive management of the Benanga Dam and its catchment area. Regular monitoring of sediment levels and the implementation of sustainable land use practices are essential to ensure the long-term functionality of the dam. Without these measures, the dam’s capacity will continue to decline, leading to increased flood risks and potential damage to the surrounding communities.

The study also highlights the need for ongoing research and adaptive management strategies to respond to changes in sedimentation rates and other environmental factors. As the region continues to develop, it is vital to balance economic activities with the preservation of critical infrastructure like Benanga Dam.

After undergoing the measurement data processing, the catchment area and runoff coefficient were successfully derived. The visualization of both the catchment area and runoff coefficient can be observed in Figure 2, while detailed results are elaborated in Tables 1 and 2.

### IV. CONCLUSION

Benanga Dam plays a crucial role in water management and flood control in Samarinda, but sedimentation has significantly reduced its capacity over the years. Human activities, such as illegal mining and deforestation, have accelerated this sediment accumulation, leading to a drastic decline in the dam's effectiveness. As a result, the dam can now only mitigate about 10% of potential flood risks, far below its original design capacity. To prevent further deterioration, regular dredging and improved land management practices in the dam's catchment area are essential. Without these interventions, the dam's functionality will continue to decline, posing increased risks to the surrounding communities

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# Analysis of Profitability, Liquidity, and Activity to Optimize Company Value with Capital Structure as an Intervening Variable in Metal and Mineral Manufacturing Companies Listed on the Indonesia Stock Exchange for the 2018 - 2023 Period

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## ABSTRACT

**Purpose:** An increase in company value reflects the achievement of better overall financial performance, which is the hope of company owners and attractive to investors. This research aims to analyze the influence of profitability, liquidity and activity on company value with capital structure as an intervening variable in metal and mineral sub-sector manufacturing companies, which are listed on the Indonesia Stock Exchange for the period 2018 to 2023.

**Design/methodology/approach:** This research uses a quantitative approach for 7 companies from 20 manufacturing companies in the metal and mineral sub-sector, which are listed on the Indonesia Stock Exchange. The data was processed using the SEM-PLS technique. The research data is secondary data, the company's financial reports on the official website [www.idx.co.id](http://www.idx.co.id) and the company website. The variables used are Profitability (X1), Liquidity (X2), Activity (X3), Capital Structure (Z) and Company Value (Y).

**Findings:** The research results show that profitability directly has a positive and significant influence on company value, liquidity is directly positive and not significant on company value. The activity ratio directly has a negative and insignificant effect on company value. Profitability has a negative and insignificant effect on capital structure. Liquidity has a negative and significant effect on capital structure. Activity Ratios have a positive and significant effect on capital structure. Capital structure has a positive but not significant influence on company value. Profitability and liquidity on company value through capital structure are negative and insignificant. The activity ratio's effect on firm value through capital structure is positive and not significant. The findings of this research indicate the importance of profitability in a strategy to increase company value with liquidity, activity and capital structure as supporting factors that must be managed carefully and carefully.

**Research limitations/implications:** This research is limited to metal and mineral sub-sector manufacturing companies listed on the Indonesian Stock Exchange for the period 2018 to 2023. For generalization so that further research can be carried out on other sub-sector manufacturing companies.

**Practical implications:** The results of this research can be used as a reference for increasing company value as a reflection of achieving better overall financial performance in manufacturing companies in the metal and mineral sub-sector.

**Originality/value:** The research results explain that among the variables are profitability, liquidity, activity ratio and capital structure can be optimally applied to increase company value in the metal and mineral industry.

**Paper type:** This paper can be categorized as research paper

**Keywords:** Profitability, Liquidity, Activity, Capital Structure, Company Value.

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## I. INTRODUCTION

Company value is a value that can be used to measure how important a company is from the perspective of several parties, such as investors who relate the value of a company to its share price (Norisanti & Danial, 2022). Company value provides an overview of certain conditions that have been achieved by a company as a form of public trust in the company after going through a process of activities for several years since the company was founded until now. A good company value proves that the company is able to fulfill all its obligations, so creditors will feel more confident in providing loans because this can minimize risk (Santoso & Widjaja, 2022).

An optimal capital structure can help a company increase profitability, liquidity and activity. Therefore, capital structure can be an intervening variable that influences the relationship between profitability, liquidity and activity on company value. The indicator for measuring company value in this research uses price to book value (PBV) because this ratio is more appropriate to use for making investment decisions. This research aims to determine the effect of profitability, liquidity, activity and capital structure on company value in metal sub-sector manufacturing companies. and minerals for the 2018 – 2023 period which are listed on the Indonesia Stock Exchange (IDX). The data research technique uses the Structural Equation Model (SEM) method using Partial Least Square (PLS).

Capital structure is an important issue for companies because good or bad capital structure will have a direct effect on the company's financial position which will ultimately affect the value of the company. Determining the capital structure will have a broad impact, especially if the company uses too much debt, then the fixed burden that the company must bear will be even greater. Capital structure is a source of long-term funds used by a company. The aim of capital structure management is to combine permanent funds used by the company in a way to maximize company value (Ni Putu Ari Aryawati, SE. et al., 2022).

Profitability is the ability of a company to obtain profits either from the sale of the company's investments or by (Purwohandoko, 2017). A business that can gain profits and achieve predetermined goals means that management functions can be carried out optimally.

Liquidity is the ability of a company to meet financial obligations that must be fulfilled immediately. Company liquidity is the company's ability to at any time provide the means of payment needed to pay off obligations that are due soon (Syaifuddin, 2008).

The activity ratio is a ratio that measures a company's ability to use available funds which is reflected in capital turnover. With this ratio, it can be measured how effective the company is in utilizing its capital generate profits (Syaifuddin, 2008). This ratio is also known as the asset utilization ratio, which is a ratio used to assess the effectiveness and intensity of company assets in generating sales.

The companies that are the subjects of this research are seven metal and mineral manufacturing companies listed on the Indonesia Stock Exchange for the 2018-2023 period. These companies are PT. Alakasa Industrindo Tbk. (ALKA), which operates in the aluminum sector; PT. Betonjaya Manunggal Tbk. (BTON) and PT. Steel Pipe Industry of Indonesia Tbk. (ISSP), which produce steel and steel pipes; PT. Aneka Tambang Tbk. (ANTM) and PT. Vale Indonesia Tbk. (INCO), major players in nickel and gold mining; PT. Cita Mineral Investindo Tbk. (CITA), which focuses on bauxite mining; and PT. Tembaga Mulia Semanan Tbk. (TBMS), which manufactures copper wire and cable. These companies play a crucial role in supporting the metal and mineral supply chain in Indonesia.

This research aims to analyze the influence of profitability, liquidity and activity on company value with capital structure as an intervening variable in metal and mineral sub-sector manufacturing companies, which are listed on the Indonesia Stock Exchange (IDX) for the period 2018 to 2023.

### A. Literature Reviews and Hypotheses

#### 1. Profitability

Profitability is the ability of a company to gain profits either from the sale of company investments or by utilizing its funding sources, both internal and external (Purwohandoko, 2017). Company profitability is one of the bases for assessing the condition of a company, so an analytical tool is needed to be able to assess it. The analytical tool in question is financial ratios obtained from the company's financial reports. In this research, the profitability ratios used are return on assets (ROA) and return on equity (ROE).

- a. Return on assets (ROA) is a ratio that describes the extent to which the company's assets can generate profits. ROA shows the company's ability to use all its assets to generate profits after tax. The formula for calculating ROA is as follows:

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Aset}}$$

- b. Return on equity (ROE) is a ratio to measure a company's effectiveness in generating returns for investors. ROE is a ratio that describes how effectively management uses equity capital to generate revenue and profit growth. The formula for calculating ROA is as follows:

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Equity}}$$

## 2. Liquidity

According to Irham Fahmi (2012:65) The liquidity ratio is the ability of a company to fulfill its short-term obligations in a timely manner. In general, there are 2 (two) liquidity ratios, namely the current ratio and the quick ratio (acid test ratio).

- a. The current ratio or current ratio is a commonly used measure of short-term solvency, the ability of a company to meet debt needs when they mature. The formula for calculating the current ratio is as follows:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

- b. The quick ratio (acid test ratio) is often referred to as the quick ratio. The quick ratio is a more rigorous measure of short-term solvency than the current ratio because the numerator eliminates inventory which is considered a slightly illiquid current asset and a possible source of losses. The formula for calculating the quick ratio is as follows:

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventories}}{\text{Current Liabilities}}$$

## 3. Activity ratio

The activity ratio is a ratio used to measure the level of efficiency in utilizing the company's resources.

- a. Total asset turnover (TATO) is a ratio used to measure how many sales will be generated from each rupiah of funds embedded in total assets. The formula for calculating TATO is as follows:

$$\text{Total asset turnover} = \frac{\text{Net Sales}}{\text{Total Assets}}$$

- b. Inventory turnover ratio (ITR) is a financial ratio that shows how often a company's inventory is sold and replaced within a certain period, usually one year. This ratio helps in measuring the efficiency of a company's inventory management. The formula for calculating ITR is as follows:

$$\text{Inventory turnover rasio} = \frac{\text{Cost of Goods Sold (COGS)}}{\text{Average Inventory}}$$

## 4. Company Value

The value of a company is one indicator that measures the company as a whole. The value of the company is an attraction for investors, if the value is high then the market will be more confident in its performance and can guarantee the sustainability of shareholder interests (Adiputra & Hermawan, 2020).

Company value is measured using price to book value (PBV), which is a comparison of the book value of shares with their market price. The book value per share is equal to the common stock equity divided by the number of common shares outstanding. The formula for calculating Company Value is as follows:

$$\text{Price to Book Value} = \frac{\text{Market Price per Share}}{\text{Book Value per Share}}$$

## 5. Capital Structure

Capital structure is the ratio or balance of a company's long-term funding as shown by the ratio of long-term debt to its own capital (Norisanti & Danial, 2022). The aim of capital structure is to determine the proportion of the combination of funding sources used, in order to maximize company value. The combination of funding sources is divided into two types, namely capital originating from within the company and capital originating from outside the company. Capital originating from within the company is an internal source of funds in the form of retained earnings, while capital originating from outside the company is an external source of funds in the form of debt (Nasrah & Resni, 2020).

Capital structure in this research is used as a variable that intervenes in company value. Capital structure is equity and debt funding in a company. The capital structure is proxied by the debt to equity ratio (DER), which if it shows the lower the debt to equity ratio, the better because it is safe for creditors during liquidation. There is no limit to what debt to equity ratio is safe for a company, but to be conservative, usually a debt to equity ratio that exceeds 66% or 2/3 is considered risky. The formula for calculating capital structure (DER) is as follows:

$$\text{Debt to Equity Ratio (DER)} = \frac{\text{Total Liabilities}}{\text{Shareholders' Equity}}$$

## II. METHODS

This research approach uses a quantitative method approach, the research object is 7 manufacturing companies in the metal and mineral sub-sector for 6 years from 2018 - 2023 that meet the sample requirements and criteria, namely consistently fulfilling financial reports and generating profits every year. The data source comes from financial reports published online on [www.idx.co.id](http://www.idx.co.id) and the company's official website. The analysis technique used is structural equation modeling (SEM). The calculation process and presentation of the analysis report uses Smart Partial Least Squares (PLS) research analysis with the SEM PLS version 3 application.

### A. Research Conceptual Framework

The research conceptual framework for analyzing the optimization of company value through profitability, liquidity, activity and capital structure ratios is as shown in Figure 1, the following model:

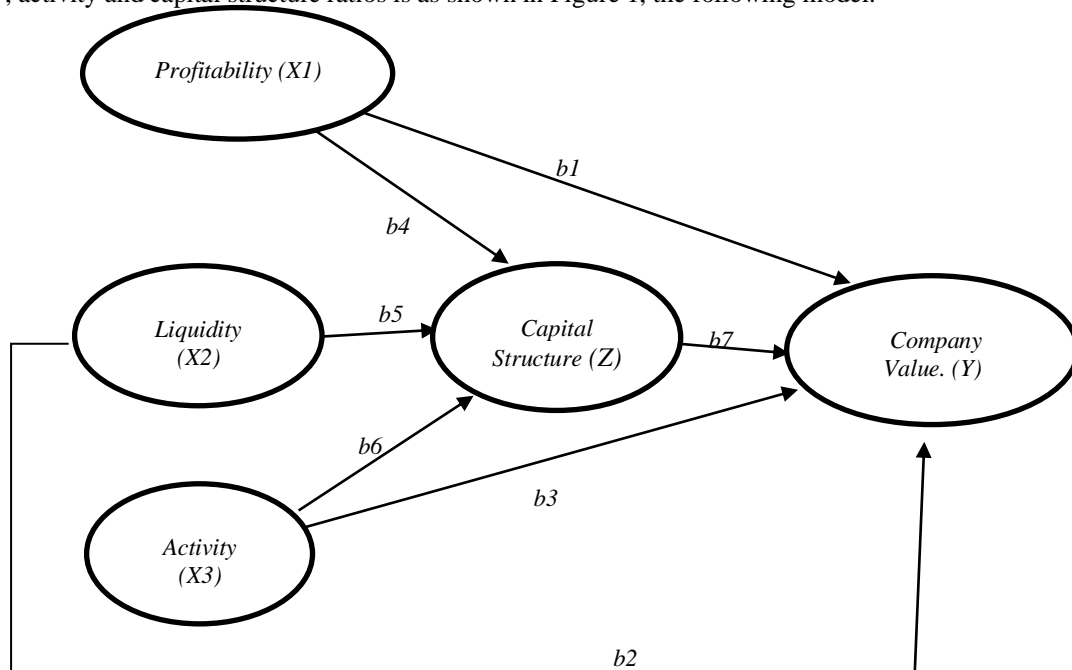


Figure 1: Research Model Framework

Mathematical equations in structural models are based on the relationships between variables and the path coefficient values for each relationship between variables. By using the relationship between variables and path coefficient notation, the mathematical equation of the research model is as follows:

a. Structural Equation 1

$$\text{Company Value (Y)} = b_1 X_1 + b_2 X_2 + b_3 X_3 + b_7 Z + e_1$$

b. Structural Equation 2

$$\text{Capital Structure (Z)} = b_4 X_1 + b_5 X_2 + b_6 X_3 + e_2$$

Information :

X1 = Profitability Variable

X2 = Liquidity Variable

X3 = Activity Variable

Z = Capital Structure Variable

Y = Company Value Variable

### B. Hypothesis

#### 1. The Effect of Profitability on Company Value

The profitability ratio measures a company's ability to generate profits using its resources such as assets, capital or sales (Siswanto, 2021). Companies that have high profitability will have a high effect on company value.

Several previous studies stated that the Return on Assets (ROA) variable had a significant positive effect on company value (Krisnando, 2019); profitability variables have a positive and significant effect on company value (Indriyani, 2017); return on equity has a positive and significant effect on price to book value by (Raprayogha,

2020); The profitability variable contributes significantly positively to company value (Ariosafira & Suwaidi, 2022). So, the hypothesis proposed is as follows:

H1: Profitability has a significant effect on company value.

## **2. The Effect of Liquidity on Company Value**

Liquidity ratios are ratios used to measure a company's ability to meet short-term (current) financial obligations that are due in less than a year (Siswanto, 2021). Companies with a high level of liquidity are considered better able to face financial difficulties and meet their short-term debt obligations. This can increase investor confidence, which in turn can increase the company's market value.

Several previous studies stated that liquidity has a positive and significant effect on company value (Uli et al., 2020); (Asih et al., 2019); (Patricia et al., 2018); Meanwhile, research conducted by (Agustin Ekadjaja, 2021) states that liquidity has a negative and significant effect on company value. So, the hypothesis proposed is as follows:

H2: Liquidity has a significant effect on company value.

## **3. The Effect of Activity Ratios on Company Value**

Activity Ratio or asset management measures the effectiveness and efficiency of managing company assets (Siswanto, 2021). A strong activity ratio reflects efficient operations, effective asset management and good cost control. All of these factors provide positive signals to the market and investors, which can ultimately increase the value of the company.

Several previous studies stated that the activity ratio (TATO) has a significant effect on company value (Noviyanti & Ruslim, 2021); The activity variable contributes significantly positively to company value (Ariosafira & Suwaidi, 2022). So, the hypothesis proposed is as follows:

H3: Activities have a significant effect on company value.

## **4. The Effect of Profitability on Capital Structure**

Profitability is a company's ability to generate profits from its operations. The level of profitability has a significant influence on capital structure, namely the combination of debt and equity that a company uses to finance its operations.

Several results of previous research conducted by (Pardede & Hwihanus, 2024) show that profitability has a negative and insignificant effect on capital structure. Meanwhile, research conducted by (Watung et al., 2016); (Norisanti & Danial, 2022); (Dewi & Sudiarta, 2017) which states that profitability has a significant positive effect on capital structure. So, the hypothesis proposed is as follows:

H4: Profitability has a significant effect on capital structure.

## **5. The Effect of Liquidity on Capital Structure**

Liquidity, which refers to a company's ability to meet its short-term obligations, has an important influence on the company's capital structure, namely the proportion of debt and equity used to finance the company's operations and investments.

Several previous research results state that liquidity has a negative and significant effect on capital structure, research conducted by (Uli et al., 2020); (Watung et al., 2016); (Nurwulandari, 2021). So, the hypothesis proposed is as follows:

H5: Liquidity has a significant effect on capital structure.

## **6. The Effect of Activity Ratios on Capital Structure**

A high activity ratio generally supports a healthier and more balanced capital structure, with an emphasis on using internal funding and reducing dependence on debt.

Several previous research results state that the activity ratio has a negative and significant influence on capital structure, namely research from (Resita & Susetyo, 2022); (William, 2022), So, the hypothesis proposed is as follows:

H6: Activity has a significant effect on capital structure.

## **7. The Effect of Capital Structure on Company Value**

The optimal capital structure is one that balances risk and return, minimizes the cost of capital, and maximizes firm value

Some of the results of previous research are research conducted by (Pangesti et al., 2020); (Heven Manoppo, 2016); (Vernando & Erawati, 2020); (Asih et al., 2019); states that capital structure has a positive and significant effect on company value. So, the hypothesis proposed is as follows:

H7: Capital structure has a significant effect on company value.



**8. The effect of Profitability on Company Value through Capital Structure as an intervening variable.**

Profitability is one of the key factors that influence company value, and its influence can be strengthened or mediated through the company's capital structure.

Research conducted by (Mubyarto, 2020) Profitability as proxied by Return on Assets (ROA) on Company Value through capital structure as a mediator is positive and significant. So, the hypothesis proposed is as follows:

H8: Profitability has a significant effect on company value through capital structure as an intervening variable.

**9. The Effect of Liquidity on Company Value through Capital Structure as an intervening variable**

Liquidity has an important influence on company value through capital structure. Good liquidity allows companies to maintain a more conservative and balanced capital structure, reduce dependence on debt, and exploit investment opportunities more efficiently.

Previous research conducted by (Asih et al., 2019) stated that the effect of liquidity on company value through capital structure is negative and significant. So, the hypothesis proposed is as follows:

H9: Liquidity has a significant effect on company value through capital structure as an intervening variable.

**10. The Effect of Activities on Company Value through Capital Structure as an intervening variable.**

Companies can use leverage optimally to maximize profits with a high activity ratio without excessively increasing risk. A balanced capital structure and high operational efficiency reduce capital costs, increase investor confidence, and ultimately increase company value.

Results of previous research conducted by (Ariosafira & Suwaidi, 2022); shows that the influence of activity on company value through capital structure has a negative and significant influence. So, the hypothesis proposed is as follows:

H10: Activities have a significant effect on company value through capital structure as an intervening variable.

**III. RESULTS AND DISCUSSION****A. Results****1. Model Measurement (Outer Model)**

Outer model measurement in smart PLS (Partial Least Square) to test the validity and reliability of indicators that measure latent variables. Outer model (Model Measurement), measures the relationship between latent variables and their indicators. The outer model defines indicators related to the latent variable. The testing stages carried out on the outer model are as follows: Convergent validity test, is the factor loading value on the latent variable with its indicators. Expected value  $> 0.5$ .

*Table 1. Convergent Validity*

<i>Original Sample (O)</i>	<i>Loading Value, &gt; 0,5</i>	<i>Significance</i>	<i>Information</i>
<i>Roa &lt;- Profitability (X1)</i>	<i>0.97</i>	<i>0,00</i>	<i>Valid</i>
<i>Roe &lt;- Profitability (X1)</i>	<i>0.92</i>	<i>0,00</i>	<i>Valid</i>
<i>Cr &lt;- Likuidity (X2)</i>	<i>0.99</i>	<i>0,00</i>	<i>Valid</i>
<i>Qr &lt;- Likuidity (X2)</i>	<i>0.99</i>	<i>0,00</i>	<i>Valid</i>
<i>Tato &lt;- Activity (X3)</i>	<i>0.96</i>	<i>0,00</i>	<i>Valid</i>
<i>Ito &lt;- Activity (X3)</i>	<i>0.96</i>	<i>0,00</i>	<i>Valid</i>

<i>Pbv &lt;- Company Value (Y)</i>	1.00	0,00	Valid
<i>Der &lt;- Capital Structure (Z)</i>	1.00	0,00	Valid

Data Source : SEM PLS 2024 Data Processing Results.

The test results are that all indicators meet the validity test (Convergent validity) with a value of > 0.5 and a significance of < 0.05.

**2. Discriminant validity test,**

testing the cross loading value which is useful for finding out whether the construction has adequate discriminants. The way to measure is by comparing the loading value on the targeted construct and it must be greater than the loading value on other constructs.

*Table 2. Discriminant Validity*

*Fornell-Larcker Criterion*

	<i>Activity (X3)</i>	<i>Liquidity (X2)</i>	<i>Company Value (Y)</i>	<i>Profitability (X1)</i>	<i>Capital Structure (Z)</i>	<i>Information</i>
<i>Activity (X3)</i>	0.959					Valid
<i>Liquidity (X2)</i>	-0.346	0.989				Valid
<i>Company Value (Y)</i>	-0.173	-0.054	1.000			Valid
<i>Profitability (X1)</i>	-0.023	-0.135	0.657	0.946		Valid
<i>Capital Structure (Z)</i>	0.799	-0.492	-0.171	-0.119	1.000	Valid

Data Source: SEM PLS 2024 Data Processing Results

Based on the table above, it can be seen that the loading value on the construct is greater than the loading value on other constructs, so it can be concluded that all variables are declared to meet the discriminant validity test.

Reliability Test (Cronbach's Alpha, Composite Reliability, AVE, , data that has a composite reliability greater than 0.8 already has high reliability.

*Table 3. Reliability Test*

<i>Variabel</i>	<i>Cronbach's Alpha</i>	<i>Composite Reliability</i>	<i>Average Variance Extracted (AVE)</i>	<i>Information</i>
<i>Activity (X3)</i>	0.912	0.958	0.919	Reliabel
<i>Liquidity (X2)</i>	0.977	0.989	0.977	Reliabel

<i>Company Value (Y)</i>	1.000	1.000	1.000	<i>Reliabel</i>
<i>Profitability (X1)</i>	0.888	0.945	0.896	<i>Reliabel</i>
<i>Company Value (Z)</i>	1.000	1.000	1.000	<i>Reliabel</i>

Data Source: SEM PLS 2024 Data Processing Results

From table 3 above it can be seen that the Cronbach Alpha value is greater than 0.6 for all constructs so that it meets the Reliability test (Cronbach Alpha). The Composite Reliability value for all variables is > 0.8, so all variables are reliable in the Composite Reliability test. The Average Variance Extracted (AVE) test is used to measure the variance that can be captured by the construct compared to the variance caused by measurement error. The AVE value must be greater (> 0.5). Based on the test results that the Average Variance Extracted (AVE) value for all statement items is > 0.5, it can be concluded that all statement items are declared convergently valid.

**3. Model Measurement (Inner Model)**

After evaluating the construct/variable measurement model, the next stage is to evaluate the structural model or inner model which is as follows (Ghozali, 2016):

The path coefficient is evaluating the structural model by looking at the significance of the relationship between constructs/variables. The path coefficient describes the strengths of the relationship between constructs. The sign or direction of the path (path coefficient) must be in accordance with the hypothesized theory, its significance can be seen in the t test or CR (critical ratio) obtained from the bootstrapping process (resampling method). The significance of the relationship between variables is below 5% or 0.05.

*Table 4. Path Coefficients*

<i>Path</i>	<i>Original Sample (O)</i>	<i>T Statistics</i>	<i>P Values</i>	<i>Information</i>
<i>Activity (X3) -&gt; Company Value (Y)</i>	-0.231	1.057	0.291	<i>not significant</i>
<i>Activity (X3) -&gt; Capital Structure (Z)</i>	0.703	8.097	0.000	<i>significant</i>
<i>Liquidity (X2) -&gt; Company Value (Y)</i>	0.001	0.009	0.993	<i>not significant</i>
<i>Liquidity (X2) -&gt; Capital Structure (Z)</i>	-0.268	3.047	0.002	<i>significant</i>
<i>Profitability (X1) -&gt; Company Value (Y)</i>	0.663	5.754	0.000	<i>significant</i>
<i>Profitability (X1) -&gt; Capital Structure (Z)</i>	-0.139	1.422	0.156	<i>not significant</i>
<i>Capital Structure (Z) -&gt; Company Value (Y)</i>	0.093	0.310	0.757	<i>not significant</i>

Data Source: SEM PLS 2024 Data Processing Results

Table 4 shows the results of the influence of profitability ratios on company value, having a path coefficient value of positive 0.663, which means that an increase in the profitability ratio value in manufacturing companies in the metal and mineral sub-sector will have an impact on increasing company value with a significant increase.

The effect of the liquidity ratio on company value has a path coefficient value of positive 0.001, which means that increasing the liquidity ratio in manufacturing companies in the metal and mineral sub-sector will have an impact on increasing company value but is not significant.

Meanwhile, the effect of the activity ratio on company value has a path coefficient value of negative 0.231, which means that an increase in the activity ratio value in metal and mineral sub-sector manufacturing companies will have an impact on decreasing company value, but the resulting decrease is not significant.

The effect of profitability ratios on capital structure has a path coefficient value of negative 0.139, which means that an increase in profitability ratios in manufacturing companies in the metal and mineral sub-sector will have an impact on reducing capital structure but is not significant.

The influence of the liquidity ratio on capital structure has a path coefficient value of negative 0.268, which means that an increase in the value of the liquidity ratio in manufacturing companies in the metal and mineral sub-sector will have a significant impact on decreasing capital structure.

The effect of the activity ratio on capital structure has a path coefficient value of positive 0.703, which means that an increase in the value of the activity ratio in manufacturing companies in the metal and mineral sub-sector will have a significant impact on improving capital structure.

The influence of capital structure on company value has a positive path coefficient value of 0.093, which means that increasing the value of capital structure in metal and mineral sub-sector manufacturing companies will have an impact on increasing company value but is not significant.

**4. R<sup>2</sup> Determination Test**

The amount of variability of endogenous variables that can be explained by exogenous variables. According to Chin (1998), the R2 criteria consists of three classifications, namely the R2 value = 0.67 in the strong category (substantial), the R2 value = 0.33 in the moderate category and the R2 value = 0.19 in the weak category.

*Table 5. R Square Test*

<i>Variabel</i>	<i>R Square</i>	<i>Remarks, Model Contribution</i>
<i>Company Value (Y)</i>	<i>0.459</i>	<i>45,9%, moderate</i>
<i>Capital Structure (Z)</i>	<i>0.710</i>	<i>71,0%, substantial</i>

Data Source: SEM PLS 2024 Data Processing Results

The adjusted R-Square value of the Company Value variable is 45.9%, moderate, this indicates that the Profitability, Liquidity and Activity variables are able to explain Company Value by 45.9%. So it can be concluded that the model is considered moderate. Meanwhile, the adjusted R-Square value for the Capital Structure variable is 0.710, this indicates that the Profitability, Liquidity and Activity variables are able to explain the Capital Structure variable by 71.0%, so it is concluded that the model is considered strong.

**5. Effect Size Test**

*Table 6. F Square*

<i>Variabel</i>	<i>Values</i>	<i>Information</i>
<i>Profitability (X1) -&gt; Company Value (Y)</i>	<i>0.745</i>	<i>large</i>
<i>Liquidities (X2) -&gt; Company Value (Y)</i>	<i>0.000</i>	<i>small</i>
<i>Activity (X3) -&gt; Company Value (Y)</i>	<i>0.035</i>	<i>small</i>
<i>Profitability (X1) -&gt; Capital Structure (Z)</i>	<i>0.065</i>	<i>small</i>
<i>Liquidity (X2) -&gt; Capital Structure (Z)</i>	<i>0.213</i>	<i>medium</i>

<i>Activity (X3) -&gt; Capital Structure (Z)</i>	<i>1.495</i>	<i>large</i>
<i>Capital Structure (Z) -&gt; Company Value (Y)</i>	<i>0.005</i>	<i>small</i>

F Square is useful for knowing the category of influence of an exogenous variable on endogenous variables, including small  $0.02 < f^2 < 0.15$ , medium  $0.15 < f^2 < 0.35$  or large  $f^2 > 0.35$ .

The explanation is as follows:

1. The effect of Profitability on Company Value is 0.745, so the effect of Profitability on Company Value is considered large.
2. The effect of liquidity on company value is 0.000, so the effect of liquidity on company value is considered small.
3. The effect of activities on company value is 0.035, so the effect of activities on company value is considered small.
4. The effect of Profitability on Capital Structure is 0.065, so the effect of Profitability on Capital Structure is considered small.
5. The effect of liquidity on capital structure is 0.213, so the effect of liquidity on capital structure is considered medium.
6. The effect of activity on capital structure is 1.495, so the effect of activity on capital structure is considered large.
7. The effect of capital structure on company value is 0.005, so the effect of capital structure on company value is considered small.

**6. Goodness of Fit (GoF) Test**

The Goodness of Fit (GoF) test is a single measure to validate the combined performance of the measurement model and structural model. This GoF value is obtained from the square root of the average communalities index multiplied by the average R2 value. The GoF value ranges between 0 to 1 with the interpretation of the values: 0.1 (small GoF), 0.25 (moderate GoF), and 0.36 (large GoF).

*Table 7. Goodness of Fit (GoF)*

<i>Variable</i>	<i>Average Variance Extracted (AVE)</i>	<i>R Square</i>
<i>Profitability (X1)</i>	<i>0.896</i>	
<i>Liquidity (X2)</i>	<i>0.977</i>	
<i>Activity (X3)</i>	<i>0.919</i>	
<i>Company Value (Y)</i>	<i>1.000</i>	<i>0.459</i>
<i>Capital Structure (Z)</i>	<i>1.000</i>	<i>0.710</i>
<i>Average</i>	<i>0.959</i>	<i>0.585</i>

Data Source: SEM PLS 2024 Data Processing Results

$$\text{GoF Value} = \sqrt{\text{Average AVE} \times \text{Average R Square}}$$

$$\text{GoF Value} = \sqrt{0,959 \times 0,585}$$

$$\text{GoF Value} = 0,749$$

Based on the calculation results, a GoF value of 0.749 was obtained, this indicates that the combined performance of the outer model and inner model in this study can be classified into the large GoF category and meets the Goodness of Fit test.

**7. Predictive relevance test (Q2)**

Predictive relevance test (Q2) which functions to validate the model. This measure is suitable if the endogenous variable has a reflective measurement model. The results of Q2 predictive relevance are said to be good if the value is > which indicates that the exogenous latent variable is good (suitable) as an explanatory variable that is able to predict the endogenous variable. PLS Predict is a validation method to state whether the PLS model built has good predictive power.

*Tabel 8. PLS Predict*

Item	Model PLS			Model LM		
	RMSE	MAE	Q <sup>2</sup> _predict	RMSE	MAE	Q <sup>2</sup> _predict
PBV	0.783	0.652	0.359	0.830	0.683	0.280

Data Source: SEM PLS 2024 Data Processing Results

From the data above, it can be seen that the Company Value variable which is proxied by PBV (price to books value), the RMSE and MAE values of the PLS Model (0.783 and 0.652) are lower than the RMSE and MAE of the LM Model (0.830 and 0.683) and the Q<sup>2</sup>\_predict model values PLS (0.359) is greater than the Q<sup>2</sup>\_predict LM model (linear regression) (0.280), so the proposed PLS model has good predictive power (suitable) as an explanatory variable that is able to predict the endogenous variable. This means that for PBV, the PLS model is better in terms of reducing prediction errors and has stronger prediction capabilities.

**8. Hypothesis Testing**

Hypothesis testing is carried out on a structural model that describes the influence between latent variables based on the problem formulation or research hypothesis and research conceptual framework. Hypothesis testing was carried out using the bootstrap resampling method developed by Geisser & Stone. Hypothesis testing for SEM-PLS by looking at the t test value in the path coefficient output table or significance value (p value). Guidelines for accepting and rejecting hypotheses are 1). if the p value <0.05, then the research hypothesis is accepted. 2). If the p value is > 0.05, the research hypothesis is rejected.

*Table 9. Path Coefficient Output*

Path	Original Sample (O)	T Statistics	P Values	Information
H1: Profitability -> Company Value	0.663	5.754	0.000	H1 accepted
H2: Liquidity -> Company Value	0.001	0.009	0.993	H2 rejected
H3: Activity -> Company Value	-0.231	1.057	0.291	H3 rejected
H4: Profitability -> Capital Structure	-0.139	1.422	0.236	H4 rejected

<i>H5: Liquidity -&gt; Capital Structure</i>	<i>-0.268</i>	<i>3.047</i>	<i>0.003</i>	<i>H5 accepted</i>
<i>H6: Activity -&gt; Capital Structure</i>	<i>0.703</i>	<i>8.097</i>	<i>0.000</i>	<i>H6 accepted</i>
<i>H7: Capital Structure -&gt; Company Value</i>	<i>0.093</i>	<i>0.310</i>	<i>0.747</i>	<i>H7 rejected</i>
<i>H8: Profitability -&gt;Capital Structure -&gt;Company Value</i>	<i>-0.013</i>	<i>0.316</i>	<i>0.838</i>	<i>H8 rejected</i>
<i>H9: Liquidity -&gt; Capital Structure -&gt; Company Value</i>	<i>-0.025</i>	<i>0.289</i>	<i>0.773</i>	<i>H9 rejected</i>
<i>H10: Activity -&gt; Capital Structure -&gt; Company Value</i>	<i>0.065</i>	<i>0.316</i>	<i>0.752</i>	<i>H10 rejected</i>

Data Source: SEM PLS 2024 Data Processing Results

From the Hypothesis Test that the researcher has carried out (Table 9) the results show that the H1, H5, and H6 Hypothesis paths are accepted, while the H2, H3, H4, H7, H8, H9 and H10 hypothesis paths are rejected.

## **B. Discussion**

Based on the results of research conducted by the author using the Path Coefficient, it shows the level of significance of the relationship between the variables in the research as follows:

### **1. Effect of Profitability on Company Value**

Analysis of the influence of profitability on company value has an original sample value (coefficient) of 0.663, which means the relationship between the two variables is in the same direction / positive. So it can be concluded that if the profitability value increases, the company value also increases. The t-statistics result is 5.754 > 1.96 or a p-value of 0.000 < 0.05, which means that the relationship between the profitability variable and company value is significant. Thus it can be concluded that profitability has a positive and significant effect on company value so that the hypothesis H-1 is accepted.

This research is supported by research conducted by (Krisnando, 2019) which found that the Return on Assets (ROA) variable had a significant positive effect on company value. This shows that the metal and mineral sub-sector manufacturing companies studied have good performance and are efficient in managing their resources and are able to generate high profits. Investors tend to be attracted to companies because they can demonstrate the ability to generate consistent and increasing profits. High profitability increases investor confidence, which in turn can increase demand for company shares and increase share prices. These companies tend to have a higher value in the market, reflecting better growth prospects and stability.

### **2. Effect of Liquidity on Company Value**

Analysis of the effect of liquidity on company value has an original sample value (coefficient) of 0.001, which means the relationship between liquidity and company value is positive. The t-statistics result is 0.009 < 1.96 or p-value 0.993 > 0.05, so the relationship between the liquidity variable and company value is not significant. Thus, liquidity has a positive and insignificant effect on company value. then hypothesis H-2 is rejected.

This research is supported by research conducted (Iman et al., 2021) showing that liquidity has a positive and insignificant effect on company value. This shows that the metal and mineral sub-sector manufacturing companies studied chose to focus on profitability and growth. In general, investors tend to focus more on profitability and long-term growth prospects than liquidity. While liquidity is important for daily operations, investors often look to long-term performance and profit potential as key factors in assessing a company's value.

### **3. Effect of Activities on Company Value**

Analysis of the influence of activities on company value has an original sample value of -0.231, which means the relationship between these variables is in the opposite direction. The t-statistics results are 1.057 < 1.96 or p-value 0.291 > 0.05, so the relationship between activity variables and company value is not significant. Thus, it can be concluded that activity has a negative and insignificant effect on company value so that hypothesis H-3 is rejected.

This research is supported by research conducted by (Astutik, 2017) the results of the research state that total assets turnover (TATO) shows an insignificant negative influence on company value. This happens due to various factors, including operational efficiency, stable demand, long-term relationships with customers, regulatory compliance, operational flexibility and a strong reputation. These factors help companies manage and mitigate the negative impacts of certain activities, so that the impacts are not large enough to significantly influence market valuation.

#### **4. Effect of Profitability on Capital Structure**

Analysis of the influence of profitability on capital structure has an original sample value of -0.139, which means the relationship between these variables is in the opposite direction. The t-statistics result is  $1.422 < 1.96$  or p-value  $0.236 > 0.05$ , so the relationship between the profitability variables is not significant. Thus, it is concluded that the effect of profitability on capital structure is negative and not significant so that hypothesis H-4 is rejected.

This research is supported by previous research conducted by (Pardede & Hwihanus, 2024) showing that profitability has a negative and insignificant effect on capital structure. This happens because the company's profitability increases, so the company chooses to reduce debt because they are able to finance operations and expansion with greater internal resources. In other words, more profitable companies may be more inclined to use own capital (equity) rather than debt, thereby reducing the debt to equity ratio in the capital structure.

#### **5. Effect of Liquidity on Capital Structure**

Analysis of the influence of liquidity on capital structure has an original sample value of -0.268, which means the relationship between these variables is in the opposite direction. The t-statistics result is  $3.047 > 1.96$  or p-value  $0.003 < 0.05$ , so the relationship between the liquidity variable and capital structure is significant. Thus, it can be concluded that the research results show that liquidity has a negative and significant effect on capital structure so that hypothesis H-5 is accepted.

This research is supported by research conducted by (Uli et al., 2020) showing that liquidity has a negative and significant effect on capital structure. This happens because the company has a high level of liquidity and thus has adequate cash reserves and current assets, so the company does not need to rely on debt to finance operations and expansion, but rather tends to finance the company's operational activities using internal capital (equity) rather than taking out debt. thereby avoiding the risks associated with debt, such as the risk of default and interest obligations.

Result and discussion must be written in the same part. They should be presented continuously start from the main result to the supporting results and equipped with a discussion. Unit of measurement used should follow the prevailing international system. All figures and tables placed separately at the end of manuscript pages and should be active and editable by editor.

#### **6. Effect of Activity on Capital Structure**

Analysis of the influence of activity ratios on capital structure has an original sample value of 0.703, which means the relationship between these variables is in the same direction. The t-statistics result is  $8.097 > 1.96$  or p-value  $0.000 < 0.05$ , so the relationship between activity variables and capital structure is significant. It can be concluded that the effect of the activity ratio on capital structure is positive and significant on capital structure so that hypothesis H-6 is accepted.

This research contradicts research conducted by (Aramana, 2021) which found that activity had a positive but not significant effect on capital structure. The research conducted by researchers can occur when increased company activity requires additional capital for expansion and operational improvements, which encourages companies to take on more debt to support growth and investment. Additionally if company activity increases, this can result in increased sales and earnings, allowing the company to acquire more debt with lower perceived risk due to better earnings prospects.

#### **7. Effect of Capital Structure on Company Value**

Analysis of the influence of capital structure on company value has an original sample value of 0.093, which means the relationship between these variables is in the same direction. The t-statistics results are  $0.310 < 1.96$  or p-value  $0.747 > 0.05$ , so the relationship between capital structure variables and company value is not significant. Thus, it can be concluded that the influence of capital structure on company value is positive and not significant so that hypothesis H-7 is rejected.

The research that the researchers conducted was possible because an optimal capital structure, with a balanced proportion of debt and equity, can provide benefits to the company by increasing financial flexibility and growth potential. A good capital structure can increase company value by taking advantage of debt tax advantages or providing funds for productive investments. ~~Capital structure does not have a significant influence~~



because there are other factors such as market conditions, innovation, or management quality that have a greater influence on company value than capital structure.

### **8. Effect of Profitability on Company Value through Capital Structure**

Analysis of the influence of profitability on company value through capital structure has a coefficient value of -0.013, indicating that there is a negative relationship between profitability and company value through capital structure. This means that an increase in profitability tends to be followed by a decrease in firm value through the capital structure mechanism, although this relationship is very weak. The t-statistics result is 0.316 which is smaller than 1.96 and the p-value is  $0.838 > 0.05$ , it can be concluded that this relationship is not statistically significant. This means that there is no strong evidence that profitability affects company value through capital structure. Thus, it can be concluded that the effect of profitability on company value through capital structure is negative and not significant, therefore H-8 is rejected.

The research is supported by research conducted by (Resita & Susetyo, 2022) the influence of profitability on company value through capital structure as an intervening variable is negative and not significant. This happens because company value is influenced by many factors other than profitability and capital structure, such as market growth, innovation, economic conditions and investor sentiment. These factors can be more dominant in determining company value than small changes in capital structure due to changes in profitability.

### **9. The effect of liquidity on company value through capital structure**

Analysis of the effect of liquidity on company value through capital structure has a coefficient value of -0.025, indicating that there is a negative relationship between liquidity and company value through capital structure. This means that an increase in liquidity tends to be followed by a decrease in firm value through the capital structure mechanism, although this relationship is very weak. With t-statistics of 0.289 which is smaller than 1.96 and p-value of 0.773 which is greater than 0.05, it can be concluded that this relationship is not statistically significant. This means that there is no strong evidence that liquidity influences company value through capital structure. Thus, it can be concluded that the effect of liquidity on company value through capital structure is negative and not significant, therefore H-9 is rejected.

This research is supported by research conducted by (Pardede & Hwihanus, 2024), the results of the research show that liquidity has a negative and insignificant effect on company value through capital structure. The company has good liquidity, preferring to avoid debt because it wants to reduce the financial risks associated with interest payments and other debt obligations. Apart from that, there are other more dominant factors that influence company value besides liquidity and capital structure, such as revenue growth, innovation, macroeconomic conditions, and market sentiment, which have a greater influence on company value compared to changes in capital structure caused by liquidity.

### **10. Influence of Activities on Company Value through Capital Structure**

Analysis of the influence of activity on company value through capital structure has a positive coefficient value of 0.065, indicating that there is a positive relationship between activity and company value through capital structure. This means that increased activity tends to be followed by an increase in firm value through the capital structure mechanism, although this relationship is very weak. The t-statistics is 0.316 which is smaller than 1.96 and the p-value is 0.752 which is greater than 0.05, it can be concluded that this relationship is not statistically significant. This means that there is no strong evidence that activity influences company value through capital structure. Thus, it can be concluded that the influence of activity on company value through capital structure has a positive and insignificant influence, therefore H-10 is rejected.

This research is supported by research conducted by (Pardede & Hwihanus, 2024) results show that activity has a negative and insignificant effect on company value through capital structure. Research conducted by (Resita & Susetyo, 2022) shows that activities have an indirect influence on company value through capital structure which has a negative and insignificant influence. Research conducted by (Ariosafira & Suwaidi, 2022) shows that the influence of activities on company value through capital structure has a negative and significant influence

Increased company activity often requires additional capital to finance operational growth, increase production capacity, or expand into new markets. This increase in activity, needs to be supported by additional funds, the company may choose to take on additional debt, which increases the proportion of debt in the capital structure. The insignificant influence could be due to the presence of other factors that are more dominant besides activity and capital structure, such as innovation, management quality, market conditions, and investor sentiment, which can have a greater influence on firm value than changes in capital structure caused by increased activity.

## IV. CONCLUSION

This research finds that profitability has a positive and significant influence on company value, indicating that increasing profits attracts investor interest and increases share prices. On the other hand, liquidity has a positive and insignificant effect on company value, indicating that investors are more focused on profitability and growth prospects. Company activities have a negative but not significant effect on company value because operational efficiency reduces the negative impact. Profitability also has a negative and insignificant effect on capital structure, because companies prefer internal capital to debt when profits increase. On the other hand, liquidity has a negative and significant effect on capital structure, because companies with high liquidity tend to use internal capital. Activity has a positive and significant effect on capital structure, because increasing activity requires additional capital, encouraging companies to take on debt. Capital structure has a positive but not significant effect on company value, indicating that other factors are more dominant. Profitability and liquidity through capital structure each have a negative and insignificant influence on company value, while activity through capital structure has a positive but not significant influence, indicating that company value is more influenced by other factors such as innovation and management quality.

### A. Suggestion

Based on the existing conclusions and limitations in this research, the researcher provides suggestions for company management to be careful in determining the capital structure to avoid excessive loan interest charges. In business development or investment, project profitability carefully to ensure that the company value remains high, making it attractive to investors and creditors. In addition, maintaining liquidity at a reasonable level is very important so that funding sources can be utilized optimally. With good liquidity, companies can run daily operations smoothly and be ready to face investment opportunities or emergency situations. Companies also need to pay attention to the efficiency of operational activities. Optimizing the use of assets and other resources can increase productivity and profitability, which in turn can increase company value.

It is hoped that this research can help companies as a reference in considering the variables that influence company value. By understanding these factors, companies can make more informed and strategic decisions. The results of this research can be used as a reference for further research. In addition, it is hoped that future research can use a company value optimization model by considering other relevant variables, as well as a longer period or time period.

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# Carbon Emissions Disclosure: Evidence of Indonesian Mining Companies

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## ABSTRACT

**Purpose:** The purpose of this study was to examine the effect of leverage, media exposure, profitability on carbon emission disclosure.

**Design/methodology/approach:** This study uses a quantitative approach to analyze causal relationships by utilizing secondary data. The population of this study are companies engaged in the mining sector and listed on the Indonesia Stock Exchange during the period 2018 to 2022. The sample selection was carried out using purposive sampling method.

**Findings:** The findings of this study reveal that leverage and media exposure have a positive and significant influence on carbon emissions disclosure, while profitability shows no significant impact.

**Research limitations/implications:** Limitations in this study only use the mining sector during 2018-2022, so the results may not be relevant for more recent sectors or years. Reliance on reports that may be incomplete and variations in secondary data may affect the results. In addition, this study does not consider other variables or significant changes in policies and markets.

**Practical implications:** Implications for regulators to design investment policies that promote transparency of carbon emissions, increasing investor confidence. The findings also support governments in developing regulations for cyber risk management reporting. In addition, companies can utilize the research results to identify key stakeholders, allocate resources more efficiently, and strengthen their competitive position.

**Originality/value:** The novelty in this research can explain the determinants of carbon emission disclosure from the stakeholder perspective of the theory.

**Paper type:** Research Paper

**Keyword:** *Leverage, Media Exposure, Profitability, Carbon Emission disclosure*

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## I. INTRODUCTION

Increasingly extreme climate change and increasing global warming pose major challenges to business operations today Perera et al., (2023). Responses to these challenges include the development of low-emission products and the implementation of climate change mitigation policies, both at national and international levels Andreou & Kellard, (2021) and Xu et al., (2023). As a result, companies, particularly in carbon-based industries, are under increasing pressure from society Griffin et al., (2017). They are also increasingly considering the impact of their carbon emissions (Huang, 2021).

With the increasing importance of this issue in the eyes of governments around the world, 196 countries have agreed to the Paris Agreement. According to the United Nations Framework Convention on Climate Change (2015) Almaeda et al., (2023), this agreement stipulates that each participating country will commit to reducing their gas emissions to address climate change. The main focus of this agreement is to reduce carbon emissions,

which are considered a major factor in global warming and environmental damage. One of the countries participating in this agreement is Indonesia, which encourages the business sector and society to reduce greenhouse gas emissions through Presidential Regulation No. 61 of 2011. This regulation regulates the National Action Plan for Greenhouse Gas Reduction (RAN-GRK).

Indonesia not only plays an important role in contributing to global carbon emissions but is also one of the largest markets in the world. Data from 1850 to 2021 shows that Indonesia ranks fifth in accumulated fossil and land carbon emissions, behind only the United States, China, Russia and Brazil Carbon Brief., (2021). This confirms Indonesia's involvement in the problem of rising global carbon emissions and its responsibility for climate change and environmental degradation.

Nonetheless, Indonesia's per capita greenhouse gas emissions are lower than the average for G20 countries. According to the Climate Transparency Report (2020), Indonesia seeks to reduce its greenhouse gas emissions through its NDC project with a target reduction of between 29 and 41% by 2030. Companies in Indonesia are also committed to supporting the Sustainable Development Goals in this endeavor.

The growing awareness of carbon emissions by stakeholders such as investors, creditors, governments, non-governmental organizations, and communities encourages companies to reduce carbon emissions by measuring, analyzing, recording, and reporting their emission levels I Made Narsa, (2021). Companies in Indonesia are committed to implementing initiatives that reduce the impact of carbon emissions on the environment. They regularly report on these efforts in their annual reports and sustainability reports. Carbon emissions disclosure has proven to be a crucial communication tool to ensure accountability and transparency of businesses regarding the amount and impact of their carbon emissions Ben-Amar & McIlkenny, (2015).

Companies that transparently disclose environmental information can increase their credibility in the eyes of society as they demonstrate clear environmental responsibility. This helps them in obtaining the resources and profits necessary for business continuity Reid & Toffel, (2020). It also encourages companies to be more committed to reducing carbon emissions in environmentally friendly sectors.

This study has important significance because it explores carbon emissions disclosure with a stakeholder theory approach that includes leverage, media exposure, and profitability. This research is focused on the mining industry listed on the Indonesia Stock Exchange in the period 2018 to 2022. The selection of this sector is based on data showing that Indonesia's mining sector led in greenhouse gas emissions at the national level in 2017, reaching 49% Sugardiman, (2019). This is also supported by the information that approximately 58% of Indonesia's electricity supply came from coal in 2017 Dunne, (2019).

This study aims to provide empirical evidence on the impact of profitability, leverage, and media exposure on carbon emissions disclosure. The findings of this study can also serve as a basis for regulators in formulating investment policies and for the government in developing regulations that encourage companies to increase transparency in reporting carbon emissions. In addition, the results of this study are also relevant for company management in designing policies and strategies related to carbon emissions disclosure.

## **A. Literature Review and Hypothesis Development**

According to stakeholder theory, companies should operate their business by taking into account the interests of all parties involved, not just taking into account personal interests Chairi & Ghazali, (2014). Stakeholders have the right to obtain complete information about the company's activities, including disclosure of environmental information such as carbon emissions, which reflects the company's commitment to environmental issues.

Disclosure of carbon emissions is often considered a voluntary action aimed at enhancing the company's reputation, especially if the disclosed information illustrates the company's positive achievements. This voluntary disclosure refers to information provided by companies beyond the requirements of accounting regulations required by regulatory bodies Suwardjono, (2014). Financial Accounting Standard (PSAK) No. 1 of 2016 regulates those environmental reports must include this disclosure aspect. By making disclosures, companies demonstrate a high level of transparency, which can increase positive responses from stakeholders and build good relationships with them Pratiwi & Sari, (2016). Factors such as leverage, media exposure, and profitability levels may influence the extent to which companies disclose their carbon emissions. Previous studies by Jannah & Muid, (2014), Suhardi & Purwanto, (2015), and Zanra et al., (2020) have identified these variables as important factors in carbon emissions disclosure in Indonesia.

### **1. The effect of leverage on carbon emission disclosure**

Profitability refers to the company's ability to generate profits (Kasmir, 2016). Companies that have a high level of leverage utilize assets and resources to increase potential profits for shareholders Sartono, (2016). Common metrics such as the Debt to Asset Ratio (DAR) can indicate how much a company relies on debt to finance its assets and operations. Higher levels of leverage generally result in a reduction in carbon emissions disclosure, as companies must manage funds carefully to reduce operational costs related to emissions reporting.

Previous research on the effect of leverage on carbon emissions disclosure shows mixed findings. Wiratno & Muaziz, (2020) found that leverage has a positive effect on carbon emissions disclosure, while Saptiwi, (2019) and Septriyawati & Anisah, (2019) found the opposite relationship. On the other hand, research by Lu et al., (2015) and (Salehi et al., 2017) show that there is no significant relationship between leverage and carbon emission disclosure. Similar findings are also supported by research conducted by Zanra et al., (2020). Thus, it can be hypothesized that:

H1: Leverage has a positive effect on carbon emission disclosure

## **2. The effect of media exposure on carbon emission disclosure**

According to Ulfa F & Ermaya, (2019), companies are expected to disclose social responsibility and relevant information to stakeholders, known as media exposure. This media exposure can significantly influence stakeholder responses and decisions towards the company (Pratiwi & Sari, 2016). The media plays a crucial role in conveying information to stakeholders about environmental conditions and company performance, including carbon emissions disclosure. Typically, this information is disclosed through various channels such as annual reports, sustainability reports, and corporate online platforms (Jannah & Muid, 2014). Media exposure to carbon emissions disclosure may encourage companies to be more active in informing their efforts to reduce environmental impacts.

Research on how media exposure affects carbon emissions disclosure shows variation in findings. Some studies note a positive impact of media exposure on carbon emissions disclosure, while other studies show a different or insignificant impact. For example, Septriyawati & Anisah, (2019) and Nastiti & Hardiningsih, (2022) found a positive relationship between media exposure and carbon emissions disclosure, while research by Laksani et al., (2021) noted a less positive relationship. Other studies, such as those conducted by (Lu et al., 2015) and (Salehi et al., 2017), show that media exposure has no significant relationship with carbon emissions disclosure. Based on these findings, the following hypothesis can be proposed:

H2: Media Exposure has a positive effect on carbon emission disclosure

## **3. The effect of profitability on carbon emission disclosure**

Profitability refers to the ability of a company to generate profits (Kasmir, 2016). Companies that achieve high levels of profitability are more likely to disclose information about their carbon emissions, with the aim of attracting investor interest. Some studies such as those conducted by Jannah & Muid, (2014), and Zanra et al., (2020) support the idea that profitability has the potential to influence carbon emissions disclosure. Profitability is often measured by Return on Asset (ROA), which reflects how a company utilizes its assets to generate profits during a given period. ROA is used to compare the performance of similar companies and to evaluate a company's performance over time.

However, findings from studies on the correlation between profitability and carbon emissions disclosure show a variety of results. Some studies show a positive relationship between profitability and carbon emissions disclosure, but there are also studies that find different results or even show no significant relationship. For example, Nastiti & Hardiningsih, (2022), found that profitability has a positive effect on carbon emissions disclosure, while studies by Saptiwi, (2019) and Septriyawati & Anisah, (2019) found a less positive relationship. On the other hand, research by Lu et al., (2015) and (Salehi et al., 2017) showed that there is no significant relationship between profitability and carbon emission disclosure. From these various findings, the following hypothesis can be drawn:

H3: Profitability has a positive effect on carbon emission disclosure.

## **II. METHODS**

This research uses quantitative methods to test cause-and-effect relationships using secondary data. The research population consists of companies in the mining sector listed on the Indonesia Stock Exchange during the period 2018 to 2022. Data was collected from published annual reports and sustainability reports, which have undergone an audit process by a public accounting firm to ensure accuracy and reliability. The sample selection was done by purposive sampling, with criteria including availability of annual reports, disclosure of information on carbon emissions, having positive equity, and complete data for this study. A total of 90 annual reports and sustainability reports that met these criteria were selected as samples.

The variable examined in this study is carbon emissions disclosure, which is measured using a disclosure index that applies a score of 1 for companies that disclose information in accordance with the set criteria, and a score of 0 for others. This approach follows the methodology used in a previous study by Choi et al., (2020).

The independent variables analyzed include leverage, media exposure, and profitability. Leverage, described by Jannah & Muid, (2014), Suhardi & Purwanto, (2015), is measured by the ratio of debt to total assets of the company. Media exposure is measured by a dummy variable, where a value of 1 is assigned if the company discloses information on carbon emissions in their sustainability report or website, and 0 otherwise, according to the methodology used by Jannah & Muid, (2014), Ulfa & Ermaya, (2019). Profitability is measured by dividing net profit after tax by the company's total assets, referring to the approach used by Jannah & Muid, (2014).

$$CED = \alpha + \beta_2LEV + \beta_3ME + \beta_1PROF$$

CED	=	Carbon Emissions Disclosure
LEV	=	Leverage
ME	=	Media Exposure
PROF	=	Profitabilitas
$\alpha$	=	Constant
$\beta$	=	Intercept
$\varepsilon$	=	Error Term

### III. RESULTS AND DISCUSSION

The following is a brief description of the variables analyzed in this study and their characteristics. Table 1 shows the descriptive statistical results of this study, which include various variables related to carbon risk disclosure, leverage, media exposure, and corporate profitability. This data provides an overall picture of the distribution and average values of each variable under study.

*Table 1. Descriptive statistics*

<i>Variable</i>	<i>Maximum</i>	<i>Minimum</i>	<i>Mean</i>	<i>Std. Dev</i>
<i>CED</i>	<i>13.00</i>	<i>7.00</i>	<i>9.50</i>	<i>2.72</i>
<i>LEV</i>	<i>0.72</i>	<i>0.00</i>	<i>0.40</i>	<i>0.18</i>
<i>ME</i>	<i>0.98</i>	<i>0.19</i>	<i>0.65</i>	<i>0.21</i>
<i>PROF</i>	<i>0.31</i>	<i>0.00</i>	<i>0.02</i>	<i>0.17</i>
<i>N</i>	<i>90</i>			

Source: Data processed by authors using SPSS 26 (2024)

Table 1 displays the descriptive statistical results of this study. The average disclosure of cyber risk management is 9.50%, indicating that the level of disclosure of carbon emissions in Indonesian mining sector companies is still low, with variations between 7.00% and 13.00%. The average leverage value of 0.40% indicates that most of the company's funding is more dependent on debt than assets owned. Meanwhile, the average media exposure value of 65.4% indicates that the proportion of mining companies that disclose information about carbon emissions is quite significant. The average profitability of 2.00% indicates that the company generally generates profits with a return on assets of around 2.98%.

*Tabel 2. Classic Assumption Test*

<i>Criteria</i>	<i>Normalitas</i>	<i>Multikolonieritas</i>	<i>Heteroskedastisitas</i>	<i>Autokorelasi</i>
<i>A Sig K-S</i>	0.265			
<i>VIF</i>		< 10		
<i>Glesjer</i>			> 0.05	
<i>Durbin-Watson</i>				2.004 < 1675 < 2.363

Source: Data processed by authors using SPSS 26 (2024)

Before proceeding with hypothesis testing, it is important to conduct classical assumption testing. There are four types of analysis used to test these assumptions, and the results show that all assumptions have been met. The normality test shows a significance value of 0.265, which is greater than 0.05, so it can be concluded that the data is normally distributed. In addition, the heteroscedasticity test shows that the significance value for each variable exceeds 0.05, indicating the absence of heteroscedasticity in the regression model. Thus, the regression model can be considered suitable for use in the analysis.

In the context of this study, the multicollinearity test is conducted by evaluating the tolerance and Variance Inflation Factor (VIF) values of the independent variables on the dependent variable. The analysis results show that all independent variables have a tolerance value greater than 0.1, and the VIF value for each independent variable is below 10. Based on these results, it can be concluded that there is no significant evidence of multicollinearity in the regression model used.

The results of the Durbin-Watson test show a value of 2.004, which is within the expected range between 1.675 and 2.362. This value indicates that the regression model does not experience autocorrelation. Thus, based on the Durbin-Watson test results, it can be concluded that there are no signs of autocorrelation in this regression model.

*Tabel 3. Hypothesis Testing Results*

<i>Variable</i>	<i>Coefficient</i>	<i>P-Value</i>
<i>C</i>	8.75	0.00
<i>LEV</i>	2.26	0.03
<i>ME</i>	1.59	0.02
<i>PROF</i>	-0.45	0.08
<i>Adjusted R-squared</i>	0.51	
<i>F-statistic</i>	26.25	
<i>Prob (F-statistic)</i>	0.00	
<i>N</i>	90	



Source: Data processed by authors using SPSS 26 (2024)

This study reveals that the link between leverage and carbon emissions disclosure provides a deep perspective on the financial approach of companies in the face of global environmental challenges. The results of the hypothesis analysis listed in Table 3 show that leverage, measured as the debt-to-equity ratio, has a positive and significant effect on the level of carbon emissions disclosure. This indicates that companies with high levels of leverage tend to focus their attention more on debt obligations, which may reduce their commitment to carbon emissions disclosure due to having to prioritize debt repayment. In contrast, companies with low leverage have more resources that can be allocated to carbon emissions disclosure. A high level of leverage may affect firms' decisions on disclosure, as they may be reluctant to incur additional costs for disclosure that may increase their operating costs and affect their financial condition.

The significant role of the media in carbon emissions disclosure becomes clear in the context of this study, highlighting that public information plays a crucial role in promoting corporate transparency and accountability. The results of the hypothesis analysis presented in Table 3 show that media exposure has a positive and significant impact on the level of carbon emissions disclosure. This suggests that companies that are more publicized in the media tend to be more active in disclosing information about their carbon emissions. High levels of media exposure encourage companies to act more transparently and proactively in reporting carbon emissions, as public and media pressure can push companies to improve the quality of such disclosures. Conversely, companies with less media exposure may be less motivated to make more detailed disclosures about their carbon emissions.

Although profit is often considered a key factor in business decision-making, this study found that it does not apply in the context of carbon emissions disclosure in Indonesian companies. The results of the hypothesis analysis documented in Table 3 show that profitability has no significant effect on carbon emissions disclosure. This indicates that a company's profit level does not affect how much it discloses about its carbon emissions. The absence of significant differences in carbon emissions disclosure between companies with high and low profitability suggests that the decision to disclose carbon emissions information is not influenced by the company's financial performance.

When analyzed more deeply, this study reveals that the model developed is not only statistically significant, but also provides deep insight into the factors affecting carbon emissions disclosure in the Indonesian mining sector. Table 3 also lists the results of the adjusted R square analysis, which shows that independent variables such as leverage (X1), media exposure (X2), and profitability (X3) are able to explain 51.2% of the variation in the dependent variable. The remaining 48.8% is explained by other factors not included in the framework of this research model. The F statistical test results show a significance value of  $0.00 < 0.05$ , with a calculated F value of 26.25, which exceeds the critical value of the F table of 2.84. This indicates that the research model has a good fit or a good fit for this research data.

#### IV. CONCLUSION

In an era where social and environmental responsibility is increasingly emphasized, this study highlights how factors such as leverage, media exposure and profitability influence carbon emissions disclosure practices in the Indonesian mining sector. This study aims to examine how leverage, media exposure, and profitability affect the level of disclosure of carbon emissions in mining sector companies listed on the Indonesia Stock Exchange during the period 2018 to 2022. The study results show that the use of leverage and the level of media exposure positively and significantly affect the level of carbon emissions disclosure. In contrast, there is no evidence to suggest that profitability has a significant influence in this regard. These findings provide an important perspective for regulators in designing more effective and sustainable investment policies. Policies that encourage transparency in carbon emissions disclosure can increase the trust of stakeholders, including investors, who tend to be more prepared to invest when companies actively disclose information related to environmental risks. In addition, these findings can assist the government in drafting regulations that encourage companies to be more open in carbon emission reporting, thereby increasing transparency and trust in the stock market. From a managerial perspective, this research provides guidance for developing better corporate policies and strategies. By identifying influential stakeholders, companies can allocate resources more efficiently and effectively, and respond more appropriately to stakeholder pressures and expectations. This not only helps the company in meeting market expectations but also in strengthening its competitive position in the industry.

This research has several aspects that need to be considered. First, the dataset used is limited to mining sector companies listed on the Indonesia Stock Exchange from 2018 to 2022. Therefore, the conclusions drawn from this study may have limited relevance for other industry sectors or more recent time periods. Second, the measurement of variables such as media exposure and profitability relies on reports that may not be fully accurate or complete, which may affect the results of the analysis. Third, the use of secondary data from annual reports and

sustainability reports may present uncertainties due to variations in the format and detail of the information available. Fourth, this study does not consider other variables that may have an effect on carbon emissions disclosure, such as internal company policies or pressure from non-governmental organizations. Finally, the limited time span of the study may not cover significant changes in policy or market conditions that could affect carbon emissions disclosure.

For future research, it is recommended to expand the scope by involving other industrial sectors as well as companies from different stock markets to increase the generalization of the results. In addition, it is recommended to use primary data collection methods or supplement secondary data with interviews or surveys to obtain more accurate information. Future research should also consider additional variables that may influence carbon emissions disclosure, as well as extend the research period to cover relevant policy changes or market conditions.

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