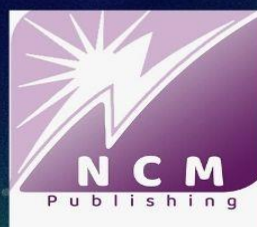

NAVIGATING THE
FUTURE:
A SPECIAL ISSUES IN
BUSINESS AND
MANAGEMENT

Editors

Prof. Dr. Wiziek Mardawiyah Daryanto
Dr. Ir. Amelia Naim Indraajaya, MBA.



Navigating the Future:

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Prof. Dr. Wiwiek Mardawiyah Daryanto
Dr. Ir. Amelia Naim Indrajaya, MBA.

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PREFACE

Staying current of developing trends and cultivating a holistic understanding of many aspects of management are critical for success in today's dynamic corporate market. "Navigating the Future," the special issue at hand, is a compilation that digs into major facets of management, including chapters on finance, accounting, sustainability, and life-long learning. The financial world is always changing, and the finance chapters provide case studies and evaluations of the relevant accounting and financial current implications, trends and methods. These chapters provide a nuanced view on navigating the complex world of finance in the twenty-first century, from investigating financial and accounting ideas to grasping the subtleties of risk management. Accounting, frequently referred to as the business language, is critical to decision-making and organizational performance. The chapters in this special issue take a deep dive into modern accounting methods, giving light on topics including financial reporting, and the methods of financial and accounting analysis.

Sustainability has become a cornerstone of responsible management, and the chapters on the subject investigate how firms can succeed by incorporating environmentally mindful methods. From evaluating the impact of corporate social responsibility activities to implementing sustainable supply chain management, these chapters provide actionable ideas for firms seeking to positively influence society and the environment. Continuous learning is no longer a luxury in today's fast-paced society; it is a need. These chapters present an up to date case studies for firms with the implementation of finance, accounting, sustainability issues and chapter of new training methods to creating an adaptive attitude.

The combination of these varied perspectives results in a complex tapestry that not only exposes the current state of affairs but also serves as a current for navigating management's future. As we stand at the crossroads of tradition and innovation, this special issue is a valuable resource for scholars, practitioners, and students alike, providing a nuanced understanding of the multifaceted challenges and opportunities that define management in the modern era. Finally, "Navigating the Future" is more than just a collection of chapters; it is a valuable paper on updated case studies to navigate the future.

Prof. Dr. Wiwiek Mardawiyah Daryanto, Dr. Ir. Amelia Naim Indrajaya, MBA.
Bursa – January 2024

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CHAPTER 1

The Effect of Increased Excise Duty (Including VAT and Cigarette Tax) on The Cigarette Industry Through Measuring Financial Performance Analysis Approach Evidence of PT Gudang Garam Tbk and PT Wismilak Inti Makmur Tbk for the Year 2018 - 2022

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ABSTRACT

This study examines the impact of the escalating excise tax rates on the financial performance of the cigarette industry in Indonesia. This study aims to analyze and measure the financial health conditions of two cigarette companies (Tier 1 and non-Tier1) for periods of 2018 to 2022. The research employs a comprehensive financial performance analysis approach using eight financial ratios investigating; 1) return on equity, 2) return on investment, 3) cash ratio, 4) current ratio, 5) collection period, 6) inventory turnover, 7) total asset turnover, 8) total equity to total asset, then be validated by the decree No.KEP-100/MBU/2002 issued by Indonesia Ministry to conclude the yearly financial health conditions of each company. The result show that PT Gudang Garam Tbk financial health status decreased every year from 2018 - 2020 in the healthy category level AA to 2021 in the healthy category level A and 2022 the unhealthy category level BBB. This is an indicator of evidence that the increase in excise taxes affects the cigarette industry because excise is a component of 70 - 80% of COGS. The results of PT Wismilak Inti Makmur Tbk's financial health assessment were the opposite. It is hoped that this study can provide input for relevant stakeholders, such as input for improving the excise tariff structure and whether further studies need to be carried out on the possibility of downtrading from Tier 1 to non-Tier 1.

Keywords: Financial Performance, Financial Ratios, Financial Health Conditions, Cigarette Industry, Increase Excise Tax

INTRODUCTION

Based on GDP at current prices, the Indonesian economy reached IDR 19,588.4 trillion, or US\$ 1.25 trillion, in 2022, and GDP per capita reached IDR 71.0 million, or US\$4,783.9. In 2022, the Indonesian economy grew by 5.31 percent, outpacing the 3.70 percent growth achieved in 2021. The Transportation and Warehousing Business Field saw the greatest increase in output, at 19.87 percent.

Excise tax revenue is one of the state revenue sources in the State Revenue and Expenditure Budget (APBN), which has provided very good performance because revenue realization has always been higher than the target set in the previous five years. Tobacco products currently account for 96% of Indonesian excise revenue. This means the state will earn 188.81 trillion rupiah in 2021, accounting for 12.2% of total tax revenue and 1.1% of GDP.

In recent years the government has raised excise taxes quite high, details in the graph below. This is quite a big challenge for the cigarette industry while purchasing power remained weak and below levels experienced pre-COVID-19. Excise duty (including VAT and cigarette tax) on cigarette expenses contributes 70-80% of COGS, making them one of the most important factors influencing cigarette issuer performance.

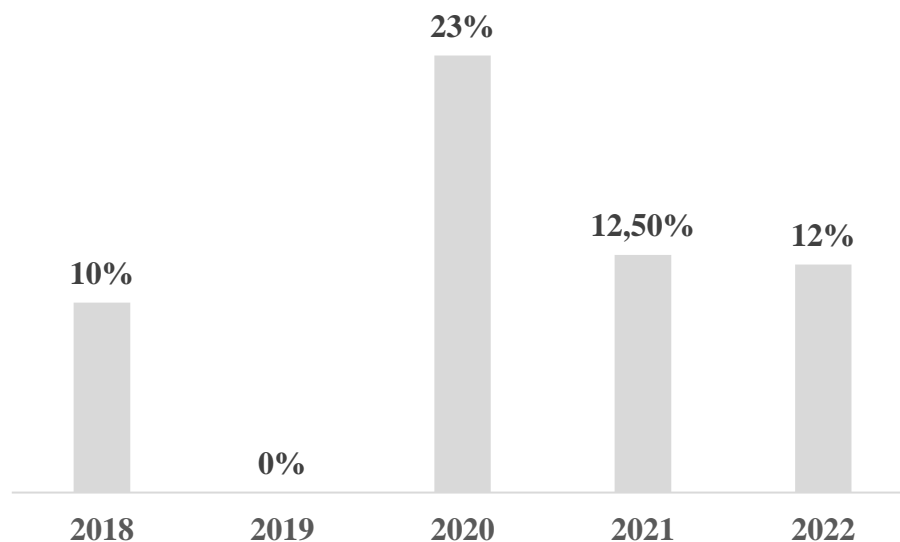


Figure-1: Excise Tax Increases on Average

Source : PMK 146/2017, PMK 156/2018, PMK 152/2019, PMK 198/2020, PMK 192/2021, PMK 191/2022 (Processed by The Author)

As a result, this study investigates the relationship between the financial performances of two cigarette companies, PT Gudang Garam Tbk and PT Wismilak Inti Makmur, from 2018 to 2022, which was then validated by Indonesia Ministry decree No.KEP-100/MBU/2002. In light of this, the research questions are: 1) How healthy was the financial performance of the two cigarette companies based on the Ministry of SOEs decree No. KEP-100/MBU/2002?, and 2) What was the difference in financial performance between both cigarette companies? This study is useful for academics because it expands their understanding of financial ratios in practice. Furthermore, it may assist students and lecturers in better understanding financial ratios. Furthermore, this study is important for managers because it can help them analyze the company's situation and guide them to make decisions.

This study is divided into five sections. Section one contains the introduction, section two contains a review of previous researchers' literature, section three discusses the methodology and explains the Ministry of SOEs' Decree No. KEP-100/MBU/2002 on financial health assessment, section four contains the findings, analysis, and validation testing, and section five contains the conclusion.

1. LITERATURE REVIEW

1.1 Cigarette Industry in Indonesia

The structure of the Indonesian tobacco products sector is quite diverse, ranging from global corporations to domestic industries. Data on excise stamp orders placed through October 2022 indicates that there were 764 factories total, made up of 4 major enterprises, 266 medium-sized organizations, and 494 small companies.

Based on Minister of Finance Regulation Number 109/Pmk. 010/2022 concerning Amendments to Minister of Finance Regulation Number 192/Pmk.010/2021 concerning Tax Excise Tariffs on Tobacco Products in the Form of Sgarets, Cigars, Cigarette Leaves or Clots, and Irs Tobacco. Tobacco Products Factory Entrepreneurs are divided into two tiers based on machine-made kretek cigarettes (SKM) and machine-made white cigarettes (SPM). Tier 1 is more than 3 billion stems per year, while Tier 2 is less than 3 billion stems per year.

PT Gudang Garam Tbk (GGM) is an example of a Tier 1 company based on the size of SKM and SPM, and PT Wismilak Inti Makmur Tbk is an example of a company that has just entered Tier 1 in sales in 2022, whereas previously the number of sales was still less than 3 billion units per year, or outside of Tier 1.

Under reference GGRM on the Indonesian Stock Exchange (IDX), the Company's shares were traded in a range from a low of Rp 18,000 to a high of Rp 33,575 per share during 2022. There were no changes to the issued and paid up capital of the Company in 2022 and a dividend of Rp 2,250 per share was distributed from 2021 earnings, as approved at the Annual General Meeting of Shareholders that was held in June 2022. Gudang Garam is a member of the following associations/organizations: • GAPPRI (Association of Indonesian Cigarette Manufacturers) • APINDO (Indonesian Entrepreneurs Association) • AEI (Association of Indonesian Issuer) (GGRM Annual Report, 2022).

Wismilak conducted an Initial Public Offering of up to 30% of the issued and fully paid capital, as well as the listing of all shares of the Company on the Indonesia Stock Exchange (IDX). Therefore, there was a change in status to become a public Company which was approved by the shareholders and outlined in the Circular Resolution of the Shareholders dated September 8, 2012. This has been recorded in the Notarial Deed of Yulia, S.H., No.24 dated September 10, 2012. Wismilak is one of the leading producers of tobacco products in Indonesia that has a competitive advantage, namely excellent product quality, implementing the best manufacturing practices (Good Manufacturing Practice) of tobacco products in the production process to maintain cigarette quality and standardization of production results with predetermined product specifications (WIIM Annual Report, 2022)

1.2 Financial Performance Analysis

Financial ratios are a powerful tool for evaluating a company's performance (Megaladevi, 2015). Many empirical studies on financial ratios have been conducted in various industries around the world (Yeh, 1996; Webb, 2003; Lacewell, 2003; Halkos and Salamouris, 2004; Daryanto, 2018). Companies are encouraged to increase their activity ratios in order to maintain their profitability (Daryanto, 2018). The government's infrastructure program has

been shown to stabilize financial performance in the cement industry (Daryanto, 2018). Income approaches, market approaches, asset-based approaches, and option pricing approaches are the four types of approaches based on the sources of input and valuation processes (Koller, Goedhart, & Wessels 2000, 47).

Return on investment (ROI), return on equity (ROE), cash ratio, current ratio (CR), collections period (CP), inventory turnover (ITO), total asset turnover (TATO), and total equity to total asset (TETA) are the eight indicators used to measure financial health, according to Ministry SOEs Decree No. KEP-100/MBU/2002.

2. METHODOLOGY

A descriptive financial ratio was utilized to assess, describe, analyze, and evaluate the financial health of two cigarette firms, PT Gudang Garam Tbk and PT Wismilak Inti Makmur, which was then validated by Indonesia Ministry decree No. KEP-100/MBU/2002. The decree's ratio measuring scales are applied for all variables. The indication and weight score for each ratio are displayed in Table 1. The information was gathered from their 2018–2022 audited annual report. Furthermore, the aforementioned decree served as validation for the financial well-being of these companies, regardless of their classification as very healthy (AAA, AA, A), healthy (BBB, BB, B), or unhealthy (CCC, CC, C).

Financial assessment levels are classified as extremely healthy (the highest degree of financial literacy), healthy (the medium level of financial literacy), and unhealthy (the lowest level of financial literacy). Three levels are available in the highest category: AAA (if the total score exceeds 95 points), AA (if the total score is between 80 and 95), and A (if the total score is between 65 and 80). Three other level kinds fall into the middle category: BBB (if the value is higher than 50 and less than 65), BB (if the value is more than 40 and less than 50), and B (if the value is more than 30 and less than 40). There are three types of levels in the lowest category: CCC (if it is more than 20 and less than 30), CC (if it is more than 10 and less than 20), and C (if it is less than 10).

Table-1: The Indicators and Weight Score

INDICATORS	WEIGHT SCORE
1. ROE	20
2. ROI	15
3. Cash Ratio	5
4. Current Ratio	5
5. Collection Period	5
6. Inventory Turnover	5
7. Total Asset Turnover	5
8. Total Equity to Total Asset	10
Total Weight Score	70

Source: The Decree of Ministry of SOE No. KEP 100/MBU/2002

2.1 Profitability Performance

The profitability is the most common measure for company's financial performance. Profitability is measured using the following criteria:

$$\text{Return on Equity (ROE)} = (\text{Net Income} / \text{Shareholder's Equity}) \times 100 \%$$

Return on equity is an important ratio for investors to consider its profits. ROE measures how efficiently a company can use the money from shareholders to generate profits and grow the company (Anthony, 2011). The ROE and ROI Assessment Score are shown in Table 2. Return on investment is a profitability ratio that calculates an investment's profits as a percentage of its original cost.

Table-2: List of ROE and ROI Assessment Score

ROE (%)	Score	ROI (%)	Score
15 < ROE	20	18 < ROI	15
13 < ROE ≤ 15	18	15 < ROI ≤ 18	13,5
11 < ROE ≤ 13	16	13 < ROI ≤ 15	12
9,0 < ROE ≤ 11	14	12 < ROI ≤ 13	10,5
7,9 < ROE ≤ 9	12	10,5 < ROI ≤ 12	9
6,6 < ROE ≤ 7,9	10	9 < ROI ≤ 10,5	7,5
5,3 < ROE ≤ 6,6	8,5	7 < ROI ≤ 9	6
4,0 < ROE ≤ 5,3	7	5 < ROI ≤ 7	5
2,5 < ROE ≤ 4	5,5	3 < ROI ≤ 5	4
1,0 < ROE ≤ 2,5	4	1 < ROI ≤ 3	3
0 < ROE ≤ 1	2	0 < ROI ≤ 1	2
ROE < 0	0	ROI < 0	1

Source: The decree of Ministry of SOE No. KEP-100/MBU/2002.

2.2 Liquidity Performance

2.2.1 Cash Ratio

$$\text{Cash Ratio} = (\text{Cash} + \text{Cash Equivalents} / \text{Current Liabilities}) \times 100 \%$$

It assesses a company's ability to repay short-term debt. If a company's cash ratio is one, it means that it has the same amount of cash as it does debt. If the cash ratio is greater than one, it indicates that the company has more cash to pay its debt. If the value is less than one, it indicates that the company has less cash available to pay its debt. It assesses the firm's ability to repay current liabilities with current assets. If the company's current ratio is less than one, it indicates that it has a problem with its short-term debt. A high current ratio indicates that the company is insolvent. Table 3 shows the Cash Ratio and Current Ratio Assessment Score.

2.2.2 Current Ratio

$$\text{Current Ratio} = (\text{Current Asset}/\text{Current Liabilities}) \times 100 \%$$

Table-3: List of Cash Ratio and Current Ratio Assessment Score

Cash Ratio (%)	Score	Current Ratio (%)	Score
Cash Ratio ≥ 35	5	$125 \leq \text{Current Ratio}$	5
$25 \leq \text{Cash Ratio} < 35$	4	$110 \leq \text{Current Ratio} < 125$	4
$15 \leq \text{Cash Ratio} < 25$	3	$100 \leq \text{Current Ratio} < 110$	3
$10 \leq \text{Cash Ratio} < 15$	2	$95 \leq \text{Current Ratio} < 100$	2
$5 \leq \text{Cash Ratio} < 10$	1	$90 \leq \text{Current Ratio} < 95$	1
$0 \leq \text{Cash Ratio} < 5$	0	$\text{Current Ratio} < 90$	0

Source: The decree of Ministry of SOE No. KEP-100/MBU/2002.

2.3 Activity Performance

2.3.1 Collection Period

$$\text{Collection Period} = (\text{Average Accounts Receivables}/\text{Sales Revenue}) \times 365 \text{ days}$$

This ratio is an important indicator for the company to monitor their cash flow and ability to pay their debt on time.

2.3.2 Inventory Turnover

$$\text{Inventory Turnover} = \text{Cost of goods sold} / \text{Average Inventory}$$

This ratio counts the number of times inventory is sold over a given time period. Table 4 shows the Collection Period and Inventory Assessment Score.

Table-4: List of Collection Period and Inventory Turnover Assessment Score

Collection Period (CP in days)	Adjustment (days)	Score	Inventory Turnover (IT in days)	Adjustment (days)	Score
CP ≤ 60	CP > 35	5	IT ≤ 60	IT > 35	5
60 < CP ≤ 90	30 < CP ≤ 35	4.5	60 < IT ≤ 90	30 < IT ≤ 35	4.5
90 < CP ≤ 120	25 < CP ≤ 30	4	90 < IT ≤ 120	25 < IT ≤ 30	4
120 < CP ≤ 150	20 < CP ≤ 25	3.5	120 < IT ≤ 150	20 < IT ≤ 25	3.5
120 < CP ≤ 150	15 < CP ≤ 20	3	150 < IT ≤ 180	15 < IT ≤ 20	3
150 < CP ≤ 180	10 < CP ≤ 15	2.4	180 < IT ≤ 210	10 < IT ≤ 15	2.4
180 < CP ≤ 210	6 < CP ≤ 10	1.8	210 < IT ≤ 240	6 < IT ≤ 10	1.8
219 < CP ≤ 240	3 < IT ≤ 6	1.2	240 < IT ≤ 270	3 < IT ≤ 6	1.2
			270 < IT ≤ 300	1 < IT ≤ 3	0.6

Source: The decree of Ministry of SOE No. KEP-100/MBU/2002

2.3.3 Total Asset Turn Over (TATO)

$$\text{Total Asset Turn Over (TATO)} = (\text{Revenue/Capital Employed}) \times 100 \%$$

This ratio assesses the company's ability to assess the efficiency with which its assets are used to generate sales. Table 5 shows the Total Asset Turn-over Assessment Score.

Table-5: List of Total Asset Turn-over Assessment Score

TATO (%)	Adjustment (days)	Score
TATO > 120	TATO > 20	5
105 < TATO ≤ 120	15 < TATO ≤ 20	4,5
90 < TATO ≤ 105	10 < TATO ≤ 15	4
75 < TATO ≤ 90	5 < TATO ≤ 10	3,5
60 < TATO ≤ 75	0 < TATO ≤ 5	3
40 < TATO ≤ 60	TATO ≤ 10	2,5
20 < TATO ≤ 40		2
TATO ≤ 20		1,2

Source: The decree of Ministry of SOE No. KEP-100/MBU/2002.

2.4 Solvency Performance

$$\text{Total Equity to Total Asset} = (\text{Total Equity} / \text{Total Asset}) \times 100 \%$$

This is comparable to the debt-to-equity ratio. If the company has a lower value, it indicates that the assets are being funded inefficiently. To put it another way, the company's net worth for investors is extremely low.

Table-6: List of Solvency Assesment Score

Total Equity to Total Asset (%)	Score
TETA < 0	0
0 ≤ TETA < 10	4
10 ≤ TETA < 20	6
20 ≤ TETA < 30	7,25
30 ≤ TETA < 40	10
40 ≤ TETA < 50	9
50 ≤ TETA < 60	8,5
60 ≤ TETA < 70	8
70 ≤ TETA < 80	7,5
80 ≤ TETA < 90	7
90 ≤ TETA < 100	6,5

Source: The decree of Ministry of SOE No. KEP-100/MBU/2002

3. RESULT, DISCUSSION AND VALIDATION TESTING

3.1 Result and Discussion

3.1.1 Profitability Analysis

Figure 2 depicts the decline in PT Gudang Garam Tbk's ROI and ROE from 2018 to 2022. It increased in 2019 before declining. The percentage decrease in ROE from 2018 to 2022 is shown in Table 7 (17%, 21%, 13%, 9%, and 5%). The Decree's minimum standard for ROE is 15%, and the ratio has been below that for the last three years. This implies that the 23% increase in excise tax in 2020, combined with Covid-19, greatly suppressed the rate of profitability growth, and that from 2020 to 2022, excise duties rose significantly, but this was not accompanied by a community recovery.

Table 7 also shows the ROI percentage from 2018 – 2022 (20%, 23%, 17%, 12% and 9%). The minimum standard of the Decree for ROI is 18%, therefore for the last three years, the ratios were below the standard. Even in the last year, 2022, it reached single-digit ROI.

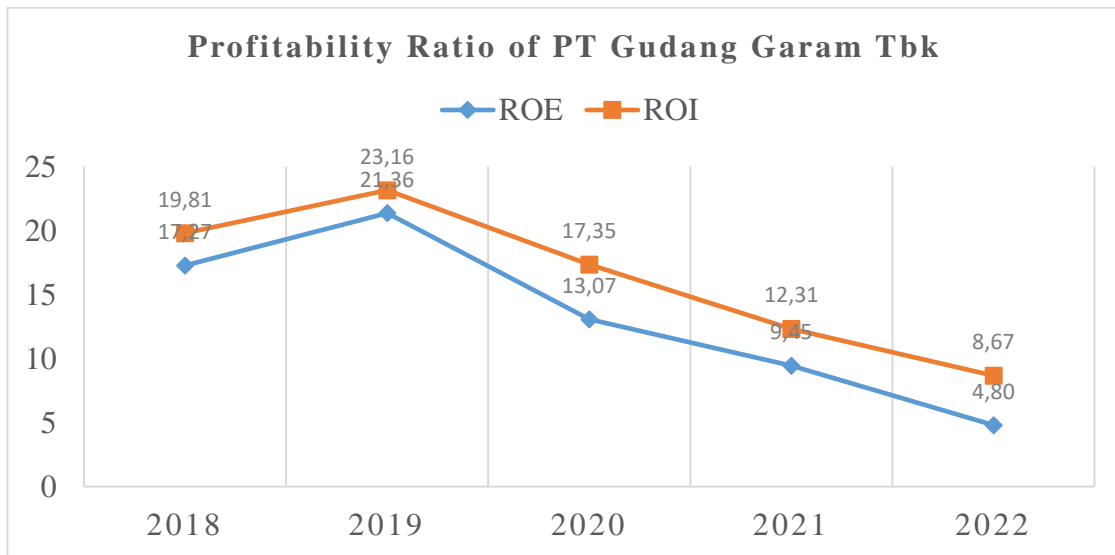


Figure-2: Profitability Ratio of PT Gudang Garam Tbk in 2018 - 2022

In contrast to PT Gudang Garam Tbk, PT Wismilak Inti Makmur Tbk's Profitability Ratio shows an upward trend from 2018 to 2022. In fact, in 2020, ROE increased by 450% and ROI increased by 137% over the previous year. In comparison to the minimum standard of the Decree for ROI, the period 2018-2022 has never reached the minimum figure. While the ROE only reached the minimum standard in 2022, with the rest below the standard.

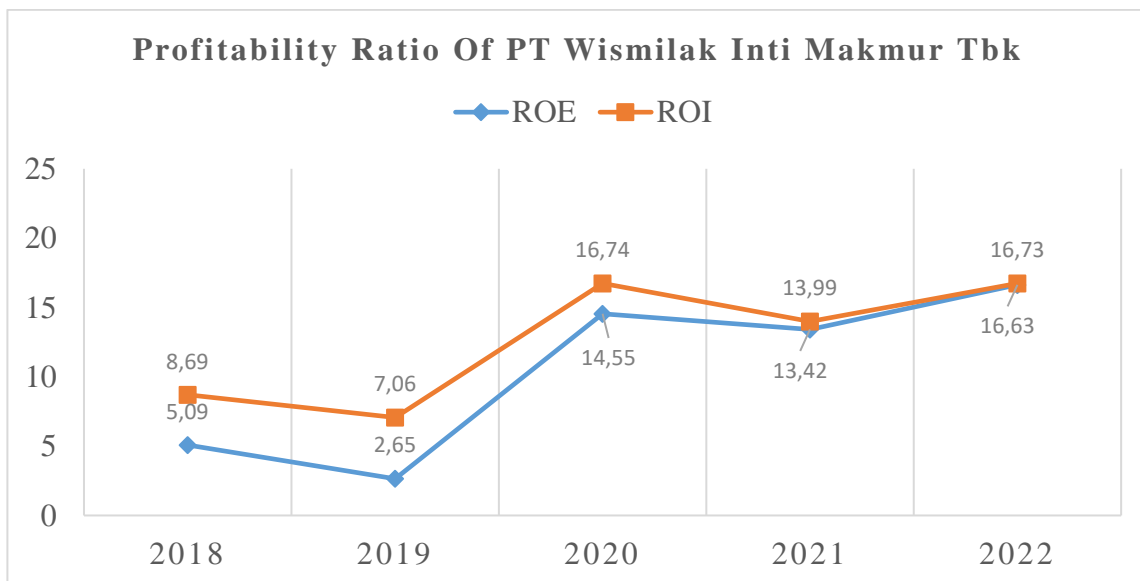


Figure-3: Profitability Ratio of PT Wismilak Inti Makmur Tbk in 2018 - 2022

3.1.2 Liquidity Analysis

Figure 4 and Table 7 show PT Gudang Garam Tbk's Liquidity Ratio from 2018 to 2022; cash ratios are 9%, 14%, 28%, 15%, and 15%, while current ratios are 206%, 206%, 291%, 209%, and 190%. Both the cash ratio and the current ratio were at their highest levels in the previous five years in 2020. However, the current ratio has decreased since that year and will reach its lowest point in 2022, at 190%.

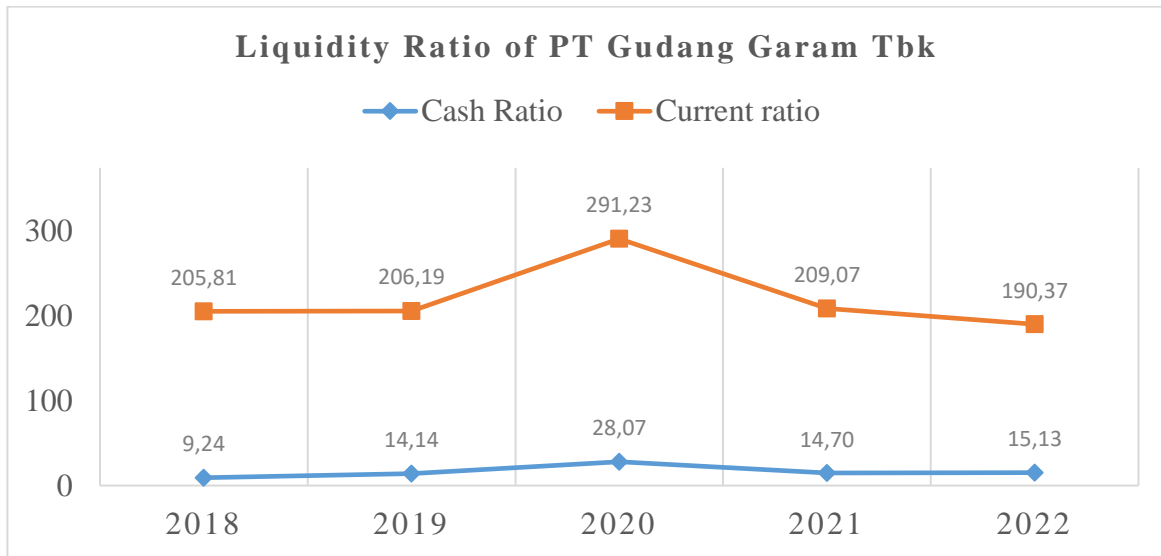


Figure-4: Liquidity Ratio of PT Gudang Garam Tbk in 2018 - 2022

Figure 5 and Table 9 show PT Wismilak Inti Makmur Tbk's Liquidity Ratio from 2018 to 2022; cash ratios are 70%, 178%, 122%, 96%, and 108%, while current ratios are 592%, 602%, 366%, 293%, and 284%. PT Wismilak Inti Makmur Tbk has a higher liquidity ratio, as can be seen. However, the liquidity ratio has decreased from 2019 to 2022. The liquidity ratio demonstrates that the company is in good financial health, with total current assets greater than current liabilities, implying that cash is greater than current liabilities. There should be no question about the company's ability to meet its short-term obligations.

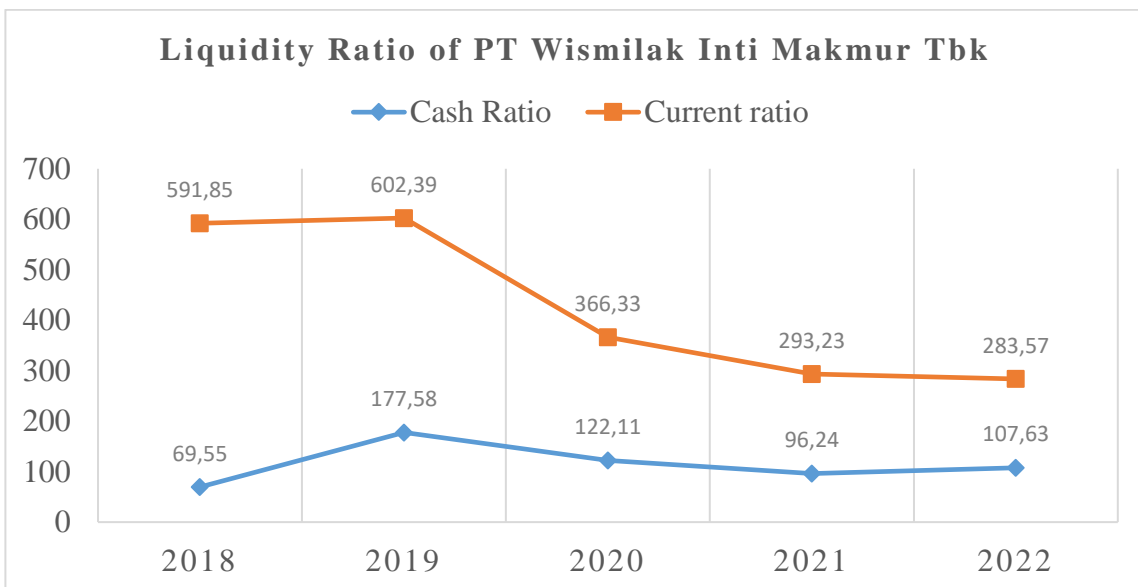


Figure-5: Liquidity Ratio of PT Wismilak Inti Makmur Tbk in 2018 - 2022

3.1.3 Activity Analysis

In Figure 6 it can be seen that the activity ratio including total asset turnover (TATO), day's inventory, and collection period (days) of PT Gudang Garam Tbk has been stable in the last 5 years. Revenue from 2018 to 2022 also continues to increase from year to year, IDR 95,707,663 million, IDR 110,523,819 million, IDR 114,477,311 million, IDR 124,881,266 million and IDR

124,682,692 million. This indicates that the company carried out the efficiency and effectiveness of its assets quite well in generating income during those years. Receivables collection also looks efficient with stable figures in the last 5 years ranging from 6.2 – 8.15 days.

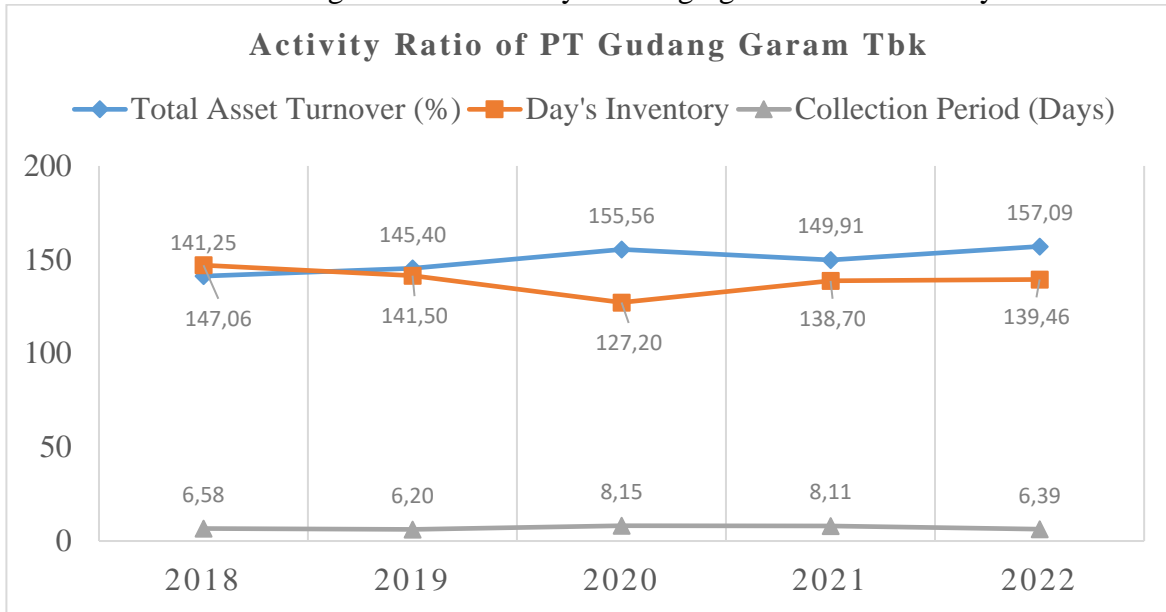


Figure-6: Activity Ratio of PT Gudang Garam Tbk in 2018 - 2022

Figure 7 displays the activity ratio of PT Wisnilak Inti Makmur Tbk from 2018 - 2022. Total assets turnover (TATO) has increased by 52% from 2018, 112.96% to 172% in 2022, day's inventory has experienced a significant decrease of -47 % from 2018, 169.5 days to 90.4 days in 2022 and the collection period (days) also decreased by 3.6 days from 2018, 15.85 days and to 12.2 days in 2022. Revenue from 2018 to 2022 also continues to increase from year on year, IDR 1,405,384 million, IDR 1,393,574 million, IDR 1,994,067 million, IDR 2,733,692 million and IDR 3,704,350 million. Revenue increased by 164% during 2018 – 2022. This indicates that the company is in a period of very good growth in the last 5 years.

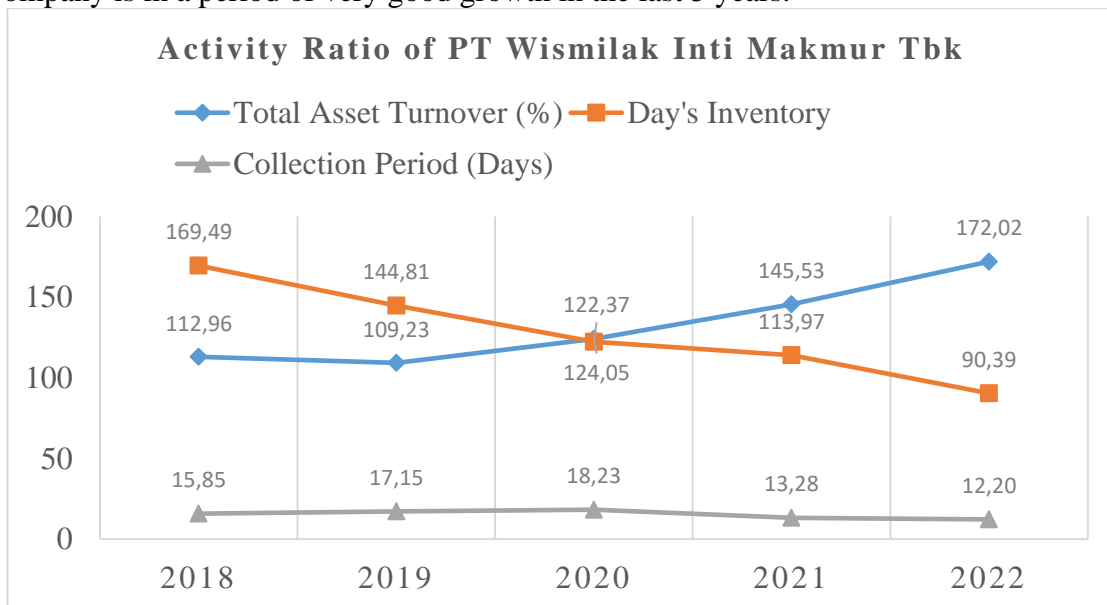


Figure-7: Activity Ratio of PT Wisnilak Inti Makmur Tbk in 2018 - 2022

3.1.4 Solvency Analysis

Figure 8 and Table 7 show the solvency ratios of PT Gudang Garam Tbk, the total equity to total assets ratios from 2018 – 2022; 65%, 65%, 75%, 66%, and 65%. The solvency ratio looks stable, there will only be an increase proportion of assets contributed by investors in 2022 by 10% compared to the previous year, but in 2021 it will return to a figure similar to 2019. The stability of the solvency ratio figure has an impact on the stability of the company's financial figures.

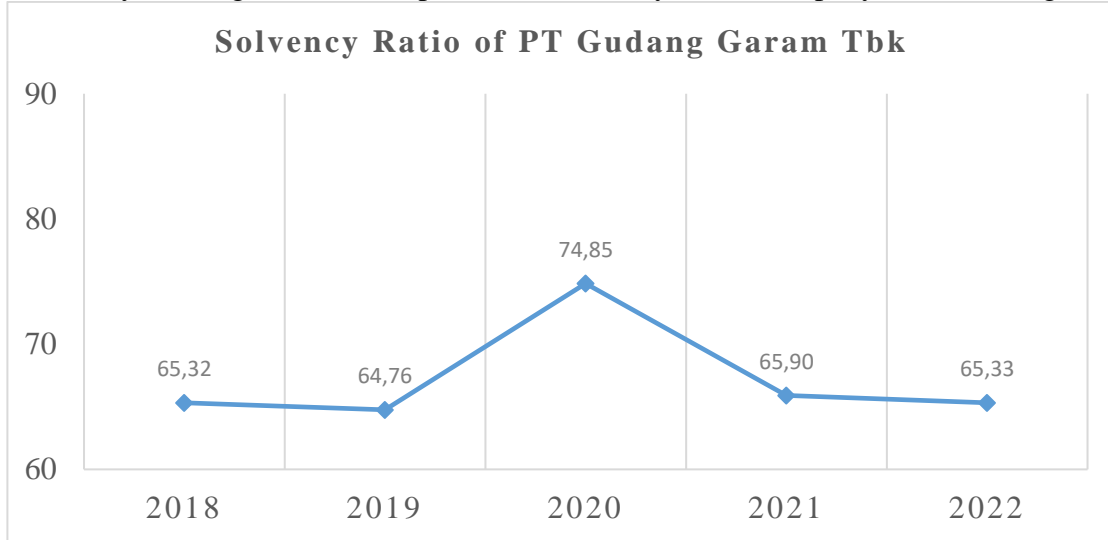


Figure-8: Solvency Ratio of PT Gudang Garam Tbk in 2018 - 2022

Figure 9 and Table 9 show the solvency ratios and total equity to total assets ratios of PT Wismilak Inti Makmur Tbk from 2018 to 2022: 80%, 80%, 73%, 70%, and 69%. The solvency ratio is decreasing and will reach a low of 69% in 2022. This demonstrates that a decrease in the proportion of assets contributed by investors does not always imply a lack of financial flexibility, as the ratio still generates a significant number, nearly 70% of total assets. The falling equity-to-assets ratio suggests that the company will rely more on debt to finance itself. This is most likely done to fund the 164% increase in income over the last five years.

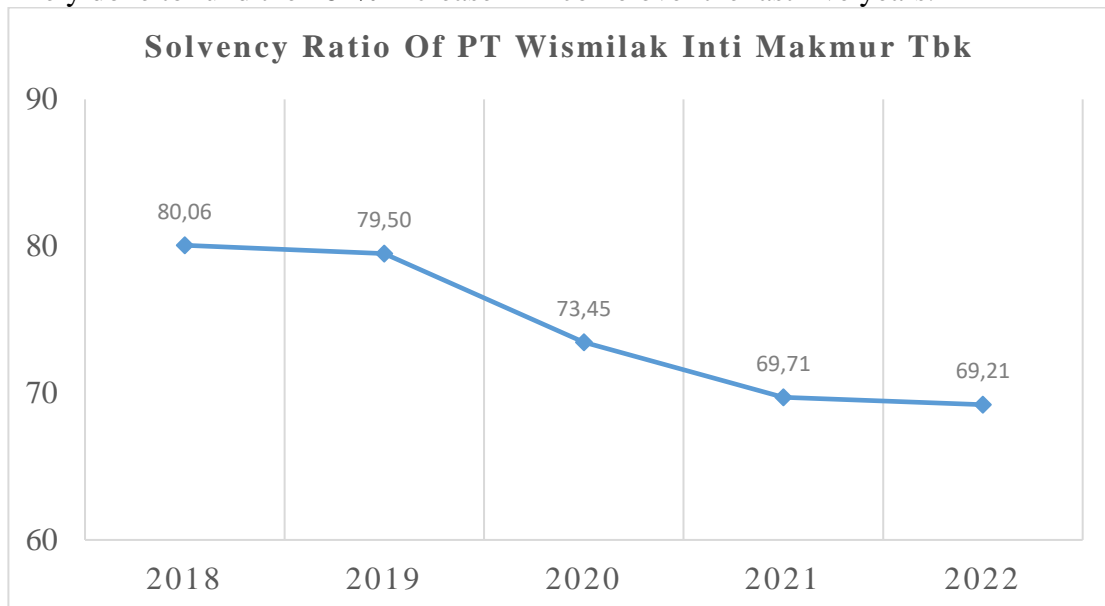


Figure-9: Solvency Ratio of PT Wismilak Inti Makmur Tbk in 2018 - 2022

3.2 Validation Testing

To validate the level of financial health of PT Gudang Garam Tbk and PT Wismilak Inti Makmur Tbk, whether in healthy, unhealthy, or not healthy positions from 2018 to 2022, the Ministry of SOE decree No. KEP-100/MBU/2002 is used. Table 7 shows PT. Gudang Garam Tbk's test results from 2018 to 2022. The total score downtrend from 2018 to 2022 (62.5, 63.5, 63.5, 53, and 42.5). Following that, the total score is converted to the total weight using a formula that is total score/weight multiplied by 100, and the result is shown in Table 8, which shows of healthy category during 2018-2021 but unhealthy in 2022 or AA, AA, AA, A, and BBB respectively.

Table-7: Validation Testing of PT Gudang Garam Tbk in 2018 - 2022

Indicator	2018		2019		2020		2021		2022	
	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score
ROE	17.27	20	21.36	20	13.07	20	9.45	14	4.80	7
ROI	19.81	15	23.16	15	17.35	13.5	12.31	10.5	8.67	6
Cash Ratio	9.24	1	14.14	2	28.07	4	14.70	2	15.13	3
Current Ratio	205.81	5	206.19	5	291.23	5	209.07	5	190.37	5
Collection Period	6.58	5	6.20	5	8.15	5	8.11	5	6.39	5
Day's Inventory	147.06	3.5	141.50	3.5	127.20	3.5	138.70	3.5	139.46	3.5
TATO	141.25	5	145.40	5	155.56	5	149.91	5	157.09	5
Solvency Ratio	65.32	8	64.76	8	74.85	7.5	65.90	8	65.33	8
TOTAL		62.5		63.5		63.5		53		42.5

Table-8: PT Gudang Garam Tbk Validation Testing Summary for 2018 - 2022

Year	Total Score	Weight	Total weight	Value	Level	Category
2018	62.5	70	89.29	80<TS<=95	AA	Healthy
2019	63.5	70	90.71	80<TS<=95	AA	Healthy
2020	63.5	70	90.71	80<TS<=95	AA	Healthy
2021	53	70	75.71	65<TS<=80	A	Healthy
2022	42.5	70	60.71	50 <TS< =65	BBB	Unhealthy

The test results for PT Wismilak Inti Makmur Tbk are shown in Table 9. The total score upward trend from 2018 to 2022 (42.5, 42, 62.5, 62, and 65.5). The total score is then converted to total

weight using a formula that is total score/weight multiplied by 100, and the result is shown in Table 10, which shows the unhealthy category in 2018-2019 and the healthy category in 2020-2022, or BBB, BBB, AA, AA, and AA, respectively.

Table-9: Validation Testing of PT Wismilak Inti Makmur Tbk in 2018 - 2022

Indicator	2018		2019		2020		2021		2022	
	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score
ROE	5.09	7	2.65	5.5	14.55	18	13.42	18	16.63	20
ROI	8.69	6	7.06	6	16.74	13.5	13.99	12	16.73	13.5
Cash Ratio	69.55	5	177.58	5	122.11	5	96.24	5	107.63	5
Current Ratio	591.85	5	602.39	5	366.33	5	293.23	5	283.57	5
Collection Period	15.85	5	17.15	5	18.23	5	13.28	5	12.20	5
Day's Inventory	169.49	3	144.81	3.5	122.37	3.5	113.97	4	90.39	4
TATO	112.96	4.5	109.23	4.5	124.05	5	145.53	5	172.02	5
Solvency Ratio	80.06	7	79.50	7.5	73.45	7.5	69.71	8	69.21	8
TOTAL		42.5		42		62.5		62		65.5

Table-10: PT Wismilak Inti Makmur Tbk Validation Testing Summary for 2018 - 2022

Year	Total Score	Weight	Total weight	Value	Level	Category
2018	42.5	70	60.71	50 <TS< =65	BBB	Unhealthy
2019	42	70	60.00	50 <TS< =65	BBB	Unhealthy
2020	62.5	70	89.29	80<TS<=95	AA	Healthy
2021	62	70	88.57	80<TS<=95	AA	Healthy
2022	65.5	70	93.57	80<TS<=95	AA	Healthy

CONCLUSION

The study shows the financial performance of the cigarette industry between 2018 and 2022. Based on the decree of the Ministry of SOEs No. KEP-100/MBU/2002 about financial health assessment, the study concerns four classifications of ratio measurements that include liquidity, solvency, profitability, and activity ratios. The outcome shows that PT Gudang Garam Tbk, although its revenue increased every year from 2018 - 2022, its profitability ratio has dropped significantly. Even the results of the financial health assessment show a downtrend with quite significant numbers. His financial health status also decreased every year from 2018 - 2020 in the healthy category level AA to 2021 in the healthy category level A and 2022 the unhealthy category level BBB. This is an indicator of evidence that the increase in excise taxes affects the cigarette industry because excise is a component of 70 - 80% of COGS.

This study also compares the financial performance between Tier 1 and non-Tier 1 cigarette companies. PT Gudang Garam Tbk is an example of a Tier 1 cigarette company based on the size of SKM and SPM, and PT Wismilak Inti Makmur Tbk is an example of a non-Tier 1 cigarette company. It turns out that the results of the financial health assessment of PT Wismilak Inti Mamur Tbk are very different from the financial health assessment of PT Gudang Garam Tbk. Financial health status increased every year from 2018 and 2019, the unhealthy category level BBB then continued to increase every year from 2020 – 2022, the healthy category level AA, and even 2022 the highest for the last 5 years with a total score of 93.57. It is hoped that this study can provide input from relevant stakeholders, such as input for improving the structure of excise rates and whether further studies need to be carried out on whether there is a downtrading from Tier 1 to non-Tier 1 because the impact of the increase in excise is different between Tier 1 and non-Tier 1, thus affecting end-user prices.

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CHAPTER 2

Financial Performance Analysis of State Owned Enterprises Electricity Utility Company in 2018 - 2022

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ABSTRACT

Electricity has been and most likely will continue to be a source of energy needed for everyone in the world to grow and develop. For 77 years, PT Perusahaan Listrik Negara (Persero) (PLN) has been the one and only State Owned Enterprise (SOE) that provide electricity services in Indonesia. Being the one and only electricity provider in Indonesia, PLN sustainability is crucial. To achieve this, PLN must carefully maintain its condition to be a healthy company. In doing business, PLN is heavily regulated under 3 Ministry. Ministry of Finance (MOF), Ministry of State-Owned Enterprises (MSOE) and Ministry of Energy and Mineral Resources (MEMR). To assess its health level, MSOE issued a decree No. KEP-100/MBU/2002 about Assessment Of The Level Of Health Of State-Owned Enterprises. Several Financial Ratios such as Solvency Ratio, Liquidity Ratio, Rentability Ratio, and Profitability Ratio are also will be presented to assess the health level. The result indicates that PLN can use more support from the government to maintain its sustainability. Therefore, this research can be beneficial for everyone who seeks references on Electricity business, particularly in Indonesia.

Keywords: Financial performance, Corporation Health Condition, Electricity Services Company

INTRODUCTION

Background

Walking into digitalization era, people behaviour are changing. In the pursue of effisiensi and effectiveness, people are getting more and more relying on gadgets and electronic goods. Those gadgets and electronic goods are powered by electricity. Based on that condition, electricity most likely will be the source of energy needed for everyone in the world to grow and develop. Just like everyone in the world, people in Indonesia is no different. PLN has been the one and only SOE that provide electricity services in Indonesia for more than 77 years. In 2022, PLN had successfully sold electricity for more than 273 TWh to more than 85 million customer throughout Indonesia. Those figures are expected to increase in the years to come, as the awareness of friendly energy is also increasing. Being the one and only SOE and also an electricity provider, PLN must be carefully assessed its health level.

Research Objective

MSOE has issued a decree No. KEP-100/MBU/2002 about Healthy Level Assessment of State Owned Enterprise. This paper will use the Ratios mentioned in KEP-100/MBU/2023 to assess the PLN's financial condition.

LITERATURE REVIEW

PT Perusahaan Listrik Negara (Persero) (PLN)

Starting at the end of the 19th century, the field of sugar factories and electricity factories in Indonesia began to improve when several Dutch companies engaged in sugar factories and tea factories set up electric power plants for their own needs.

Between 1942-1945, there was a shift in the management of these Dutch companies by Japan, after the Netherlands surrendered to Japanese troops at the start of World War II.

The process of transferring power occurred again at the end of World War II in August 1945, when Japan surrendered to the Allies. This opportunity was taken advantage of by youth and electricity workers through a delegation of Electricity and Gas Workers/Employees who together with the Central KNI Leaders took the initiative to meet President Soekarno to hand over these companies to the Government of the Republic of Indonesia. On October 27 1945, President Soekarno formed the Electricity and Gas Bureau under the Ministry of Public Works and Power with an electric power generation capacity of 157.5 MW.

On January 1, 1961, the Electricity and Gas Bureau was changed to BPU-PLN (General Leadership Agency of the State Electricity Company) which operated in the electricity, gas and coke sector which was dissolved on January 1, 1965. At the same time, 2 (two) companies the state, namely the State Electricity Company (PLN) as the state-owned electric power manager and the State Gas Company (PGN) as the gas manager were inaugurated.

In 1972, in accordance with Government Regulation no. 18, the status of the State Electricity Company (PLN) is determined as the State Electricity Public Company and as the Electricity Business Authorization Holder (PKUK) with the task of providing electricity for the public interest.

In line with the Government's policy of providing opportunities for the private sector to engage in the electricity supply business, since 1994 PLN's status has shifted from a Public Company to a Limited Liability Company (Persero) and also as a PKUK in providing electricity for the public interest until now

As a company with a strategic role in the Indonesian electricity industry, PT PLN (Persero) is committed to encouraging the energy transition process towards achieving the net zero emission target in 2060. Along with that, at the end of 2022, PLN has completed the establishment of Holding and Sub-Holding as a joint effort to optimize all of its potential, by transforming into a lean, agile, and efficient company. For this commitment and the establishment of the Holding and Sub-Holding, the year 2022 became an important momentum for PLN to strengthen its leadership and strategic role in providing sustainable energy for the country.

In doing business, PLN is heavily regulated under 3 Ministry. Ministry of Finance (MOF), Ministry of State-Owned Enterprises (MSOE) and Ministry of Energy and Mineral Resources (MEMR). Each ministry has their own concern about PLN. MOF concerns mostly but not limited to Tax, Debt, and Subsidy. MSOE concerns mostly about regulation related to corporate policy, corporate action and many more. MEMR concern mostly about tariff, electrical issue and more.

Previous Research on Financial Performance

Previous research regarding financial performance has been conducted in many industries, such as hospitals, banks, oil and gas, aviation, construction, and many others. A number of studies on assessing SOE's financial health in Indonesia using the decree have been carried out previously (Daryanto, 2018; Darwin, 2019; Suraya & Meylani, 2019). SOEs are obligated to provide Financial Statements for every financial year, so that managements and shareholders can make an assessment about the financial health or any other performance.

The Decree of Ministry of State Owned Enterprises (MSOE)

According to the Law of Republic of Indonesia No. 19/2003, the definition of State Owned Enterprises is a business entity whose capital is wholly or largely owned by the state through direct participation originating from separated state assets. It is crucial for every SOE, including PLN, to comply with the Law, Decree or any other issued by the ministry. For this study, there are two decrees that will be the guideline. To Analyze the Financial Performance, there are eight ratios which are stated in the decree No: KEP-100/MBU/2002, about Assessment Of The Level Of Health Of State-Owned Enterprises. Thore ratios are Return of Investment, Return of Equity, Cash Ratio, Current Ratio, Collection Period, Inventory Turnover, Total Assets Turnover, Total Equity to Total Assets ratio. The second decree is Decree No: PER-2/MBU/03/2023 about

Governance Guidelines and Significant Corporate Activities. This decree states that in order to maintain the certain levels of health, the SOE needs to get Rating from qualified rating agencies.

METHODOLOGY

Financial Statements can be used to analyze financial performance from time to time. By analyzing these financial statements, information and knowledge about the financial aspects of a company can be acquired. The measurement tool that is often used for financial statement analysis is financial ratios. In this study, the financial ratios used are Return of Investment, Return of Equity, Cash Ratio, Current Ratio, Collection Period, Inventory Turnover, Total Assets Turnover, Total Equity to Total Assets ratio.

The data used in this study are secondary data. All data related to PLN are downloaded from the PLN's official website, such as the Financial Statements from 2018 to 2022, the Annual Report 2022 and other company information. The decrees of Ministry of State-Owned Enterprises are also downloaded from the official website of the Ministry of State-Owned Enterprises.

Return of Investment (ROI)

ROI is profitability ratios that Calculates the company's ability to generate profits that are used to cover the investments made. The formula to calculate ROI is as follow:

$$\text{ROI} = \frac{\text{EBIT} + \text{Depreciation}}{\text{Capital Employed}} \times 100\%$$

ROI (%)	Score
18 < ROI	10
15 < ROI ≤ 18	9
13 < ROI ≤ 15	8
12 < ROI ≤ 13	7
10,5 < ROI ≤ 12	6
9 < ROI ≤ 10,5	5
7 < ROI ≤ 9	4
5 < ROI ≤ 7	3,5
3 < ROI ≤ 5	3
1 < ROI ≤ 3	2,5
0 < ROI ≤ 1	2
ROI < 0	0

Table 1: ROI Scoring Assessment

Return on Equity (ROE)

Similar to ROI, ROE is profitability ratio that calculates the equity's ability to generate income. The formula to calculate ROE is as follow:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total Equity}} \times 100\%$$

ROE (%)	Score
15 < ROE	15
13 < ROE ≤ 15	13,5
11 < ROE ≤ 13	12
9 < ROE ≤ 11	10,5
7,9 < ROE ≤ 9	9
6,6 < ROE ≤ 7,9	7,5
5,3 < ROE ≤ 6,6	6
4 < ROE ≤ 5,3	5
2,5 < ROE ≤ 4	4
1 < ROE ≤ 2,5	3
0 < ROE ≤ 1	1,5
ROE < 0	1

Table 2: ROE Scoring Assessment

Cash Ratio

Cash ratio is one of the liquidity ratios. It is A type of financial ratio analysis that compares cash and equivalent cash (that can immediately become cash) with current liabilities. Cash is the amount of the money that is kept in the office and in the bank in the form of a bank account. Meanwhile, equivalent cash are current assets that can be easily and quickly cashed back, and can be influenced by the economic conditions of the country where the company in question is domiciled. The formula to calculate Cash Ratio is as follow:

$$\text{Cash Ratio} = \frac{\text{Total Cash and Equivalent Cash}}{\text{Current Liabilities}} \times 100\%$$

Cash Ratio = x (%)	Score
x ≥ 35	3
25 < x ≤ 35	2,5
15 < x ≤ 25	2
10 < x ≤ 15	1,5
5 < x ≤ 10	1
0 < x ≤ 5	0

Table 3: Cash Ratio Scoring Assessment

Current Ratio

Similar to Cash Ratio, Current Ratio is also one of the Liquidity Ratio. It is a ratio that measures a company's ability to pay short-term obligations or debt that is due soon with available current assets. The greater the ratio of current assets to current liabilities, the higher the company's ability to cover its short-term liabilities. The formula to calculate Current Ratio is as follow:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} \times 100\%$$

Current Ratio = x (%)	Score
125 <= x	3
110 <= x < 125	2,5
100 <= x < 110	2
95 <= x < 100	1,5
90 <= x < 95	1
x < 90	0

Table 4: Current Ratio Scoring Assessment

Collection Period

Collection Period shows us how many days does it takes for a company to get or collect payment from the customer. The formula to calculate collection period is as follow:

$$\text{Collection Period} = \frac{\text{Total Account Receivables}}{\text{Total Sales Revenue}} \times 365 \text{ days}$$

Collection Period = x (days)	Adjustment = x (days)	Score
x <= 60	x > 35	4
60 < x <= 90	30 < x <= 35	3.5
90 < x <= 120	25 < x <= 30	3
120 < x <= 150	20 < x <= 25	2,5
150 < x <= 180	15 < x <= 20	2
180 < x <= 210	10 < x <= 15	1,6
210 < x <= 240	6 < x <= 10	1,2
240 < x <= 270	3 < x <= 6	0,8
270 < x <= 300	1 < x <= 3	0,4
300 < x	0 < x <= 1	0

Table 5: Collection Period Scoring Assessment

Inventory Turnover (ITO)

ITO shows us how efficient a company in terms of maintaining their inventory. More inventory with less sales, shows how inefficient a company maintaining its inventory. The formula to calculate collection period is as follow:

$$\text{Inventory Turnover} = \frac{\text{Total Inventories}}{\text{Total Sales Revenue}} \times 365 \text{ days}$$

Inventory Turnover = x (days)	Adjustment = x (days)	Score
$x \leq 60$	$35 < x$	4
$60 < x \leq 90$	$30 < x \leq 35$	3,5
$90 < x \leq 120$	$25 < x \leq 30$	3
$120 < x \leq 150$	$20 < x \leq 25$	2,5
$150 < x \leq 180$	$15 < x \leq 20$	2
$180 < x \leq 210$	$10 < x \leq 15$	1,6
$210 < x \leq 240$	$6 < x \leq 10$	1,2
$240 < x \leq 270$	$3 < x \leq 6$	0,8
$270 < x \leq 300$	$1 < x \leq 3$	0,4
$300 < x$	$0 < x \leq 1$	0

Table 6: ITO Scoring Assessment

Total Assets Turnover (TATO) Ratio

TATO shows us how efficient a company asset ability to produce revenue. The higher the number, the more efficient a company’s assets in producing revenue. The formula to calculate TATO is as follow:

$$\text{TATO} = \frac{\text{Total Revenue}}{\text{Capital Employed}} \times 100\%$$

Total Asset Turnover (TATO) = x (%)	Adjustment = x (%)	Score
$120 < x$	$20 < x$	4
$105 < x \leq 120$	$15 < x \leq 20$	3,5
$90 < x \leq 105$	$10 < x \leq 15$	3
$75 < x \leq 90$	$5 < x \leq 10$	2,5
$60 < x \leq 75$	$0 < x \leq 5$	2
$40 < x \leq 60$	$x \leq 0$	1,5
$20 < x \leq 40$	$x < 0$	1
$x \leq 20$	$x < 0$	0,5

Table 7: TATO Scoring Assessment

Total Equity to Total Assets (TETA) Ratio

TETA ratio is quite similar to the debt to equity ratio. If the company has less value, it shows that the company is funding its assets inefficiently. The formula to calculate TETA is as follow:

$$\text{TETA} = \frac{\text{Total Equity}}{\text{Total Asset}} \times 100\%$$

Total Equity to Total Asset (TETA) = x (%)	Score
$x < 0$	0
$0 < x \leq 10$	2
$10 < x \leq 20$	3
$20 < x \leq 30$	4
$30 < x \leq 40$	6
$40 < x \leq 50$	5,5
$50 < x \leq 60$	5
$60 < x \leq 70$	4,5
$70 < x \leq 80$	4,25
$80 < x \leq 90$	4
$90 < x \leq 100$	3,5

Table 8: TETA Scoring Assessment

DISCUSSION

ROE

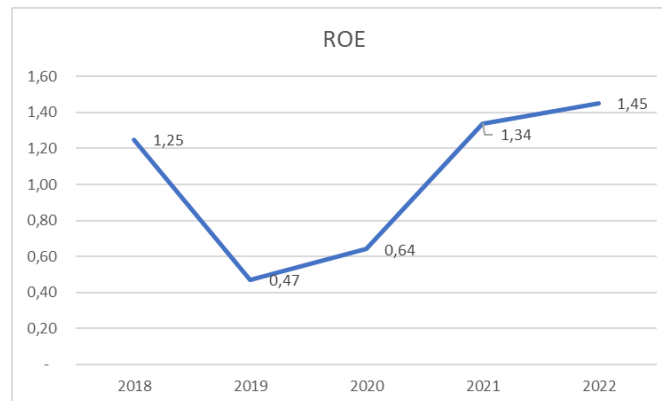


Figure 1 : ROE Trend on the observed period

Figure 1 presents the trend of PLN's ROE performance. Consecutively from 2018 to 2022, the ROE Ratio are 1,25 ; 0,47; 0,64; 1,34 ; 1,45. As shown, we can see that during the covid 19 pandemic in Indonesia 2019-2020, there were a significant decreasing. Based on the figures on Financial Statement, the significant decreasing is caused by the decreasing of the net income, it was consecutively IDR 4,4 trillion and IDR 6 trillion. On the other years, PLN has managed to achieve net income IDR 11,56 Trillion, IDR 13,17 Trillion and IDR 14,41 Trillion. The Covid-19 Pandemic was seriously hit PLN in term of net profit.

ROI

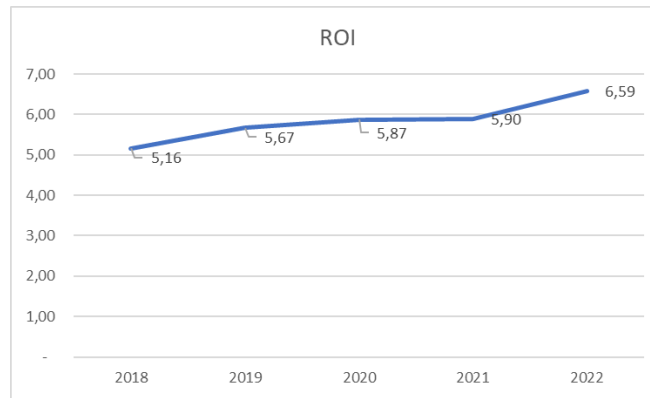


Figure 2 : ROI Trend on the observed period

Figure 2 presents the trend of PLN’s ROI performance. Consecutively from 2018 to 2022, the ROI Ratio are 5,16 ; 5,67; 5,87; 5,50 ; 6,59. Overall, the quite significant increasing is in 2022. Based on the Financial Report year 2022, there was a significant increasing in Earnings Before Interest and Tax, IDR 54,94 Trillion. During the Covid-19, there were no impact for PLN’s ROI

Cash Ratio

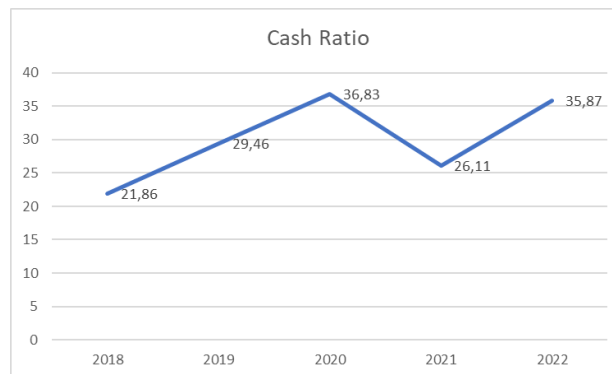


Figure 3 : Cash Ratio Trend on the observed period

Figure 3 presents the trend of PLN’s Cash Ratio performance. Consecutively from 2018 to 2022, the Cash Ratio are 21,86; 29,46; 36,38; 26,11; 35,87. During the Covid-19 in 2019 and 2020, there was a spiking. It happened consecutively from 2018. Based on the Cash Flow report, in 2018-2020 there were increasing number of Net Cash received that was provided by operating activities. In 2021, there were increasing in amount of net cash used in investing activities and operating activities. In 2020, there were another increasing number of Net Cash received that was provided by operating activities.

Current Ratio

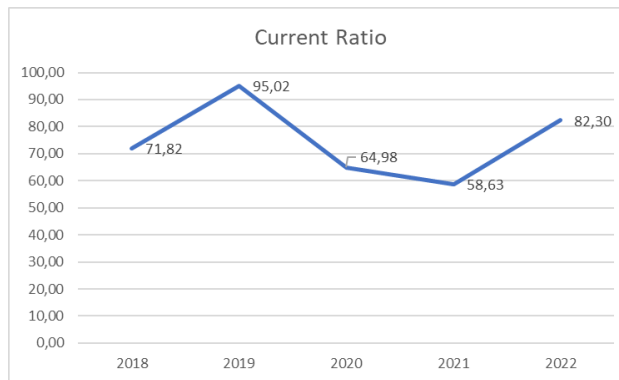


Figure 4 : Current Ratio Trend on the observed period

Figure 4 presents the trend of PLN’s Current Ratio performance. Consecutively from 2018-2022, the current ratios are: 71,82; 95,02; 64,98; 58,63; 82,30. During the covid-19, there was a strike declining from 2019 to 2021 on the Current Assets. Based on the Financial report on those years, it was mostly caused by the amount of the receivables from the government. Receivables from Government consists of compensation the Government and underpayment of COVID-19 stimulus from discount tariff to PLN. Compensation receivables represents compensation from Government for the difference between the actual tariffs charged versus the tariffs calculated by the PLN. Since 2017, PLN has always accepted fixed electricity tariff decisions from the Government. In other words, the calculation of electricity tariff proposed by the PLN is not approved by the Ministry of Energy and Mineral Resources. PLN was required to use a fixed electricity tariff, namely the electricity tariff which has been approved per the first quarter of 2017. The balance of COVID-19 stimulus receivables is tariff discount stimulus in 2020. Revenue of tariff discount in 2020 amounted to Rp12,267,507 which has been audited by the State Auditor.

Collection Period (COP)

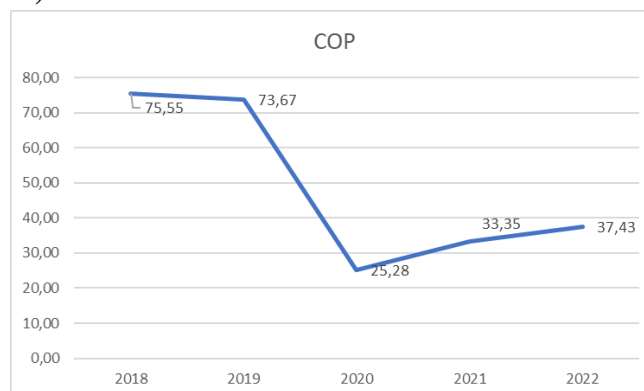


Figure 5 : COP Trend on the observed period

Figure 5 presents the trend of PLN’s COP performance. Consecutively from 2018-2022, the COP are: 75,55; 73,67; 25,28; 33,35; 37,43. It was getting better. Especially in the pandemic. From the financial statements, there were a huge decreasing in the receivables balance. Thoroughly research is needed to discover the cause for this decreasing.

Inventory Turnover (ITO)

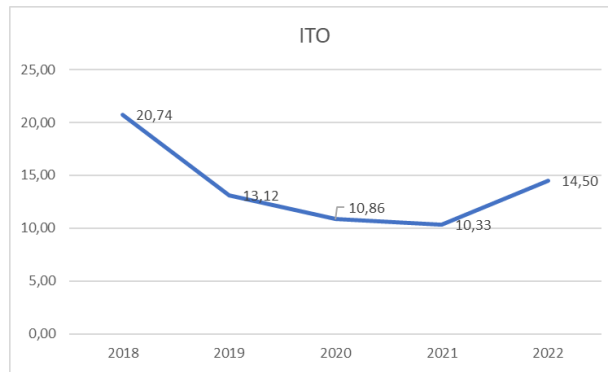


Figure 6 : ITO trend on the observed period

Figure 6 presents the trend of PLN's ITO performance. Consecutively from 2018-2022, the ITO are: 20,74; 13,12; 10,86; 10,33; 14,50. During the pandemic, and based from the financial statements, PLN has managed to cut down the amount of the inventory. Although the number of sales are also declining, in terms of ITO calculations, PLN has been successful on keeping the inventory low. In 2022 there were a spike. PLN needs to be more careful in buying parts and material sparts.

Total Assets Turnover (TATO)

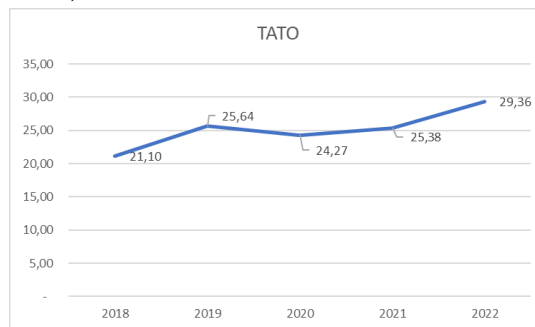


Figure 7 : TATO trend on the observed period

Figure 7 presents the trend of PLN's TATO performance. Consecutively from 2018-2022, the TATO are: 21,10; 25,64; 24,27; 25,38; 29,36. The financial statements shows that the revenue was decreasing. In 2021 and 2022 the revenue started to show the increasing. PLN needs to maintain this positive trend.

Total Equity to Total Assets (TETA)

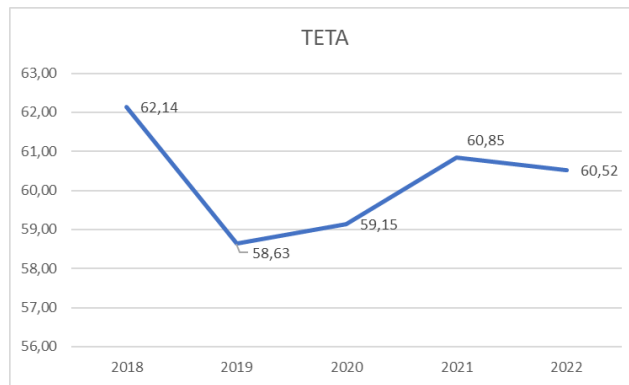


Figure 8 : TETA trend on the observed period

Figure 8 presents the trend of PLN's TETA performance. Consecutively from 2018-2022, the TETA are: 62,14; 58,63; 59,15; 60,85; 60,52. In 2019 there were a decreasing. Overall, the number of total equity and total assets are increasing. PLN just need to find the optimum combination in spending equity to producing assets.

VALIDATION TESTING

The Decree of the Ministry of State-Owned Enterprises No. KEP-100/MBU/2002 is used to assess SOE's overall financial performance in Indonesia based on eight financial ratios. Table 9 provides information about the categorization and conversion of the healthy index. Total Score is the conversion of the weight for each category. Then column rank is the symbol as the result of total score conversion and calculation. Column category represents the rank result.

TOTAL SCORE (TS)	RANK	CATEGORY
TS > 95	AAA	Healthy
80 < TS <= 95	AA	
65 < TS <= 80	A	
50 < TS <= 65	BBB	Less Healthy
40 < TS <= 50	BB	
30 < TS <= 40	B	
20 < TS <= 30	CCC	Not Healthy
10 < TS <= 20	CC	
TS <= 10	C	

Table 9: Score Conversion in MSOE Decree No. KEP-100/MBU/2002

Table 10 shows the summary of each ratio and the scoring.

No	Indicators	Weight	2018		2019		2020		2021		2022	
			Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score
1	ROI	15	5,16	3,5	5,67	3,5	5,87	3,5	5,90	3,5	6,59	3,5
2	ROE	10	1,25	3	0,47	1,5	0,64	1,5	1,34	3	1,45	3
3	Cash Ratio	3	21,86	2	29,46	2,5	36,83	3	26,11	2,5	35,87	3
4	Current Ratio	4	71,82	0	95,02	1	64,98	0	58,63	0	82,3	0
5	Collection Period	4	75,55	3,5	73,67	3,5	25,28	4	33,35	4	37,43	4
6	Inventory Turnover	4	20,74	4	13,12	4	10,86	4	10,33	4	14,50	4
7	TATO	4	21,10	1	25,64	2	24,27	1	25,38	2	29,36	2
8	TETA	6	62,14	4,5	58,63	5	59,15	5	60,85	4,5	60,52	4,5
	Total Score	50		21,5		23		22		23,5		24
	Total Weight			43		46		44		47		48
	Rank			BB		BB		BB		BB		BB
	Category			Less Healthy		Less Healthy		Less Healthy		Less Healthy		Less Healthy

Overall, merely based on those 8 ratios alone, PLN is categorized as a Less Healthy Company.

LIMITATION

This study limitation is using data and information during 2018-2022 and merely focusing on financial reports from those period. Furthermore, deeper and more thoroughly research on any other aspects such as operational , administration, and many more, are absolutely needed to make a comprehensive conclusion.

The data used in this study are secondary data. The writer simply can not interfere with any numbers. Mistake in calculation are most likely possible. All data related to PLN are downloaded from the PLN’s official website, such as the Financial Statements from 2018 to 2022, the Annual Report 2022 and other company information. The decrees of Ministry of State-Owned Enterprises are also downloaded from the official website of the Ministry of State-Owned Enterprises

CONCLUSION AND RECOMMENDATIONS

Merely based on Ratio stated in Decree, recommendations are made as follow:

To Improve ROI, the company need to maximize their revenue and optimize their cost in order to make a better Earning, while the same time keep the assets as little as possible.

To Improve ROE, similar to ROI, the company still needs to maximize their revenue and optimize their cost in order to make a better Earning, while the same time keep the Equity as little as possible.

To Improve Cash Ratio, the company must get cash and equivalent cash as much as possible from the operational activities, but not by getting loan.

To Improve Current Ratio, similar to cash ratio, the company must get as much as current asset without adding current liabilities.

To Improve collection period, the company should make cash from selling. Stop receivables from the customer. Ask for advance payment if possible.

To Improve ITO, the company must stop buying inventories, unless there’s a 100% certainty that those inventories will be utilized.

To improve TATO, the company must boost their net sales. Try to expand new market of potential customers.

To improve TETA, the company must try to increase their equity, while at the same time keep the asset as low as possible.

As for the conclusion, PLN needs to start generate income and cutting costs. Every operational activity that consuming too much cost need to be evaluated. Since PLN is highly regulated by

the Government, including the tariff, The government should consider the possibility to increase the electricity tariff.

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CHAPTER 3

Role of PT. Jasa Andalan Solusi to Facilitate the Usage of Insurance: As seen in the Evidence of Property Insurance

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ABSTRACT

The primary objective of this study is to examine the pivotal role played by PT. Jasa Andalan Solusi as a facilitator within the domain of property insurance, specifically focusing on how it enhances the effective utilization of insurance services. While property insurance serves as a fundamental safeguard against unforeseen calamities and financial losses, its underutilization remains a critical concern. This research aims to dissect the ways in which PT. Jasa Andalan Solusi serves as a bridge and mediator between property owners and insurers, thereby enhancing accessibility and comprehension of insurance offerings. In the dynamic landscape of property insurance, the importance of mediation cannot be overstated. Functioning as a mediation company, PT. Jasa Andalan Solusi provides invaluable services encompassing policy consultation, risk assessment, financial security and streamlined claims processing. These services empower property owners with the knowledge needed to navigate the intricate realm of insurance, ensuring they secure adequate coverage tailored to their unique needs. Employing a qualitative approach that includes surveys and interviews with stakeholders, this study demonstrates that PT. Jasa Andalan Solusi significantly improves the understanding and accessibility of property insurance. It acts as a catalyst for increased insurance utilization, thereby enhancing the insurance landscape for both policyholders and insurers.

Keywords: *Mediator, Property Insurance, Policy, Financial Security.*

INTRODUCTIONS

Property insurance is a critical component of risk management for property owners. It provides financial protection against unexpected events that can result in substantial property-related losses. The utilization of property insurance, however, has historically faced challenges related to awareness, accessibility, and affordability. In recent years, PT. Jasa Andalan Solusi has emerged as a significant player in the insurance industry in Indonesia, offering services that bridge the gap between insurers and property owners.

PT. Jasa Andalan Solusi operates as a mediator, providing guidance, risk assessment, and efficient claims processing, ultimately simplifying the property insurance process. This article delves into the role of PT. Jasa Andalan Solusi as a mediator and its impact on the utilization of property insurance.

Background study

The Indonesian insurance industry, including property insurance, has been undergoing transformations. Property insurance is now more accessible and essential than ever, especially as property owners seek to safeguard their assets. The emergence of PT. Jasa Andalan Solusi has added a new dimension to this landscape. The company has become a central figure in mediating between property owners and insurers, streamlining processes and enhancing the understanding of insurance options. The research question is How does PT. Jasa Andalan Solusi act as a mediating factor to enhance the usage of insurance for property insurance? Which brings to the objective of “Analyzing the act of PT Jasa Andalan Solusi as a Mediator to enhance the usage of insurance for property insurance.

LITERATURE REVIEW

A comprehensive review of the literature reveals the importance of mediation in the insurance industry. Mediators like PT. Jasa Andalan Solusi play a crucial role in simplifying complex insurance processes, ensuring that property owners make informed decisions. Various studies have shown that effective mediation leads to increased insurance utilization and better risk management.

Building trust

Bhattacharya and Mukherjee (2019) emphasize the importance of transparent practices, ethical conduct, and fair claim settlements for fostering trust in the insurance industry. They highlight the role of insurance mediators in upholding these values and advocating for clients' interests throughout the insurance process. This contributes to building positive relationships between policyholders and insurers, ultimately promoting trust and confidence in the system.

Claim settlement efficiency

Effective insurance mediation significantly improves claim settlement processes. Sharma and Singh (2020) demonstrate that mediation reduces processing times, enhances communication between policyholders and insurers, and leads to fair and timely claim settlements. This improves customer satisfaction and trust in the insurance provider.

Risk management in small businesses

Ng and Chen (2022) explore the impact of insurance mediation on risk management practices of small businesses. Their research reveals that mediation promotes better identification and mitigation of risks, allowing businesses to develop a more comprehensive approach to risk management and enhance their resilience.

Underinsurance of property

In Indonesia, Alifiani and Yuniarti (2023) investigate the factors contributing to underinsurance of property. Their research highlights the need for comprehensive financial education and

affordable insurance solutions to encourage property owners to acquire adequate coverage. This aligns with Kuruvilla and Jose's (2020) study on the role of insurance brokers in promoting financial inclusion in India. They demonstrate how brokers can make insurance products more accessible and affordable for low-income populations, thereby addressing the issue of underinsurance.

The future of insurance mediation

Wang and Li's (2023) research focuses on the role of insurance brokers in building trust among millennials in China. Their findings provide valuable insights into the changing needs and expectations of younger consumers in the evolving insurance landscape.

Claim settlement efficiency in China

Wu and Wang's (2021) study further emphasizes the positive impact of insurance mediation on claim settlement efficiency in China. Their multi-level analysis reveals that mediation streamlines the claim process, leading to improved outcomes for policyholders.

Conclusion

This review highlights the significant benefits of insurance mediation across various aspects of the insurance industry. From fostering trust and efficient claim settlement to improving risk management and promoting financial inclusion, insurance mediation plays a crucial role in ensuring a robust and sustainable insurance ecosystem. As the industry continues to evolve, the role of insurance mediation is likely to become even more critical in meeting the changing needs of consumers and addressing emerging challenges.

METHODOLOGY RESEARCH

Research Model:

The research model proposes a causal relationship between PT. Jasa Andalan Solusi's mediation services (independent variable) and property insurance utilization (dependent variable). The model also considers potential moderating and mediating variables that might influence the relationship.

Independent Variable:

- PT. Jasa Andalan Solusi's mediation services, including:
- Policy consultation
- Risk assessment
- Financial security guidance
- Streamlined claims processing

Dependent Variable:

- Property insurance utilization, measured by:
- Policy purchase rate
- Level of coverage obtained (sum insured)
- Claim frequency and amount

Moderating Variables:

- Demographics (age, income, education, location)
- Property type (residential, commercial, value)

Mediating Variables:

- Knowledge of property insurance options
- Trust in insurance companies
- Perceived risk of property loss
- Financial preparedness

Hypothesis:

H1: PT. Jasa Andalan Solusi's mediation services will positively influence property insurance utilization among homeowners in Indonesia.

H2: The moderating effect of demographics and property type will influence the strength of the relationship between PT. Jasa Andalan Solusi's services and property insurance utilization.

H3: Knowledge of property insurance options, trust in insurance companies, perceived risk of property loss, and financial preparedness will mediate the relationship between PT. Jasa Andalan Solusi's services and property insurance utilization.

Visualizing the Research Model:

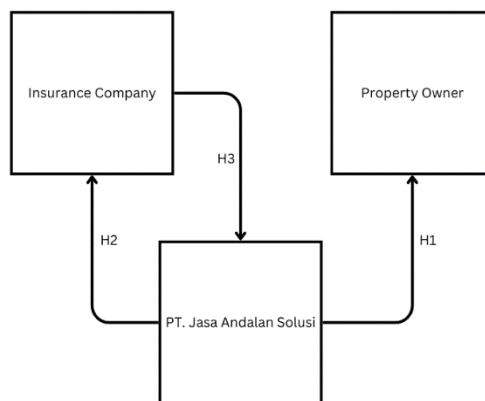


Figure 1. Research Model

Results and Discussions

Four informants were interviewed to be able to answer the research questions. The table of informants are as follows:

Property Owner Informant :

I1 Richard Ivan

I2 Lyvia

The in-depth interviews revealed some interesting aspects of PT Jasa Andalan Solusi as a mediators:

(Informant 1)

Question 1: How does PT. Jasa Andalan Solusi function as a mediating factor in the property insurance sector, and what specific services does it provide to facilitate insurance usage for property owners?

Answer 1: PT. Jasa Andalan Solusi acts as a crucial intermediary in the property insurance landscape by connecting property owners with insurers. The company offers a range of services, including simplifying insurance processes, enhancing understanding, and promoting the utilization of insurance products. It functions as a bridge, facilitating seamless transactions and providing expert guidance to property owners in navigating the complexities of insurance policies.

(Informant 2)

Question 2: What role does PT. Jasa Andalan Solusi play in addressing the challenges faced by property owners in utilizing insurance, and how does it contribute to increasing awareness and accessibility?

Answer 2: PT. Jasa Andalan Solusi plays a pivotal role in overcoming challenges faced by property owners, such as lack of awareness and difficulties in navigating insurance procedures. The company actively engages in educational initiatives, increasing awareness about the importance of property insurance. By providing accessible information and expert guidance, PT. Jasa Andalan Solusi empowers property owners to make informed decisions, ultimately fostering greater utilization of insurance.

Informant	Question	Answer
Richard Ivan	How does PT. Jasa Andalan Solusi function as a mediator?	Simplifies processes, enhances understanding, promotes utilization, acts as a bridge and provides expert guidance.
Lyvia	How does it address challenges faced by property owners?	Overcomes lack of awareness and difficulties in navigating insurance procedures through educational initiatives and accessible information.

Limitations:

- Generalizability may be limited depending on the sample size and geographic scope of the study.
- Self-reported data in surveys can be subject to biases and inaccuracies.
- Causality between PT. Jasa Andalan Solusi's services and property insurance utilization cannot be definitively established without controlled experiments.

Future research:

- Replicating the study with larger and more diverse samples to enhance generalizability.
- Conducting longitudinal studies to track changes in property insurance utilization over time and investigate the long-term impact of PT. Jasa Andalan Solusi's services.
- Exploring the effectiveness of different types of mediation services and communication strategies employed by PT. Jasa Andalan Solusi.

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CHAPTER 4

The Influence of Architectural Design and Building Location on Workplace Productivity: The Moderating Role of Employee Satisfaction

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ABSTRACT

This research in the environmental psychology field, explores the often underestimated impact of the workplace environment on productivity and comfort. Emphasizing the pivotal roles of architectural design and building location, it highlights the need to understand their intertwined dynamics for overall workplace effectiveness. While previous research recognizes the individual significance of these elements, a gap exists in comprehending their combined effects. The study addresses this by presenting a comprehensive framework that assesses the influence of architectural design and building location on workplace productivity, considering the moderating role of employee satisfaction. It contributes theoretical advancements, practical insights for optimizing workplace design, and managerial understanding with actionable recommendations. Additionally, it informs policymakers about creating healthier workspaces, promoting societal well-being, and integrating sustainability practices. The study's novelty lies in its holistic approach, treating architectural design and building location as independent variables, workplace productivity as the dependent variable, and introducing employee satisfaction as a moderating variable. Specific theories include Job Satisfaction Theory and Person-Environment Fit Theory. Using a purposive sample of 150 employees in Jakarta and a mixed-method approach, the study employs Partial Least Squares (PLS) regression, ensuring validity and reliability through rigorous statistical analyses. The study supports the significant relationships between architectural design, building location, and workplace productivity. However, it does not find substantial evidence for the moderating role of employee satisfaction, contrary to expectations. The research aligns with established theories like Environmental Psychology, Job Satisfaction, and Person-Environment Fit, enriching our understanding of workspace dynamics.

Keywords: *Architectural Design, Building Location, Employee Satisfaction, Workplace Productivity*

1. INTRODUCTION

The relationship between architectural design, building location, and workplace productivity has become a focal point in contemporary research as organizations seek to optimize their work environments for enhanced employee performance. The built environment plays a pivotal role in shaping the daily experiences of individuals within a workspace, influencing their concentration, creativity, and overall job satisfaction. This research endeavors to delve into the intricate dynamics that exist between architectural design, building location, and workplace productivity, seeking to uncover the multifaceted ways in which these elements intersect. (El-Zeiny, 2012; Fahim et al, 2021)

Architectural design goes beyond aesthetics; it serves as a significant determinant of functionality and user experience within a workspace. Research suggests that well-designed office spaces have the potential to foster collaboration, creativity, and employee well-being. Elements such as natural light, relaxation area, zoning, and spatial layout have been identified as crucial factors influencing the work environment. Understanding how these architectural features impact cognitive processes and work efficiency is essential for organizations aiming to create environments that support and enhance productivity. (Sreekant, 2021)

The building location of a workplace is another dimension that contributes to the overall productivity of its occupants. Proximity to public transportation, amenities, and green spaces can influence employee satisfaction and well-being, ultimately affecting job performance. Additionally, the neighborhood context and the accessibility of the workplace can impact the daily commute, potentially influencing stress levels and overall job engagement. Investigating the correlation between building location and workplace productivity provides insights into the external factors that contribute to or hinder employee performance. (Palacios et al, 2020)

Furthermore, employee satisfaction emerges as a critical aspect within this intricate relationship. Job satisfaction not only reflects the contentment and fulfillment employees derive from their work but also serves as a potential moderating variable in the complex interplay between architectural design, building location, and workplace productivity. Understanding and measuring employee satisfaction is crucial for organizations seeking comprehensive insights into the overall effectiveness of their work environments, as satisfied employees are more likely to be engaged, motivated, and productive. (Voordt and Jensen, 2023)

In the contemporary landscape, the fusion of architectural design and strategic building location has introduced novel dimensions to the discourse on workplace productivity, especially with the moderating role of employee satisfaction. This synergy reflects a recognition of the intricate interplay between the physical attributes of a designed space and its geographic placement, shaping the modern work environment. Organizations increasingly acknowledge that the thoughtful integration of architectural elements, such as zoning and layout, noise, and indoor relaxation area, with the advantageous positioning of buildings within a broader context can significantly impact the efficiency and well-being of individuals in the workplace. This evolution in understanding emphasizes the importance of a holistic approach that goes beyond mere aesthetics, emphasizing how the symbiosis between design and location contributes to creating workspaces that foster innovation, collaboration, and overall employee satisfaction in the contemporary era. (Fahim et al, 2023)

1.1 Research Gap

Existing studies recognize the influence of individual elements on workplace productivity, yet a significant gap persists in comprehensive research that investigates the collective impact arising from the interplay of architectural design and building location with the moderating role of employee satisfaction. Addressing this void is crucial to understanding the holistic dynamics that shape work environments and their subsequent effects on employee performance and well-being. By delving into the joint effects of these factors, this research aims to provide a nuanced perspective, offering valuable insights for organizations, architects, and policymakers seeking a comprehensive understanding of the intricate relationship between the physical workspace and overall productivity.

1.2 Problem Definition

The research addresses the critical issue of understanding the collective impact of architectural design, building location, and employee satisfaction on workplace productivity. Despite recognizing the individual significance of these elements, a notable gap exists in comprehensive research that investigates their combined effects. The study aims to fill this void by presenting a framework assessing the intricate interplay between architectural design and building location, with a focus on the moderating role of employee satisfaction. In the contemporary landscape, the fusion of these factors introduces novel dimensions to the discourse on workplace productivity, emphasizing the need for a holistic approach beyond aesthetics. The research seeks to provide valuable insights for organizations, architects, and policymakers, offering a nuanced perspective on the intricate relationship between the physical workspace and overall productivity.

1.3 Research Objectives

1. To analyze and evaluate the impact of architectural design on workplace productivity.
2. To analyze and evaluate the impact of building location on workplace productivity.
3. To analyze and evaluate the moderating effect of employee satisfaction in the relationship between architectural design and workplace productivity.
4. To analyze and evaluate the moderating effect of employee satisfaction on the relationship between building location and workplace productivity.

1.4 Research Benefits

1.4.1 Theoretical Benefits

The proposed study contributes to the theoretical advancements in the field of environmental psychology by presenting a comprehensive framework that explores the intertwined dynamics of architectural design and building location on workplace productivity. This study builds upon previous research that recognizes the individual significance of these elements but fails to comprehend their combined effects. By introducing employee satisfaction as a moderating variable, this study sheds light on the complex relationship between architectural design, building location, and workplace productivity. Specific theories such as Job Satisfaction Theory and Person-Environment Fit Theory are employed to provide a theoretical foundation for the study.

1.4.2 Practical Benefits

The findings of this study have practical implications for optimizing workplace design. By understanding the impact of architectural design and building location on workplace productivity, organizations can make informed decisions about office layout, furniture selection, and lighting arrangements. Moreover, by considering employee satisfaction as a moderating variable, organizations can ensure that the design choices align with the preferences and needs of their employees, leading to higher levels of productivity and job satisfaction.

1.4.3 Managerial Benefits

The study's findings also have actionable recommendations for managers. By understanding the impact of architectural design and building location on workplace productivity, managers can make informed decisions about office relocation, renovation, and expansion. Moreover, by considering employee satisfaction as a moderating variable, managers can ensure that the design choices align with the preferences and needs of their employees, leading to higher levels of productivity and job satisfaction.

1.4.4 Policy Benefits

The study's findings have implications for policymakers as well. By understanding the impact of architectural design and building location on workplace productivity, policymakers can promote healthier workspaces that promote societal well-being. Moreover, by considering employee satisfaction as a moderating variable, policymakers can ensure that the design choices align with the preferences and needs of employees, leading to higher levels of productivity and job satisfaction. Additionally, by integrating sustainability practices, policymakers can promote environmental responsibility and reduce the carbon footprint of workplaces.

1.5 Novelty

The novelty of this research lies in its holistic approach to understanding the dynamics of workplace productivity by integrating architectural design, building location, and the moderating influence of employee satisfaction. While previous studies have acknowledged the individual impact of these elements, this research uniquely explores their collective effects, offering a comprehensive framework. The study goes beyond mere aesthetics, emphasizing the symbiotic relationship between design and location in shaping modern work environments. The contemporary landscape recognizes the strategic fusion of architectural elements and building placement, underscoring their joint influence on efficiency, well-being, collaboration, and employee satisfaction. By bridging this gap in existing literature, the research contributes innovative perspectives to organizations, architects, and policymakers, offering a deeper understanding of how the amalgamation of these factors contributes to creating productive and employee-friendly workspaces in the present era.

2. LITERATURE REVIEW

2.1 Environmental Psychology

Environmental psychology explores the intricate connection between individuals and their surroundings, providing a distinctive viewpoint on psychological processes (Russell, 1982). The field extends beyond immediate stimuli responses, focusing on organized behavior over time and in relation to the larger environment (Craig, 1970). Personal projects, introduced by Palys and Little (1980), play a crucial role, structuring behavioral components within the environment. Environmental psychology, a problem-oriented and

value-oriented discipline, addresses issues such as noise pollution, density, and crowding. It emphasizes finding solutions by analyzing data from real-life situations, contributing to societal well-being and economic efficiency (Proshansky, 1976).

2.2 Job Satisfaction Theory

Job satisfaction, a gauge of workers' contentment, encompasses cognitive, affective, and behavioral dimensions (Locke, 1976). Spector (1997) lists facets such as appreciation, communication, and working conditions as key elements. The theory emphasizes individuals' emotional response and cognitive evaluations of their jobs, providing insights into overall sentiment and specific aspects of employment.

2.3 Person-Environment Fit Theory

Person-environment fit focuses on compatibility between individual characteristics and work environments (Kristof-Brown et al., 2005). A cornerstone in industrial/organizational psychology, this theory acknowledges varying degrees of compatibility and emphasizes the need for appropriate research to define and advance the concept.

2.4 Architectural Design

Architectural design significantly influences employee satisfaction and productivity (Taskin and Taskin, 2021). Different office types impact satisfaction levels, with cell-offices and flex-offices standing out. The study underscores the direct influence of office architecture on employee perceptions and satisfaction. Inadequately planned office spaces can lead to physical and mental distress among workers (Danielsson, 2010; Fahim et al., 2023).

2.5 Building Location

Effective planning, design, and management of building locations are crucial for facilities managers (Becker, 1990). Recognizing building location as a pivotal resource, facilities managers aim to create an optimal workplace environment, balancing user and business requirements throughout the workplace's life cycle (Langston and Lauge-Kristensen, 2002; Muir, 2003).

2.6 Workplace Productivity

Workplace productivity involves optimizing employee motivation and reducing absenteeism (Rolloos, 1997; Leblebici, 2012). A multifaceted strategy, addressing both motivational factors and absenteeism management, is essential for achieving enhanced productivity within the organizational context.

2.7 Employee Satisfaction

Employee satisfaction is a broad idea that includes valued experiences for better effectiveness, as explained by Bandura (1986) and Huang et al. (2016). Well-being, described by Diener (2009), covers happiness, fulfilling desires, satisfaction, abilities, and completing tasks. Employee well-being is further divided into two types: hedonic (focusing on experiences) and eudaimonic (emphasizing personal growth and self-realization), according to Ryan and Deci (2000) and Waterman (1993). In a study by Compton et al. (1996), 18 scales were used to measure employee well-being, categorized into subjective well-being (related to experiences) and personal growth (connected to personal development). This understanding shows that employee satisfaction is complex, involving both emotional and growth-oriented aspects that contribute to a well-rounded view of fulfillment and effectiveness in work and personal life.

2.8 Research Framework

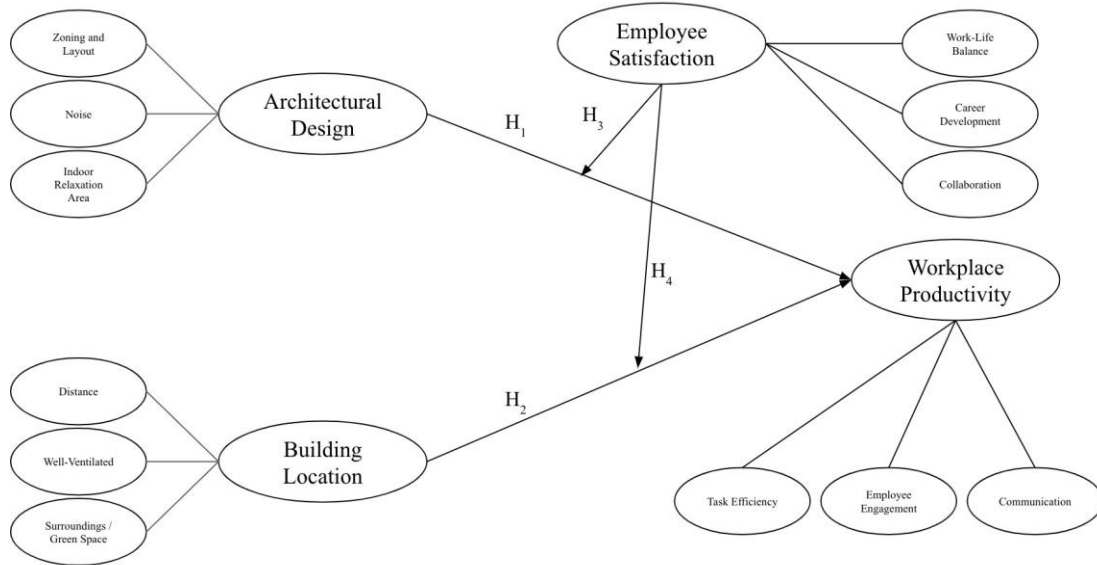


Figure 2.1 Research Framework

Source: Author

2.9 Theoretical Hypotheses

H₁: Architectural design affects workplace productivity.

H₂: Building location affects workplace productivity.

H₃: Employee satisfaction moderates the relationship between architectural design and workplace productivity.

H₄: Employee satisfaction moderates the relationship between building location and workplace productivity.

3. RESEARCH METHODOLOGY

3.1 Research Design

Research Design serves as the foundational framework, outlining the methods and strategies to address research questions or hypotheses. It encompasses planning for data collection, analysis, and interpretation, tailored to the study's goals. Carefully constructed, it ensures study objectives are met, findings are credible, and ethical considerations are addressed. The design includes choices related to sampling techniques, participant selection criteria, and data collection tools (Sileyew, 2019).

A well-defined research design is pivotal for a study's internal and external validity, influencing accurate measurement and applicability to broader populations. It guides researchers through the entire research process, aligning the chosen approach with study goals for meaningful conclusions. Research design acts as a methodological structure supporting the research process.

3.2 Population

Population refers to the total set of individuals or entities sharing characteristics under study. Precision in defining the population is crucial for research scope and limitations, with researchers often examining a subset, the sample, to ensure valid generalizations. The notion of population extends to diverse units of analysis, contingent on research context (Hulley et al., 2013).

3.3 Sample

Sampling involves selecting a subset from a larger population, considering practical constraints. The sample's careful selection is pivotal, influencing the study's validity and generalizability. The sample comprises 150 employees (Roscoe, 1975) from diverse industries in Jakarta, ensuring relevance across professional spheres. It spans various demographics, education levels, genders, and professional experience points.

3.4 Sampling Method

Sampling is essential, necessitated by practical considerations. In this research, purposive sampling is employed, deliberately choosing participants based on criteria relevant to research objectives (Campbell et al., 2020). Purposive sampling offers depth and specificity, targeting participants with specific attributes for nuanced insights. Researchers justify selection criteria for credibility and validity.

3.5 Variables and Measurements

The research includes 4 variables, measured using a Likert Scale. Likert scales, a psychometric tool, allow respondents to express opinions or attitudes, providing quantitative indicators. The variables comprise architectural design and building location as the independent variables, workplace productivity as the dependent variable, and employee satisfaction as the moderating variable.

Table 3.1 Variable Operationalization

Variable	Dimension	Code	Measurement Item / Questionnaires	Source	Scale
Architectural Design	Zoning and Layout	ZL1	Making the workplace organized helps work be better.	Farahatt and Alaeddine (2021); Latha et al (2023)	Likert Scale 1-5
		ZL4	The office layout is easy to access		
	Noise	NO4	Implementation of soundproofing measures, such as soundproof walls or noise-canceling technologies, contributes to a quieter and more focused work environment.		
	Indoor Relaxation Area	IRA1	The availability of comfortable seating in the indoor relaxation area positively contributes to my productivity		
		IRA4	Artistic elements and aesthetically pleasing decor in the indoor relaxation area contribute positively to the overall work environment.		
Building Location	Distance	DI2	Short travel distances make it easier to balance work.	Spies (2006)	
		DI3	The workplace's location makes commuting easy.		
		DI4	Being near public transport makestravel easier.		
	Well-Ventilated	WV1	The ability to control the temperature in my workspace positively influences my comfort.	Dumas et al (2019); Fisk (2006)	
		WV2	Clean air makes the atmosphere positive.		
		WV3	Cross-ventilation design positively contributes to a well-ventilated workspace.		
		WV4	Well-designed windows positively contribute to my productivity.		
	Surroundings	SU1	The area around the building affects how I feel about work.	Nuramalina and Cahyadi (2021)	
SU2		The presence of nearby green spaces positively impacts my ability to recharge during breaks.			

		SU3	The environment around the building affects work efficiency.	
		SU4	Green spaces outside make a peaceful workplace.	
Employee Satisfaction	Work Life Balance	WLB1	The workplace design helps balance my work-life stability	Jiang et al (2023); Bergefurt et al (2022); Yogiana and Riana (2023); Hill et al (2022)
		WLB2	Relaxation spaces in the office help my work-life balance.	
		WLB3	Changing the workspace helps manage my work-life.	
		WLB4	Well-being elements help balance work-life.	
	Career Development	CD1	The workplace design helps people learn new skills.	Taşkın and Taşkın (2021); Sypniewska et al (2023); Lehtonen et al (2021); Lee and Kim (2023)
		CD2	Spaces for learning new skills help in career advancement.	
		CD3	The design encourages continuous learning career progress.	
		CD4	Using adjustable furniture at work makes me feel good about my career.	
	Collaboration	COL1	The workplace setup helps teams collaborate easily.	Scott et al (2022); Heerwagen et al (2004); Aufegger et al (2022); Manca (2021)
		COL2	Flexible workspaces help teams work efficiently.	
		COL3	The building's design ensures easy collaboration for everyone.	
		COL4	Using innovative furniture makes team collaboration better.	
Workplace Productivity	Task Efficiency	TE1	Finishing tasks on time is important for work success.	Aeon et al (2021); Moore and Teney (2012)
		TE2	Doing tasks accurately is a big part of work.	
		TE3	Using resources efficiently keeps the workflow smooth.	
		TE4	Meeting deadlines consistently is important for work progress.	
	Employee Engagement	EE1	Feeling motivated about work makes people more productive.	Abdulrahman et al (2022); Noercahyo et al (2021); Sahni (2021); Abdelwahed and Doghnan (2023)
		EE2	Being committed to tasks improves overall work performance.	
		EE3	Connecting with the team makes work more effective.	
		EE4	Recognizing the importance of my work improves overall performance.	
	Communication	COM1	Communicating well within the team is important for smooth workflow.	Sulaiman et al (2023); Jamadi et al (2022)
		COM2	Clear communication helps teamwork.	
		COM3	Open communication creates a positive work environment.	

		COM4	Getting regular feedback helpseveryone improve at work.		
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Table 3.1 presents a comprehensive overview of the operationalization of various variables related to architectural design, building location, employee satisfaction, collaboration, workplace productivity, and communication. Each variable is broken down into different dimensions, each assigned a code, with associated measurement items or questionnaires, sources, and the scale of measurement.

Architectural Design is assessed through the Zoning and Layout dimension, with codes ZL1 and ZL4. ZL1 captures the impact of an organized workplace on work improvement, sourced from Farahatt and Alaeddine(2021) and Latha et al (2023). ZL4 evaluates the ease of access in the office layout. Both items are measured on a Likert scale ranging from strongly disagree to strongly agree.

Indoor Relaxation Area is another variable, assessed through items IRA1 and IRA4. IRA1 gauges the impact of comfortable seating on productivity, while IRA4 examines the contribution of artistic elements and aesthetically pleasing decor to the overall work environment. These items are also measured on a Likert scale and are sourced from Farahatt and Alaeddine (2021) and Latha et al (2023).

Building Location is evaluated through the Distance dimension, with codes DI2, DI3, and DI4. These items assess how short travel distances, easy commuting, and proximity to public transport contribute to work balance. The source for these items is Spies (2006).

Well-Ventilated workspace is explored through dimensions WV1 to WV4, examining temperature control, clean air, cross-ventilation design, and well-designed windows. The sources for these items include Dumas et al (2019) and Fisk (2006).

Surroundings are assessed through SU1 to SU4, examining how the area around the building affects emotions, the impact of green spaces on breaks, the influence of the environment on work efficiency, and the peacefulness of green spaces outside. The source for these items is Nuramalina and Cahyadi (2021).

Employee Satisfaction encompasses dimensions such as Work Life Balance (WLB1 to WLB4), Career Development (CD1 to CD4), and Collaboration (COL1 to COL4). Each dimension consists of items exploring different aspects of employee satisfaction and is sourced from various studies.

Workplace Productivity comprises dimensions like Task Efficiency (TE1 to TE4), Employee Engagement (EE1 to EE4), and Communication (COM1 to COM4). These dimensions assess factors such as the importance of finishing tasks on time, employee motivation, teamwork, and communication effectiveness. The sources for these items vary among studies conducted by different researchers.

3.6 Empirical Model

The empirical model consists of equations representing relationships among variables derived from empirical observations. It includes direct and moderation effects, examining relationships between independent and dependent variables (Nwokolo and Ogbulezie, 2017).

Direct Effects:

$$Y = B_0 + B_1X_1 + B_2X_2 + \epsilon$$

Moderation Effects:

$$Y = B_0 + B_1X_1 + B_2X_2 + B_4M + B_5(X_1 \times M) + B_6(X_2 \times M) + \epsilon$$

Where:

- B = The regression coefficients that need to be estimated from data.
- X = Independent Variables
- Y = Dependent Variable
- M = Moderating Variable
- ϵ = Random error or residual error

3.7 Estimation Method

Partial Least Squares (PLS) regression is employed for its effectiveness in situations with high collinearity, small sample size, or more predictors than observations (Korkmazoglu and Kemalbay, 2012). PLS decomposes variables into latent variables for robustness.

3.8 Validity Tests

PISSSENT is utilized to assess both convergent and discriminant validity. Additionally, the validity of each dimension is confirmed through the application of Pearson Correlation. (Wijaya and Kloping, 2021). Reliability tests are conducted to ensure the consistency of instrument outcomes using Cronbach Alpha (Cronbach, 1951).

3.9 Tests of Hypotheses

After obtaining the results for each variable, the hypotheses will undergo testing. The t-table and t-statistic values will be explained based on the significance level derived from the hypothesis support. Comparing the t-statistic with the t-table value determines the impact of the exogenous variable on the endogenous variable. Significance is indicated when the t-statistic surpasses the t-table value; conversely, if the t-statistic is lower, it is deemed insignificant. In this study, the t-table value for the one-tailed hypothesis is set at 1.645 with a 95% confidence level, and the p-value is 0.05 (Murti et al., 2022).

In the context of the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach, two evaluations, namely the measurement model and structural model evaluations, will be conducted. To test the hypotheses, a validity and reliability assessment will be implemented. Additionally, this test gauges the significance of the path relationships and computes the coefficient of determination value (R²) (Murti et al., 2022).

3.10 Research Flow

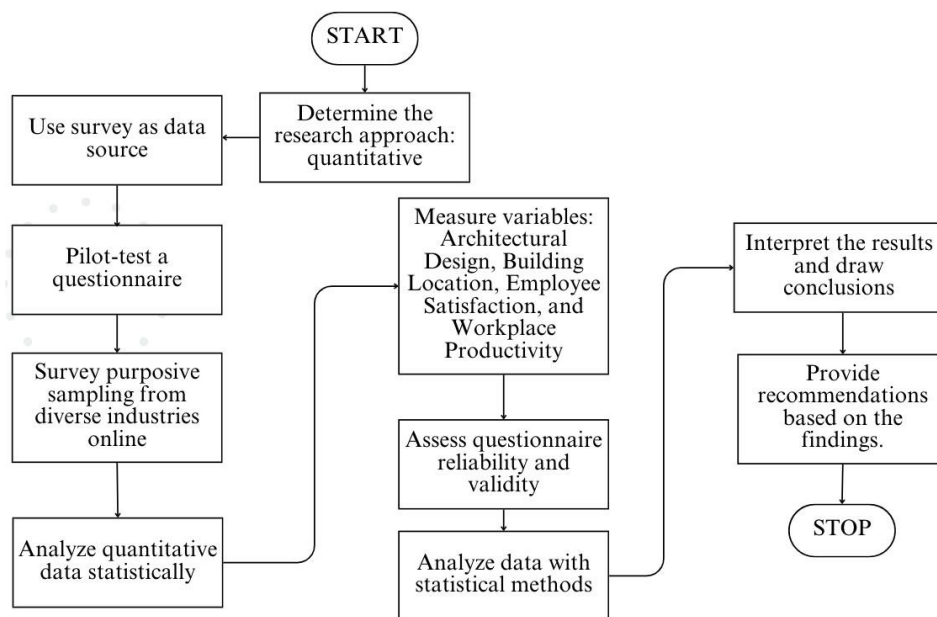


Figure 3.1 Flowchart of Data Processing
Source: Author

4. FINDINGS, DISCUSSIONS, AND ANALYSES

4.1 Validity Test

Table 4.1 Pearson Correlation

Correlations	SUM	VALID/INVALID
	.544**	
ZL1	0	VALID
	.686**	
ZL4	0	VALID
	.605**	
NO4	0	VALID
	.619**	
IRA1	0	VALID
	.569**	
IRA4	0	VALID
	.586**	
DI2	0	VALID
	.644**	
DI3	0	VALID
	.605**	
DI4	0	VALID
	.725**	
WV1	0	VALID
	.726**	
WV2	0	VALID
	.645**	
WV3	0	VALID
	.767**	
WV4	0	VALID
	.635**	
SU1	0	VALID
	.683**	
SU2	0	VALID
	.629**	
SU3	0	VALID
	.715**	
SU4	0	VALID
	.763**	
WLB1	0	VALID
	.673**	
WLB2	0	VALID

	.683**	
WLB3	0	VALID
	.698**	
WLB4	0	VALID
	.690**	
CD1	0	VALID
	.706**	
CD2	0	VALID
	.618**	
CD3	0	VALID
	.622**	
CD4	0	VALID
	.738**	
COL1	0	VALID
	.626**	
COL2	0	VALID
	.776**	
COL3	0	VALID
	.687**	
COL4	0	VALID
	.573**	
TE1	0	VALID
	.625**	
TE2	0	VALID
	.713**	
TE3	0	VALID
	.625**	
TE4	0	VALID
	.699**	
EE1	0	VALID
	.651**	
EE2	0	VALID
	.647**	
EE3	0	VALID
	.657**	
EE4	0	VALID
	.696**	
COM1	0	VALID
	.629**	
COM2	0	VALID
	.520**	

COM3	0	VALID
	.538**	
COM4	0	VALID
** Correlation is significant at the 0.01 level (2-tailed).		
* Correlation is significant at the 0.05 level (2-tailed).		

Table 4.1 provides a snapshot of Pearson correlation coefficients among various variables, each denoted by a unique code. These correlations are accompanied by indicators of validity or invalidity, further enhancing the interpretive context. It is evident that the correlations are generally positive, suggesting a tendency for variables to move in the same direction. The statistical significance levels, marked by asterisks, underscore the reliability of these associations.

Examining architectural design elements, correlations between Zoning and Layout (ZL1) and other dimensions, such as ZL4, Noise (NO4), and Indoor Relaxation Areas (IRA1, IRA4), range from 0.544 to 0.686, all deemed valid at the 0.01 significance level. This implies that specific attributes of architectural design are interconnected, contributing to a coherent overall perception.

Building location variables exhibit notable correlations as well. Distance (DI2, DI3, DI4) demonstrates correlations ranging from 0.586 to 0.725, all valid at the 0.01 significance level. Well-Ventilated spaces (WV1-WV4) also exhibit strong correlations, reinforcing the notion that certain aspects of building location are closely intertwined.

Employee satisfaction variables, including Work-Life Balance (WLB1-WLB4) and Career Development (CD1-CD4), display positive correlations ranging from 0.573 to 0.738, all considered valid at the 0.01 significance level. This suggests that perceptions of work-life balance and career development tend to align positively.

Similarly, collaboration dimensions (COL1-COL4) showcase robust correlations, ranging from 0.626 to 0.776, all valid at the 0.01 significance level. This underscores the cohesive relationship between different facets of collaboration in the workplace.

Moving to the variables related to workplace productivity, Task Efficiency (TE1-TE4), Employee Engagement (EE1-EE4), and Communication (COM1-COM4) exhibit positive correlations, ranging from 0.520 to 0.776, all validated at the 0.01 significance level. This signifies a strong interconnection among these elements, suggesting that improvements in one area may positively influence others.

The significance levels provided alongside the correlations indicate the robustness of these relationships, with a double asterisk denoting significance at the 0.01 level and a single asterisk denoting significance at the 0.05 level, both based on a two-tailed test.

4.2 Reliability Test

Table 4.2 Reliability and Validity Measures for Variables

Variables	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Architectural Design	0.78	0.799	0.849	0.531
Building Location	0.905	0.914	0.92	0.513
Employee Satisfaction	0.93	0.934	0.939	0.562
Workplace Productivity	0.941	0.945	0.949	0.608

Table 4.2 presents a comprehensive overview of the internal consistency and reliability measures for key variables within the study, encompassing Architectural Design, Building Location, Employee Satisfaction, and Workplace Productivity. These measures, including Cronbach's alpha, composite reliability (rho_a and rho_c), and average variance extracted (AVE), offer insights into the robustness of the measurement instruments employed in the research.

The variable "Architectural Design" demonstrates a satisfactory level of internal consistency, as indicated by a Cronbach's alpha of 0.798. Composite reliability is also assessed through two indices: rho_a (0.811) and rho_c (0.855). Both indices surpass the recommended threshold of 0.70, signifying a high degree of reliability. The Average Variance Extracted (AVE) stands at 0.500, implying that approximately 50% of the variance in the measured variables is captured by the latent construct, reinforcing the convergent validity of the architectural design measurement.

For "Building Location," the internal consistency, as measured by Cronbach's alpha (0.905), reflects a high level of reliability. The composite reliability indices, rho_a (0.914) and rho_c (0.92), further corroborate the robustness of the measurement model. The AVE, at 0.513, suggests that 51.3% of the variance in the observed variables is attributable to the underlying construct, reinforcing the convergent validity of the building location measurement.

The variable "Employee Satisfaction" exhibits an excellent level of internal consistency with a Cronbach's alpha of 0.93. Both composite reliability indices, rho_a (0.934) and rho_c (0.939), surpass the recommended threshold, indicating a high level of reliability and consistency. The AVE of 0.562 underscores that approximately 56.2% of the variance in the observed variables is attributed to the latent construct, affirming the convergent validity of the employee satisfaction measurement.

In the case of "Workplace Productivity," the variable displays an exceptionally high level of internal consistency with a Cronbach's alpha of 0.941. Both rho_a (0.945) and rho_c (0.949) also indicate a high degree of reliability. The AVE of 0.608 suggests that around 60.8% of the variance in the observed variables is explained by the underlying construct, emphasizing the convergent validity of the workplace productivity measurement.

Table 4.3 Heterotrait-Monotrait Ratio (HTMT) Matrix for Discriminant Validity

Discriminant Validity - Heterotrait - Monotrait Ratio (HTMT) - Matrix	Architectural Design	Building Location	Employee Satisfaction	Workplace Productivity	Employee Satisfaction x Building Location	Employee Satisfaction x Architectural Design
Architectural Design						
Building Location	0.898					
Employee Satisfaction	0.848	0.919				
Workplace Productivity	0.876	0.78	0.693			
Employee Satisfaction x Building Location	0.726	0.703	0.575	0.723		
Employee Satisfaction x Architectural Design	0.741	0.643	0.532	0.709	0.968	

The Heterotrait-Monotrait Ratio (HTMT) matrix presented in Table 4.3 explores the discriminant validity among key constructs, including Architectural Design, Building Location, Employee Satisfaction, and Workplace Productivity. The values in the matrix represent the heterotrait correlations divided by the monotrait correlations, providing insights into the extent to which these constructs are distinct from each other.

The values on the diagonal represent the monotrait correlations, serving as a baseline for comparison. Notably, all monotrait correlations are below 1.0, suggesting that the constructs are distinct from themselves. This is a fundamental requirement for discriminant validity.

Analyzing the off-diagonal values, which represent heterotrait correlations, provides further insights. The correlations between Architectural Design and Building Location, Architectural Design and Employee

Satisfaction, as well as Building Location and Employee Satisfaction, are all below the threshold of 1.0, supporting discriminant validity. These values (0.898, 0.919, and 0.848, respectively) suggest that these constructs are sufficiently distinct from each other.

Moving to Workplace Productivity, the correlations with Architectural Design, Building Location, and Employee Satisfaction are 0.876, 0.78, and 0.693, respectively. Again, these values are below 1.0, reinforcing the discriminant validity of Workplace Productivity concerning the other constructs.

Examining the cross-construct correlations, such as Employee Satisfaction x Building Location and Employee Satisfaction x Architectural Design, the values (0.726 and 0.741, respectively) are below the 1.0 threshold, indicating that these interaction terms also exhibit discriminant validity.

Table 4.4 Fornell-Larcker Discriminant Validity

Discriminant Validity - Fornell Larcker Criterion	Architectural Design	Building Location	Employee Satisfaction	Workplace Productivity
Architectural Design	0.705			
Building Location	0.774	0.716		
Employee Satisfaction	0.734	0.846	0.75	
Workplace Productivity	0.777	0.747	0.671	0.78

The Fornell-Larcker criterion, as depicted in Table 4.4, serves as a valuable tool for assessing discriminant validity by comparing the square root of the average variance extracted (AVE) for each construct with the correlations between that construct and other constructs. This criterion helps ensure that each construct is more strongly correlated with itself (as measured by its AVE) than with other constructs.

Examining the diagonal elements, which represent the square root of the AVE for each construct, we observe values of 0.705 for Architectural Design, 0.716 for Building Location, 0.75 for Employee Satisfaction, and 0.78 for Workplace Productivity. These values indicate the proportion of variance in the observed variables that is explained by the underlying constructs. Notably, each of these values is higher than the corresponding off-diagonal elements in its respective column, meeting the criterion for discriminant validity.

Moving to the off-diagonal elements, representing the correlations between constructs, we find that these values are generally lower than the square roots of the AVE for the corresponding constructs. Specifically, the correlations between Architectural Design and Building Location (0.774), Building Location and Employee Satisfaction (0.846), and Employee Satisfaction and Workplace Productivity (0.78) are all lower than the square roots of the AVE for each respective construct.

4.3 Descriptive Statistics

Table 4.5 Descriptive Statistics for Key Variables

Descriptive Statistics											
Code	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Std. Error	Kurtosis	Std. Error
ZL1	150	4	1	5	4.64	0.638	0.406	-2.352	0.198	7.994	0.394
ZL4	150	4	1	5	4.75	0.533	0.284	-3.111	0.198	15.668	0.394
NO4	150	4	1	5	4.43	0.798	0.636	-1.668	0.198	3.539	0.394
IRA1	150	4	1	5	4.51	0.693	0.48	-1.83	0.198	5.048	0.394
IRA4	150	4	1	5	4.36	0.822	0.675	-1.345	0.198	1.803	0.394
DI2	150	4	1	5	4.4	0.843	0.711	-1.347	0.198	1.391	0.394
DI3	150	4	1	5	4.63	0.608	0.37	-2.133	0.198	7.658	0.394
DI4	150	4	1	5	4.68	0.627	0.394	-2.612	0.198	9.347	0.394
WV1	150	4	1	5	4.64	0.605	0.366	-2.213	0.198	8.052	0.394
WV2	150	4	1	5	4.77	0.545	0.297	-3.363	0.198	16.017	0.394
WV3	150	4	1	5	4.49	0.766	0.587	-1.837	0.198	4.459	0.394
WV4	150	4	1	5	4.47	0.817	0.667	-1.674	0.198	2.68	0.394
SU1	150	4	1	5	4.21	1.019	1.038	-1.391	0.198	1.611	0.394

SU2	150	4	1	5	4.47	0.748	0.559	-1.787	0.198	4.738	0.394
SU3	150	4	1	5	4.21	0.973	0.947	-1.282	0.198	1.278	0.394
SU4	150	4	1	5	4.41	0.829	0.687	-1.69	0.198	3.343	0.394
COL1	150	4	1	5	4.5	0.721	0.52	-1.741	0.198	4.102	0.394
COL2	150	4	1	5	4.45	0.747	0.558	-1.531	0.198	3.029	0.394
COL3	150	4	1	5	4.44	0.728	0.53	-1.323	0.198	2.28	0.394
COL4	150	4	1	5	4.29	0.848	0.719	-1.139	0.198	1.041	0.394
TE1	150	4	1	5	4.71	0.548	0.3	-2.778	0.198	13.19	0.394
TE2	150	4	1	5	4.78	0.503	0.253	-3.548	0.198	20.373	0.394
TE3	150	4	1	5	4.64	0.605	0.366	-2.213	0.198	8.052	0.394
TE4	150	4	1	5	4.63	0.63	0.397	-2.125	0.198	6.852	0.394
EE1	150	4	1	5	4.7	0.553	0.305	-2.66	0.198	12.375	0.394
EE2	150	4	1	5	4.67	0.608	0.369	-2.423	0.198	8.721	0.394
EE3	150	4	1	5	4.65	0.624	0.389	-2.451	0.198	8.881	0.394
EE4	150	4	1	5	4.6	0.635	0.403	-1.98	0.198	6.225	0.394
COM1	150	4	1	5	4.73	0.552	0.304	-2.954	0.198	13.707	0.394
COM2	150	4	1	5	4.77	0.557	0.311	-3.565	0.198	17.281	0.394

COM3	150	4	1	5	4.67	0.711	0.506	-3.162	0.198	12.604	0.394
COM4	150	2	3	5	4.67	0.527	0.277	-1.262	0.198	0.611	0.394

Table 4.5 provides a detailed overview of descriptive statistics for various variables related to architectural design, building location, and aspects of workplace productivity. Each row corresponds to a specific variable, and the columns present key statistical measures, shedding light on the distribution and central tendencies of the data.

The architectural design variables, represented by ZL1, ZL4, NO4, IRA1, and IRA4, exhibit a consistent pattern in their central tendencies. Mean values range from 4.36 to 4.75, indicating a generally positive perception of these design elements. The standard deviations, ranging from 0.533 to 0.822, suggest moderate variability in responses. Notably, skewness values are negative, implying a slight leftward skew in the distributions. This suggests that, on average, respondents tended to rate these architectural design aspects favorably.

Moving to building location variables (DI2, DI3, DI4, WV1-WV4, SU1-SU4), mean values vary from 4.21 to 4.77, indicating positive perceptions overall. The standard deviations, ranging from 0.545 to 1.019, point to varying degrees of dispersion. Negative skewness values suggest a tendency for respondents to rate these aspects positively. Noteworthy is the variable SU1 with a larger standard deviation, potentially indicating more diverse opinions on the surroundings.

Variables related to workplace productivity (COL1-COL4, TE1-TE4, EE1-EE4, COM1-COM4) showcase a range of mean values from 4.29 to 4.78. Standard deviations, varying from 0.503 to 0.848, indicate moderate to low dispersion. Negative skewness values suggest an overall positive trend in ratings, with respondents tending to provide favorable assessments of these workplace productivity dimensions.

Table 4.6 R-squared and Adjusted R-squared Values for Workplace Productivity Regression Model

	R-square	R-square adjusted
Workplace Productivity	0.69	0.679

The provided values, R-square (R^2) and adjusted R-square (R^2 adjusted), as provided in Table 4.6, offer insights into the explanatory power of the regression model applied to the Workplace Productivity variable.

R-square, also known as the coefficient of determination, is a measure that indicates the proportion of the variance in the dependent variable (Workplace Productivity) explained by the independent variables included in the model. In this context, the R-square value of 0.69 suggests that approximately 69% of the variability in Workplace Productivity can be accounted for by the independent variables (e.g., Architectural Design, Building Location, and Employee Satisfaction) included in the regression model. This is a relatively high R-square value and indicates that the model has substantial explanatory power in capturing the variation observed in Workplace Productivity.

The adjusted R-square, denoted as R^2 adjusted, considers the number of predictors in the model and adjusts the R-square value accordingly. It provides a more conservative estimate, penalizing the inclusion of irrelevant or redundant predictors. The adjusted R-square value of 0.679 is slightly lower than the R-square but remains high. This indicates that even when considering the complexity of the model, it still explains a significant proportion (approximately 67.9%) of the variability in Workplace Productivity.

Table 4.7 Effect Sizes (f-square) of Variables on Workplace Productivity

Variables	f-square
Architectural Design -> Workplace Productivity	0.151
Building Location -> Workplace Productivity	0.034
Employee Satisfaction -> Workplace Productivity	0.001
Employee Satisfaction x Building Location -> Workplace Productivity	0.006
Employee Satisfaction x Architectural Design -> Workplace Productivity	0.001

The f-square values in Table 4.7 represent the effect size of each predictor in the regression model concerning Workplace Productivity. Effect size is a measure that indicates the proportion of the variance in the dependent variable explained by a specific independent variable, beyond what would be expected by chance. In this context, these values shed light on the relative importance of each predictor in contributing to the variance in Workplace Productivity.

For Architectural Design, the f-square value is 0.151. This suggests that approximately 15.1% of the variability in Workplace Productivity can be attributed to Architectural Design. This moderate effect size indicates that perceptions of architectural design play a significant role in explaining the observed variations in workplace productivity.

Moving to Building Location, the f-square value is 0.034. While smaller compared to Architectural Design, it still signifies a notable effect, suggesting that around 3.4% of the variance in Workplace Productivity is explained by perceptions of building location. Despite being a smaller effect size, it emphasizes the relevance of considering building location in understanding variations in workplace productivity.

In contrast, the f-square values for direct Employee Satisfaction and its interaction terms with Building Location and Architectural Design are relatively low. Employee Satisfaction alone has an f-square of 0.001, indicating that only 0.1% of the variability in Workplace Productivity can be attributed to direct employee satisfaction. Similarly, the interaction terms involving Employee Satisfaction (with Building Location and Architectural Design) have f-square values of 0.006 and 0.001, respectively. These results suggest minimal additional variance explained by these interaction terms beyond what is accounted for by the main effects.

4.4 Measurement Model Evaluation

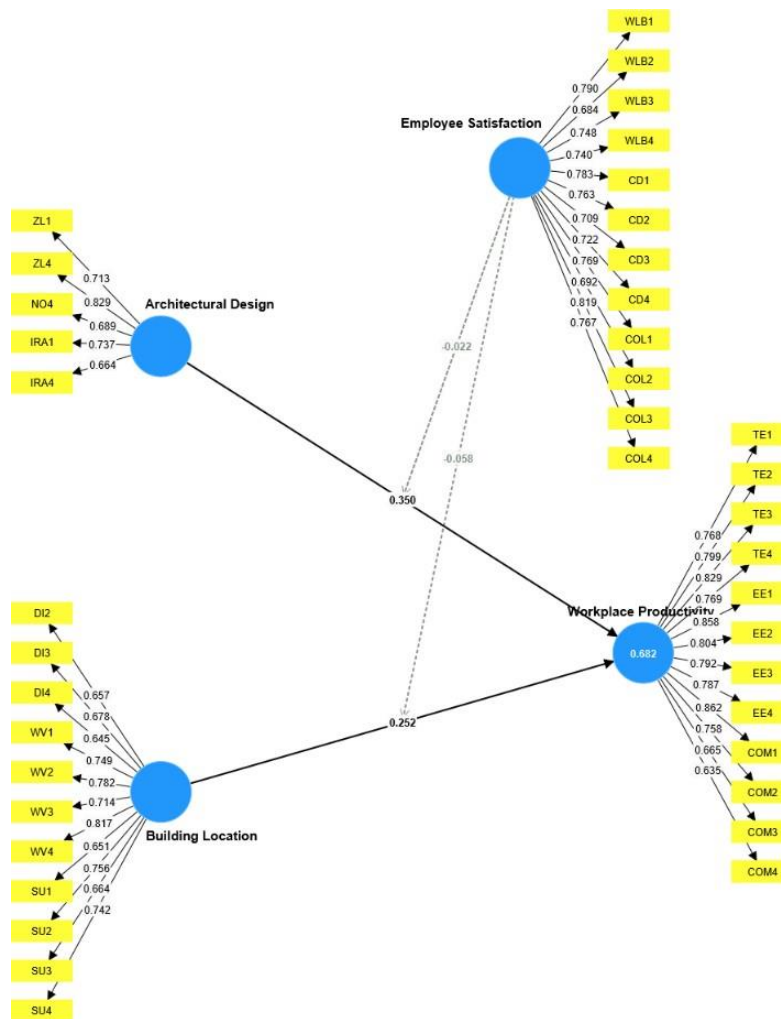


Figure 4.1 Measurement Model (Latent Variable Score)

The measurement model as indicated in Figure 4.1 evaluates the relationships between latent variables and their observed indicators, providing insights into the effectiveness of these indicators in capturing the underlying constructs. In examining the outer loadings, which signify the strength of the associations between each indicator and its respective latent variable, a nuanced interpretation emerges.

Firstly, indicators for Employee Satisfaction (ES) demonstrate robust outer loadings, ranging from 0.684 to 0.819, suggesting their effectiveness in measuring the latent variable. Similarly, Workplace Productivity (WP) indicators exhibit strong loadings, varying from 0.634 to 0.862, emphasizing their reliability in representing the latent construct. These findings underscore the model's success in accurately gauging Employee Satisfaction and Workplace Productivity.

Moving to Building Location (BL), the indicators reveal moderate to strong outer loadings, ranging from 0.645 to 0.817. This indicates a reasonable degree of effectiveness in measuring the latent variable, emphasizing the model's ability to capture the nuances of Building Location. Architectural Design (AD) indicators also show moderate to strong outer loadings, ranging from 0.649 to 0.801, further reinforcing the model's capacity to accurately measure Architectural Design.

4.5 Final Model

Table 4.8 Path Coefficients and Statistical Measures for Predictors of Workplace Productivity

<i>Path Coefficients</i>	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ((O/STDEV))	P values
Architectural Design -> Workplace Productivity	0.395	0.39	0.086	4.588	0
Building Location -> Workplace Productivity	0.235	0.245	0.119	1.978	0.024
Employee Satisfaction -> Workplace Productivity	0.032	0.043	0.092	0.35	0.363
Employee Satisfaction x Building Location -> Workplace Productivity	-0.06	-0.074	0.081	0.739	0.23
Employee Satisfaction x Architectural Design -> Workplace Productivity	-0.019	-0.008	0.077	0.243	0.404

Table 4.8 presents the path coefficients along with relevant statistics for the relationships between Architectural Design, Building Location, Employee Satisfaction, their interaction terms, and Workplace Productivity. Path coefficients represent the strength and direction of the relationships between the independent variables and the dependent variable.

Starting with Architectural Design, the path coefficient to Workplace Productivity is 0.395 in the original sample. This indicates a positive and statistically significant relationship between perceptions of architectural design and workplace productivity. The T statistic of 4.588, well above the threshold, emphasizes the robustness of this relationship, and the p-value of 0 underscores its statistical significance.

Moving to Building Location, the path coefficient to Workplace Productivity is 0.235 in the original sample. While positive, the T statistic of 1.978 and the associated p-value of 0.024 suggest that this relationship is less robust and only marginally significant. However, the positive coefficient indicates that, on average, favorable perceptions of building location are associated with increased workplace productivity.

For Employee Satisfaction, the path coefficient to Workplace Productivity is 0.032 in the original sample. The T statistic of 0.35 and the p-value of 0.363 indicate a weak and statistically non-significant relationship. This suggests that, in the context of the study, the direct impact of employee satisfaction on workplace productivity is not strongly supported by the data.

Considering the interaction terms, the path coefficient for Employee Satisfaction x Building Location is -0.06, and for Employee Satisfaction x Architectural Design is -0.019 in the original sample. Both coefficients have T statistics (0.739 and 0.243, respectively) and p-values (0.23 and 0.404) that suggest weak and statistically non-significant relationships. These findings imply that the interaction between employee satisfaction and either building location or architectural design does not significantly influence workplace productivity in the studied context.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

In conclusion, the analysis of the research hypotheses offers a comprehensive understanding of the intricate relationships among architectural design, building location, employee satisfaction, and workplace productivity. These findings significantly contribute to existing knowledge, shedding light on the complex interplay of these factors within organizational settings.

The study's results reveal a statistically significant and positive relationship between architectural design and workplace productivity, emphasizing the pivotal role that thoughtful and effective architectural design plays in cultivating a more productive work environment. This suggests that organizations can benefit from strategic investments in well-designed workspaces to enhance overall productivity levels among their workforce.

Similarly, the study indicates a noteworthy positive correlation between building location and workplace productivity. This underscores the importance of strategic building placement, suggesting that the physical location of a workplace can significantly influence the productivity of its occupants. Organizations may find it advantageous to consider the geographical aspects of their facilities, recognizing the potential impact on optimizing productivity.

Contrary to expectations, the research does not find substantial support for the influence of employee satisfaction on the connections between architectural design and building location with workplace productivity in this specific context. While acknowledging the critical role of employee satisfaction in organizational success, its moderating role in the relationship between physical aspects of the workplace and productivity may vary based on other contextual factors.

It is noteworthy that this research aligns with several established theories, including Environmental Psychology Theory, Job Satisfaction Theory, and Person-Environment Fit Theory. These theoretical frameworks provide a broader context for understanding the dynamics of the workplace and how factors such as architectural design, building location, and employee satisfaction intersect to influence overall productivity. The integration of these theories enriches the interpretation of the study's findings and contributes to a more comprehensive understanding of the complex interrelationships within organizational settings.

5.2 Limitations of the Study

While this research contributes valuable insights, it is essential to acknowledge certain limitations. Firstly, the study relies on a purposive sample of 100 employees in Jakarta, which may limit the generalizability of findings to a broader context. The specific characteristics of this sample, such as industry representation, demographics, and cultural factors, might not fully capture the diversity present in other global or regional settings. Additionally, the research adopts a mixed-method approach, combining quantitative and qualitative data. While this approach offers a comprehensive understanding, the qualitative component's subjective nature might introduce potential biases in interpretation. Furthermore, the study focuses on the interplay of architectural design, building location, and employee satisfaction, omitting other potential variables that could influence workplace productivity. As the research draws on self-reported measures, there is a possibility of social desirability bias, where participants may provide responses they perceive as socially acceptable. Lastly, the study's cross-sectional design captures a snapshot in time, limiting the ability to establish causal relationships or observe changes over an extended period. Despite these limitations, the research provides valuable contributions to the field and offers a foundation for future studies to explore these dynamics in more diverse contexts and with additional influencing variables.

5.3 Theoretical Implications

This research holds significant theoretical implications for the field of environmental psychology and organizational studies. By examining the interplay between architectural design, building location, and employee satisfaction on workplace productivity, the study contributes to the evolving landscape of environmental psychology. The incorporation of Job Satisfaction Theory and Person-Environment Fit Theory as guiding frameworks enhances the theoretical foundation, providing a structured lens to understand the complex relationships within the workplace environment. The study enriches the literature by emphasizing the holistic nature of these interactions, acknowledging the need for a comprehensive theoretical framework that goes beyond isolated considerations of architectural design or building location.

Moreover, the research contributes to the advancement of Job Satisfaction Theory by recognizing its role as a potential moderating variable in the complex dynamics between physical workspace attributes and overall workplace productivity. This nuanced understanding of how employee satisfaction interacts with architectural design and building location expands the theoretical underpinnings of job satisfaction, moving beyond its conventional association solely with individual job roles and responsibilities. The study, therefore, extends the boundaries of existing theories, recognizing the intricate connections between environmental factors and employee well-being.

Additionally, the research introduces a novel perspective by treating architectural design and building location as independent variables, workplace productivity as the dependent variable, and employee satisfaction as a moderating variable. This framework contributes to the Person-Environment Fit Theory by acknowledging the need for a tailored fit between employees and their physical work environment. It emphasizes the importance of aligning architectural and locational aspects with employees' preferences and satisfaction levels to optimize productivity. This novel theoretical approach underscores the significance of considering multiple factors simultaneously, offering a more holistic understanding of the intricate relationships within the workplace environment.

5.4 Practical Implications

This research carries significant practical implications for various stakeholders, including organizations, architects, designers, and managers, by offering actionable insights derived from its comprehensive exploration of the influence of architectural design, building location, and employee satisfaction on workplace productivity.

For organizations, the findings provide empirical evidence supporting the notion that well-designed office spaces, strategically located buildings, and a focus on employee satisfaction positively impact workplace productivity. Organizations can leverage this knowledge to make informed decisions in workspace design, considering elements such as spatial layout, natural light, and relaxation areas. Moreover, the recognition of the moderating role of employee satisfaction highlights the importance of fostering a positive work environment to enhance overall productivity. Implementing evidence-based strategies derived from the study can contribute to creating healthier and more engaging workplaces, ultimately benefiting the organization's performance.

Architects and designers can use the study's insights to refine their approaches to workspace design. By understanding the specific elements that influence employee satisfaction and productivity, designers can tailor their plans to meet these criteria. This may involve incorporating features that promote collaboration, creativity, and well-being, aligning with the identified factors such as zoning, spatial layout, and the inclusion of relaxation areas. The study guides architects and designers toward creating workspaces that not only meet aesthetic preferences but also prioritize functionality and user experience, fostering a conducive environment for productivity.

Managers, armed with the knowledge from this research, can implement evidence-based strategies to enhance workplace effectiveness. Recognizing the importance of architectural design, building location, and employee satisfaction, managers can influence policies and practices to create and maintain healthy workspaces. This may involve introducing flexible work arrangements, optimizing office layouts, or investing in employee well-being programs. By focusing on these aspects, managers can contribute to higher job satisfaction, engagement, and productivity among their teams.

On a broader scale, the research provides policymakers with valuable insights into formulating evidence-based guidelines for creating healthier work environments. Understanding the impact of the physical workspace on overall societal well-being and productivity, policymakers can advocate for regulations that encourage thoughtful design, strategic building placement, and initiatives supporting employee satisfaction. This aligns with contemporary discussions around sustainability, well-being, and the societal impact of work environments.

5.5 Managerial Implications

This research holds several crucial managerial implications that can guide decision-makers in organizations toward fostering a more productive and satisfying work environment. The study's findings offer practical insights and recommendations for managers to consider in their roles.

Firstly, the recognition of the influential roles played by architectural design, building location, and employee satisfaction underscores the importance of a holistic approach to workplace management. Managers can leverage this understanding to actively participate in decisions related to office space design and location planning. In doing so, they contribute to the creation of workspaces that align with the organization's goals, enhance employee well-being, and ultimately boost productivity.

The study emphasizes the moderating role of employee satisfaction in the relationship between architectural design, building location, and workplace productivity. Managers can capitalize on this insight by prioritizing initiatives that enhance employee satisfaction. This may involve implementing employee engagement programs, providing opportunities for skill development, and creating a positive organizational culture that fosters a sense of fulfillment among employees. Satisfied employees are more likely to be motivated, engaged, and, consequently, productive.

Furthermore, managers can consider flexible work arrangements and policies that align with the findings of the study. Understanding the impact of building location on factors like commute stress and overall job engagement, managers can explore options such as remote work, flexible hours, or decentralized office spaces. These considerations not only contribute to employee satisfaction but also address practical aspects that influence productivity.

The study's insights into the specific elements of architectural design that impact productivity, such as spatial layout and zoning, provide managers with actionable areas for improvement. Managers can collaborate with architects and designers to implement changes in the physical workspace that align with these findings. Whether through office redesigns, the introduction of collaborative spaces, or the enhancement of natural lighting, these adjustments can positively influence employees' experiences and, consequently, their productivity.

5.6 Policy Implications

The findings of this research offer valuable insights that extend beyond organizational boundaries, carrying significant policy implications for both governmental bodies and institutions involved in shaping workplace environments at a broader societal level. These policy implications are critical for informing guidelines and regulations that promote healthy workspaces, enhance overall societal well-being, and integrate sustainability practices.

First and foremost, policymakers can leverage the research outcomes to develop evidence-based guidelines for architectural design and building location in workspaces. By recognizing the pivotal roles of these elements in influencing workplace productivity and employee satisfaction, policymakers can establish standards and recommendations that organizations should consider when designing or renovating office spaces. This proactive approach contributes to the creation of work environments that are conducive to both individual well-being and societal productivity.

Additionally, the study emphasizes the importance of employee satisfaction as a moderating factor in the relationship between architectural design, building location, and workplace productivity. Policymakers can consider initiatives that promote employee satisfaction on a broader scale, such as legislating for flexible work arrangements, recognizing the value of employee well-being in organizational success. This can include supporting policies that encourage a healthy work-life balance, flexible scheduling options, and measures to enhance job satisfaction.

Furthermore, policymakers can address the broader implications of building location on employee satisfaction. By considering urban planning and infrastructure development policies that prioritize accessibility, public transportation, and the creation of green spaces, policymakers can positively influence the overall quality of work environments. These considerations not only impact individual organizations but also contribute to the development of sustainable and people-centric urban spaces.

The research's emphasis on the holistic relationship between architectural design, building location, and employee satisfaction aligns with the growing awareness of the interconnectedness between work environments and societal health. Policymakers can use these insights to shape regulations that encourage environmentally sustainable practices in office construction and renovations, fostering the creation of workplaces that align with broader sustainability goals.

5.7 Future Research Suggestions

While this research makes significant strides in understanding the complex interplay between architectural design, building location, and employee satisfaction in influencing workplace productivity, several avenues for future research can further enhance our comprehension of this intricate relationship.

Firstly, future studies could delve into the specific elements of architectural design that exert the most significant influence on employee satisfaction and productivity. Exploring variables such as lighting, spatial layout, and noise levels in isolation could provide nuanced insights into which design features carry the most weight in shaping the work environment. Understanding these nuances can guide architects and organizations in prioritizing specific aspects during the design or renovation process.

Secondly, longitudinal studies could be conducted to observe the evolution of the relationship between architectural design, building location, and workplace productivity over time. Tracking changes in work environments and employee satisfaction over an extended period would enable researchers to identify trends, contributing factors, and potential long-term effects. This longitudinal approach would offer a dynamic perspective on how workspaces adapt to societal and technological changes.

Furthermore, future research could explore the impact of different organizational cultures on the relationship between the built environment and workplace productivity. Organizational culture plays a crucial role in shaping employee attitudes and behaviors. Investigating how various organizational cultures interact with architectural design and building location can provide tailored recommendations for companies with different cultural orientations.

Additionally, considering the rapid advancements in technology and the increasing prevalence of remote work, future research could assess how virtual workspaces and digital environments influence employee satisfaction and productivity. This shift in the nature of work necessitates an exploration of how the principles identified in traditional office settings translate to virtual or hybrid work models.

Another promising avenue for future research involves expanding the geographical scope of studies to encompass diverse cultural and regional contexts. The present research focuses on a sample of employees in Jakarta, and extending the study to different regions or countries can offer insights into how cultural variations may influence the observed relationships between architectural design, building location, and employee satisfaction.

Lastly, integrating the perspectives of multiple stakeholders, including employees, managers, and architects, in future research can provide a comprehensive understanding of the diverse needs and preferences within a workspace. This multi-stakeholder approach would contribute to a more holistic and inclusive examination of the factors that contribute to a productive and satisfying work environment.

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CHAPTER 5

Ardhanari Dance Academy Business Plan

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ABSTRACT

Indonesia places great importance on the creative economy due to its transformative nature and significant growth. Performing arts, being one of the fastest-growing sub-sectors offers enticing opportunities for business owners, supported by Indonesia's extraordinary diversity of artistic and performance traditions that can be continuously explored. Ardhanari is a performing arts management that has been operating for many years without the establishment of a dance academy. This paper is done with the objective of creating a business plan for Ardhanari Dance Academy that would support its stable growth and lead to Ardhanari being a leader in the dance industry that creates a market through its value innovation.

Strategic management tools such as SWOT Analysis, PESTLE Analysis, Business Model Canvas and Human Resource Management were used to provide a general overview of how to successfully launch a business in the performance arts sector. Marketing strategies are developed to attract and retain customers locally and internationally, while incentives are offered to staff to retain high-quality in-house dance instructors. Collaboration with an existing dance studio is very important for Ardhanari to reach its financial objectives in less than three years.

Keywords: *Creative Economy, Performing Arts, Business Plan, Marketing*

The Creative Economy Industry and Performing Arts Sub-Sector in Indonesia

Indonesia, an archipelago with over 17,000 islands, hundreds of ethnic groups, and a diverse cultural heritage, was one of the first countries to establish a ministry dedicated to the creative economy, following the 2008 – 2009 global economic crisis. The creative economy covers 17 subsectors: culinary; fashion; craft; games; film, animation, and video; advertisement; architecture; fine arts; performing arts; music; application; photography; publishing; product design; interior design; TV and radio; and visual communication, employing approximately 19,39 million people in 2020 and generating approximately USD 82 billion in GDP (Ministry of Foreign Affairs, 2022). Since 2015, Indonesia's creative economy has grown rapidly, reaching a 9.5% GDP growth rate in the performing arts sector in 2016, with performing arts as one of its fastest-growing sub-sectors offering enticing opportunities for business owners, supported by Indonesia's extraordinary diversity of artistic and performance traditions (BEKRAF, 2019).

Ardhanari is a performing arts management that has been operating for many years without establishing a dance academy, offering dance classes and tailor-made performances for clients in Indonesia and abroad. This paper is carried out with the objectives of creating a business plan for Ardhanari Dance Academy that would support its stable growth and lead to Ardhanari becoming a leader in the dance industry that creates a market through its value innovations. There are many challenges in establishing a dance company, such as dance studios taking approximately 3 to 5 years to reach Break Even Point; difficulties in attracting and retaining customers; and difficulties in hiring and retaining highly qualified dancers.

This paper used a descriptive approach based on literature reviews and previous research analysis, using both primary and secondary data to aid in business planning. Primary data is gathered through close-ended and open-ended questionnaires that include demographic and socio-economic data and personal preferences that were distributed to 200 dance practitioners and enthusiasts in the Jakarta area. Ardhanari founders were interviewed to gain a better understanding of its history and how to promote its unique values and expand the business, while dance studio owners in Jakarta were interviewed to understand their motivation and the challenges they had to overcome during the years of its operations. In addition to that, dance instructors in Jakarta were interviewed to gain an understanding of what they expect from a dance studio in exchange for their loyalty and services. The list of informants of the in-depth interview is stated in Table 1 below.

Name	Age	Institution / Organization	Years being professional artist	Years teaching	Occupation
Maria Darmaningsih S.Sn., M.Ed.	67 y.o.	Ardhanari Performing Arts Studio & Management	48 years	44 years	Humanist, dance lecturer, founder & art director of Ardhanari
Dr. Franciscus Xaverius Widaryanto, S.S.T., M.A.	73 y.o.	Universitas Parahyangan	65 years	45 years	Humanist, dance and gamelan professor
Bambang Winandar	68 y.o.	Warnai Indonesia	48 years	28 years	Music Producer, Character Education and Developer Facilitator, Media Development
Gianti Giadi	38 y.o.	Gigi Art of Dance	20 years	20 years	Studio owner, full time dancer and choreographer
Fabriannata Indrawan	35 y.o.	Heavy Buck Style Community and Dance Studio	14 years	14 years	Studio owner, dance teacher and choreographer
Eriza Trihapsari	32 y.o.	Independent artist	9 years	7 years	Professional dancer and dance instructor
Arika Ahmad	26 y.o.	Independent artist	9 years	3 years	Professional dancer and dance instructor

Table 1. Table of Informants

SWOT Analysis

SWOT Analysis is used to analyse the internal factors of strengths and weaknesses of the business, and the external factors of opportunities and threats. The SWOT Analysis of Ardhanari Dance Academy is stated in Figure 1 below.

<p style="text-align: center;">STRENGTHS</p> <ul style="list-style-type: none"> • In-depth industry experience • Creative, tailor-made performances • Dance academic syllabus • Highly qualified instructors • A high variety of dance genres • A high variety of dance programs • Ardhanari founders as prominent figures in the Indonesian performing arts industry • Ardhanari regeneration developing a career as a performing arts manager, aiding in the planning and success of the academy 	<p style="text-align: center;">WEAKNESSES</p> <ul style="list-style-type: none"> • Lack of investment and funding • Unstable revenue stream due to the nature of dance academies • Difficulties in retaining dance instructors • Challenges in retaining loyal customers • BEP of dance academies takes 5 years
<p style="text-align: center;">OPPORTUNITIES</p> <ul style="list-style-type: none"> • Participation in a growing creative industry • Increasing trend of healthy and active lifestyle • Increasing trend towards arts and culture • Abundance access of social media for marketing, promotion, and effective communication • Digital technology aids in reaching greater market outreach and providing services online 	<p style="text-align: center;">THREATS</p> <ul style="list-style-type: none"> • Limited brand awareness as a start-up dance academy • Competition from already-established dance academies • Many existing dance academies with high social media profiles • So many existing dance academies with various classes • Human resources prefer to work in corporations • High rental cost for the dance academy venue

Figure 1. SWOT Analysis of Ardhanari Dance Academy

PESTLE Analysis

PESTLE Analysis is used to analyse the macro situation to determine whether a dance academy would be perceived well in Indonesia from a macro perspective. This paper used PESTLE Analysis with the details in Figure 2 below.

<p align="center">Politic</p> <ul style="list-style-type: none"> Indonesia Vision 2045. The Indonesian central and regional governments have been supporting the cultural events in Indonesia Dana Indonesiana: facilitating cultural field and strategic events Support from DKI Jakarta – Cultural Department and Tourism and Economy Creative Department Support from the Ministry of Tourism and Creative Economy – Events Department 	<p align="center">Economic</p> <ul style="list-style-type: none"> Indonesia's GDP is 5.31% at the end of 2022 Indonesia regained its position as an upper-middle-income band of countries Gross national income per capita increased to 4,580 USD Development of the Indonesian Creative Industry, involving 17 subsectors from architecture to performing arts TV & radio, film, animation & video, and performing arts are the subsectors with the most significant development in the creative industry 	<p align="center">Social</p> <ul style="list-style-type: none"> Indonesian population of 276.4 Million inhabitants Strong cultural heritage and performance art traditions 11.2 M Jakarta population is a wide range of market for performing arts Jakarta is a multicultural city, a "melting pot" and a centre of arts for the domestic and international market Increased market trends towards arts and culture and living healthy physically and mentally
<p align="center">Technology</p> <ul style="list-style-type: none"> Digital technology helped choreographers sustain their livelihood and artworks during the pandemic Technology development aided in creating artworks towards more innovative creation and hybrid events 212.9 M internet users (88%), and 167 M social media users (60.4%) making easier promotion and greater outreach 	<p align="center">Legal</p> <ul style="list-style-type: none"> Law no 24 year 2019 on creative economy, "embodiment of the added value of intellectual property generated from human creativity, cultural heritage, science and technology" Indonesian government supports creative economy: improving access to finance, enhancing IP management, creating creative economy networks 	<p align="center">Environment</p> <ul style="list-style-type: none"> The Ministry of Environment and Forestry of the Republic of Indonesia has a policy called PROPER Ardhanari Dance Studio will contribute to the environment by enforcing everyone to bring their own water bottles to reduce the usage of plastic bottles and for waste management Create dance programs in nature to promote environmental awareness

Figure 2. PESTLE Analysis of Ardhanari Dance Academy

Business Model Canvas

The Business Model Canvas is one of the strategic management tools that is used to visualize the key aspects which assist Ardhanari owners and management in developing new business models and key strategies. The Business Model Canvas of Ardhanari Dance Academy is elaborated in Figure 3 below.

Business Canvas Model of Ardhanari Dance Academy

<p align="center">Key Partners</p> <ul style="list-style-type: none"> Influencers and public figures in the dance industry Dance Communities Cultural Centres Indonesian Government Schools and Universities 	<p align="center">Key Activities</p> <ul style="list-style-type: none"> Online & offline programs Annual performances and events Capture market reach by engaging core team in events in Jakarta Fulfilling customer needs towards trends in dance and wellness Market outreach to schools and communities in Jakarta to expand awareness 	<p align="center">Value Propositions</p> <ul style="list-style-type: none"> A space for dance and wellness enthusiasts in Jakarta and abroad A space that boosts mental health and stress release through dancing Supports SDG 3: health and wellbeing A space for dance practitioners to create artwork together with prominent Indonesian dance artists Movement of preserving National Heritage incorporated into its programs Unlimited monthly memberships 	<p align="center">Customer Relationship</p> <ul style="list-style-type: none"> Create awareness towards the need for dance for our wellbeing Interactive and personal experience within our programs Online and offline customer service 	<p align="center">Customer Segments</p> <ul style="list-style-type: none"> Urban population in Indonesia, specifically Jakarta for offline programs Limitless public on global scale for online programs Open to all classes of population Dance practitioners and dance enthusiasts Individuals, academic institutions and corporations
	<p align="center">Key Resources</p> <ul style="list-style-type: none"> Ardhanari founders are prominent figures in the dance industry Ardhanari team with expertise in dance & other forms of arts that is aligned with the programs Young and creative team, marketing strategy on a global scale within the dance industry 		<p align="center">Channels</p> <ul style="list-style-type: none"> Direct sales at our studio Social media and online sales for both offline and online programs 	
<p align="center">Cost Structures</p> <p>Fixed Costs:</p> <ul style="list-style-type: none"> Marketing and advertisement Venue rental Salaries of staff and instructors <p>Variable Costs:</p> <ul style="list-style-type: none"> Annual performance expenses Event production expenses 		<p align="center">Revenue Streams</p> <ul style="list-style-type: none"> Sales from online & offline programs Sales from events and performances Government grants Investors 		

Figure 3. Business Canvas Model of Ardhanari Dance Academy

Human Resource Management

Retaining highly qualified dance instructors is one of the main challenges that most dance academies face. To retain these highly qualified dance instructors, Ardhanari Dance Academy need to implement the correct human resource management strategy by having attractive incentives in addition to their basic salary. These incentives are as follows:

1. **Appropriate Hourly Rate:** Analyse the market price for an appropriate hourly rate for dance instructors.
2. **Bonus for Outstanding Classes:** Instructors should be given a target of amount of students in each class, if the target is surpassed, a bonus will be given in addition to the hourly fee.
3. **Standard of Participants:** No more than 10 participants per class to ensure class productivity and discipline.
4. **Scheduling:** Classes should be scheduled for the benefit of both the dance academy and dance instructors.
5. **Cancellation Policy:** If a class is cancelled less than 24 hours before the start of class, the instructor will be paid in full.
6. **Free Educational Programs for Instructors:** Free classes for instructors once a month from master classes from senior choreographers to event management workshops and event productions.
7. **Teacher of the Month:** Instructors will be evaluated monthly and will be awarded the “Teacher of the Month” with a given bonus at the end of the month.
8. **Annual Recital:** Organizing annual performances to give instructors challenges and healthy competition between fellow instructors.

Market Segmentation

Indonesia is the world’s fourth-most populous country, with a population of 276.400.000 people as of January 2023 (Kemp, 2023) and 63% of the population is of working age. The Indonesian urban population, accounting for 58.2% of the total population, and the middle-class population, accounting for 20%, are the targets of this business.

Red Ocean to Blue Ocean Strategy

Ardhanari will implement the Blue Ocean Strategy to create a market instead of competing with the existing dance academies in Jakarta. It will focus on both offline and online programs, and supporting good health and well-being of its members. Ardhanari’s activities support the United Nation’s Sustainable Development Goals number 3: good health and well-being, aiming to create a safe space for dance practitioners and enthusiasts to express themselves and boost their well-being and holistic health. Offline programs will be carried out

in Jakarta, offering classes at the academy, workshops, and dance camps with annual recitals. Online programs will be done via Zoom and offered to the Indonesian public residing outside of Jakarta and the global communities outside of Indonesia, with the movement of preserving national heritage and offering unlimited memberships.

Marketing Mix – Products

1. Dance Genres: Ardhanari Dance Academy will offer various dance genres based on the market’s demand such as various Latin dances, various traditional Indonesian dances, contemporary dance, traditional contemporary dance, Hip-Hop, K-Pop, heels choreography, Afro dance, Urban choreography, Tango, Baby Ballet and Dancehall.
2. Dance Programs: Classes are offered in several forms to cater to the consumers’ individual needs and financial abilities and limitations. Programs offered are private classes, private group classes, group classes, 3-hour workshops, 9-hour intensive workshops, and 1-week dance camp.

Marketing Mix – Price

Offline Programs					
Registration Fee	IDR150.000	Monthly visit private class	IDR2.000.000	Dance camp	IDR2.000.000
Single visit group class	IDR100.000	Monthly private group	IDR1.000.000	Class package	IDR1.000.000
Monthly group class	IDR350.000	3-hour workshop	IDR300.000	Monthly unlimited	IDR1.000.000
Single visit private class	IDR600.000	9-hour workshop	IDR600.000	Annual unlimited	IDR11.000.000

Table 2. Offline Programs

Monthly Online Programs	
National Customers	IDR400.000
International Communities	USD 100

Table 2. Monthly Online Programs

Marketing Mix – Place

According to the questionnaire that was distributed, 68.3% of respondents preferred to take dance classes in South Jakarta. As such, based on the current market of Ardhanari, the studio will be located in the South Jakarta area.

Promotion

1. Social Media Marketing: using Instagram ads to attract targeted audiences, offering monthly giveaways with free classes and memberships for the winners.
2. Movement of Preserving National Heritage: offering various traditional Indonesian dance classes and collaborating with traditional communities and social media competitions.

3. Collaborations with Governmental Institutions and Cultural Centres: involve Ardhanari professional dancers to perform in international governmental events and offering cross-field collaborations with foreign cultural centres.
4. Promotions at Shopping Malls and Corporate Events: offering affordable student performances in exchange for exposure.
5. Outreaching to Schools and Universities: offer dance extracurriculars at academic institutions and discounts to students applying through the institutions.
6. Free Trials: Monthly free trials for new classes for both members and non-members.
7. Early Bird Prices: discounted prices for workshops and dance camps ahead of time.
8. Student of the Month: Monthly award for students with the best personal development.
9. Brand Ambassador: Collaborate with public figures for market outreach.
10. Scholarships: free classes for talented dance enthusiasts who lack financial ability in exchange for their help with Ardhanari's operations.

Financial Projections

A three-year financial projection is carried out which includes projected annual expenses and projected annual income. Projected expenses include venue rental, staff salaries, dance instructor salaries, instructor monthly bonus, annual recital production and promotion. Projected income includes all services offered by Ardhanari.

ANNUAL EXPENSES (1st Year)							
No	Grouping	Items	Pax	Rate	Weekly	Monthly	Annual
1	VENUE	Studio Weekly Usage	13	IDR 100.000	IDR 1.300.000	IDR 5.200.000	IDR 62.400.000
2		Studio Monthly Usage	13	IDR 100.000		IDR 1.300.000	IDR 15.600.000
3		Studio Annual Usage	21	IDR 100.000			IDR 2.100.000
4	STAFF	Administration Staff	1			IDR 4.500.000	IDR 54.000.000
5		Finance Staff	1			IDR 4.500.000	IDR 54.000.000
6		Social Media Manager	1			IDR 4.500.000	IDR 54.000.000
7	MONTHLY CLASSES	Offline Instructor Fee	8	IDR 350.000	IDR 2.800.000	IDR 11.200.000	IDR 134.400.000
8		Online Instructor National	2	IDR 250.000	IDR 500.000	IDR 2.000.000	IDR 24.000.000
9		Online Instructor International	3	IDR 300.000	IDR 900.000	IDR 3.600.000	IDR 43.200.000
10		Free Workshop for Instructors	1	IDR 1.500.000		IDR 1.500.000	IDR 18.000.000
11		Teacher of the Month Bonus	1			IDR 1.000.000	IDR 12.000.000
12	WORKSHOPS	3-hr Workshop	1	IDR 1.000.000		IDR 1.000.000	IDR 12.000.000
13		Intensive 9-hr Workshop	1	IDR 3.000.000		IDR 3.000.000	IDR 36.000.000
14	DANCE CAMP	Instructor Fees	7	IDR 1.000.000			IDR 7.000.000
15	ANNUAL RECITAL	Venue Rent	1	IDR 20.000.000			IDR 20.000.000
16		Instructor Fees	8	IDR 1.000.000			IDR 8.000.000
17		Production Cost	1	IDR 40.000.000			IDR 40.000.000
18	PROMOTION	Instagram Ads	1	IDR 2.000.000		IDR 2.000.000	IDR 24.000.000
						IDR 620.700.000	

Table 3. Annual Expenses (1st Year)

ANNUAL EXPENSES (2nd Year)							
No	Grouping	Items	Pax	Rate	Weekly	Monthly	Annual
1	VENUE	Studio Weekly Usage	21	IDR 100.000	IDR 2.100.000	IDR 8.400.000	IDR 100.800.000
		Studio Monthly Usage	13	IDR 100.000		IDR 1.300.000	IDR 15.600.000
		Studio Annual Usage	21	IDR 100.000			IDR 2.100.000
2	STAFF	Administration Staff	1			IDR 4.950.000	IDR 59.400.000
3		Finance Staff	1			IDR 4.950.000	IDR 59.400.000
4		Social Media Manager	1			IDR 4.950.000	IDR 59.400.000
5	MONTHLY CLASSES	Offline Instructor Fee	14	IDR 400.000	IDR 5.600.000	IDR 22.400.000	IDR 268.800.000
6		Online Instructor National	3	IDR 300.000	IDR 900.000	IDR 3.600.000	IDR 43.200.000
7		Online Instructor International	4	IDR 350.000	IDR 1.400.000	IDR 5.600.000	IDR 67.200.000
8		Free Workshop for Instructors	1	IDR 1.500.000		IDR 1.500.000	IDR 18.000.000
9		Teacher of the Month Bonus	1			IDR 1.000.000	IDR 12.000.000
10	WORKSHOPS	3-hr Workshop	1	IDR 1.500.000		IDR 1.500.000	IDR 18.000.000
11		Intensive 9-hr Workshop	1	IDR 4.500.000		IDR 4.500.000	IDR 54.000.000
12	DANCE CAMP	Instructor Fees	7	IDR 1.500.000			IDR 10.500.000
13		Venue Rent	1	IDR 20.000.000			IDR 20.000.000
14	ANNUAL RECITAL	Instructor Fees	14	IDR 1.000.000			IDR 14.000.000
15		Production Cost	1	IDR 40.000.000			IDR 40.000.000
16	PROMOTION	Instagram Ads	1	IDR 2.000.000		IDR 2.000.000	IDR 24.000.000
							IDR 886.400.000

Table 4. Annual Expenses (2nd Year)

ANNUAL EXPENSES (3rd Year)							
No	Grouping	Items	Pax	Rate	Weekly	Monthly	Annual
1	VENUE	Venue Rent	1			IDR 30.000.000	IDR 360.000.000
2		Electricity	1			IDR 5.000.000	IDR 60.000.000
3	STAFF	Administration Staff	1			IDR 5.445.000	IDR 65.340.000
4		Finance Staff	1			IDR 5.445.000	IDR 65.340.000
5		Social Media Manager	1			IDR 5.445.000	IDR 65.340.000
6		Cleaner	1			IDR 2.420.000	IDR 29.040.000
7	MONTHLY CLASSES	Offline Instructor Fee	20	IDR 400.000	IDR 8.000.000	IDR 32.000.000	IDR 384.000.000
8		Online Instructor National	4	IDR 300.000	IDR 1.200.000	IDR 4.800.000	IDR 57.600.000
9		Online Instructor International	6	IDR 350.000	IDR 2.100.000	IDR 8.400.000	IDR 100.800.000
10		Free Workshop for Instructors	1	IDR 1.500.000		IDR 1.500.000	IDR 18.000.000
11		Teacher of the Month Bonus	1			IDR 1.000.000	IDR 12.000.000
12	WORKSHOPS	3-hr Workshop	1	IDR 1.500.000		IDR 1.500.000	IDR 18.000.000
13		Intensive 9-hr Workshop	1	IDR 4.500.000		IDR 4.500.000	IDR 54.000.000
14	DANCE CAMP	Instructor Fees	7	IDR 1.500.000			IDR 10.500.000
15		Venue Rent	1	IDR 20.000.000			IDR 20.000.000
16	ANNUAL RECITAL	Instructor Fees	14	IDR 1.000.000			IDR 14.000.000
17		Production Cost	1	IDR 40.000.000			IDR 40.000.000
18	PROMOTION	Instagram Ads	1	IDR 2.000.000		IDR 2.000.000	IDR 24.000.000
							IDR 1.397.960.000

Table 5. Annual Expenses (3rd Year)

In this financial projection, Ardhanari is to rent an existing dance studio at an hourly rate according to its schedule for the first two years of its operations. In the third year of operation, Ardhanari will rent an independent building for its operations. With this scheme, the total projected expenses for the first 3 years is Rp 2.617.720.000.

ANNUAL INCOME (1st Year)								
No	Grouping	Items	Pax	Rate	Weekly	Monthly	Bi-Monthly	Annual
1	MONTHLY OFFLINE CLASSES	Registration Fee	40	IDR 150.000				IDR 6.000.000
2		Single Visit Group Class	20	IDR 100.000	IDR 2.000.000	IDR 8.000.000		IDR 96.000.000
3		Monthly Fee Group Class	7	IDR 350.000		IDR 2.450.000		IDR 29.400.000
4		Class Package	7	IDR 1.000.000			IDR 7.000.000	IDR 42.000.000
5		Monthly Membership	7	IDR 1.000.000		IDR 7.000.000		IDR 84.000.000
6		Annual Membership	7	IDR 11.000.000				IDR 77.000.000
7	MONTHLY ONLINE CLASSES	Monthly Fee National	7	IDR 400.000		IDR 2.800.000		IDR 33.600.000
8		Monthly Fee International	7	IDR 1.500.000		IDR 10.500.000		IDR 126.000.000
9	WORKSHOP	3-hr Workshop	7	IDR 300.000		IDR 2.100.000		IDR 25.200.000
10		Intensive 9-hr Workshop	7	IDR 600.000		IDR 4.200.000		IDR 50.400.000
11	DANCE CAMP	Participant Charge	8	IDR 2.000.000				IDR 16.000.000
12	ANNUAL RECITAL	Ticket Sales	150	IDR 200.000				IDR 30.000.000
13		Participant Charge	30	IDR 500.000				IDR 15.000.000
							IDR 630.600.000	

Table 6. Annual Income (1st Year)

ANNUAL INCOME (2nd Year)

No	Grouping	Items	Pax	Rate	Weekly	Monthly	Bi-Monthly	Annual
1	MONTHLY OFFLINE CLASSES	Registration Fee	40	IDR 150.000				IDR 6.000.000
2		Single Visit Group Class	40	IDR 100.000	IDR 4.000.000	IDR 16.000.000		IDR 192.000.000
3		Monthly Fee Group Class	15	IDR 350.000		IDR 5.250.000		IDR 63.000.000
4		Class Package	15	IDR 1.000.000			IDR 15.000.000	IDR 90.000.000
5		Monthly Membership	10	IDR 1.000.000		IDR 10.000.000		IDR 120.000.000
6		Annual Membership	10	IDR 11.000.000				IDR 110.000.000
7	MONTHLY ONLINE CLASSES	Monthly Fee National	15	IDR 400.000		IDR 6.000.000		IDR 72.000.000
8		Monthly Fee International	15	IDR 1.500.000		IDR 22.500.000		IDR 270.000.000
9	WORKSHOP	3-hr Workshop	10	IDR 300.000		IDR 3.000.000		IDR 36.000.000
10		Intensive 9-hr Workshop	10	IDR 600.000		IDR 6.000.000		IDR 72.000.000
11	DANCE CAMP	Participant Charge	15	IDR 2.000.000				IDR 30.000.000
12	ANNUAL RECITAL	Ticket Sales	200	IDR 200.000				IDR 40.000.000
13		Participant Charge	40	IDR 500.000				IDR 20.000.000

IDR 1.121.000.000

Table 7. Annual Income (2nd Year)

ANNUAL INCOME (3rd Year)

No	Grouping	Items	Pax	Rate	Weekly	Monthly	Bi-Monthly	Annual
1	MONTHLY OFFLINE CLASSES	Registration Fee	40	IDR 150.000				IDR 6.000.000
2		Single Visit Group Class	60	IDR 100.000	IDR 6.000.000	IDR 24.000.000		IDR 288.000.000
3		Monthly Fee Group Class	20	IDR 350.000		IDR 7.000.000		IDR 84.000.000
4		Class Package	20	IDR 1.000.000			IDR 20.000.000	IDR 120.000.000
5		Monthly Membership	15	IDR 1.000.000		IDR 15.000.000		IDR 180.000.000
6		Annual Membership	15	IDR 11.000.000				IDR 165.000.000
7	MONTHLY ONLINE CLASSES	Monthly Fee National	20	IDR 400.000		IDR 8.000.000		IDR 96.000.000
8		Monthly Fee International	20	IDR 1.500.000		IDR 30.000.000		IDR 360.000.000
9	WORKSHOP	3-hr Workshop	15	IDR 300.000		IDR 4.500.000		IDR 54.000.000
10		Intensive 9-hr Workshop	15	IDR 600.000		IDR 9.000.000		IDR 108.000.000
11	DANCE CAMP	Participant Charge	20	IDR 2.000.000				IDR 40.000.000
12	ANNUAL RECITAL	Ticket Sales	200	IDR 200.000				IDR 40.000.000
13		Participant Charge	50	IDR 500.000				IDR 25.000.000

IDR 1.566.000.000

Table 8. Annual Income (3rd Year)

The total projected income for the first 3 years is Rp 3.380.860.000, meaning Ardhanari will reach Break Even Point in less than 3 years, with an estimated profit of Rp 699.880.000 at the end of the third year.

Conclusions

Indonesia is an archipelago filled with a vast variety of performance traditions with the performing arts industry as an exciting industry to develop with unlimited resources of dance traditions. The economy creative is an industry well supported by the government. By establishing connections with the Indonesian government institutions, and collaborating with dance communities, academic institutions and foreign cultural centres, Ardhanari will be able to sustain a stable annual growth. With the correct marketing strategy and its implementation, Ardhanari will be able to surpass the existing dance studios in Jakarta.

Recommendations

1. Ardhanari is to start its activities by renting an existing dance studio at an hourly rate in the first two years of its operations to reach a Break Even Point in less than 3 years and rent its own venue in the third year.
2. Focus on digital marketing promotion to grab local and international market's attention.
3. Create existing programs to motivate customers to continue learning dance, including workshops and dance camps to deepen their dance knowledge and showcases to for customers to look forward to.
4. Offer various options of class packages and focus on the volume of customers by offering monthly and annual memberships.
5. Reach out to dance communities, academic institutions, foreign cultural centres, corporations, shopping malls and governmental institutions to reach out to groups of consumers instead of individual consumers.
6. Offer exciting incentives for dance instructors such as a basic salary, free workshops and monthly awards to create healthy competition with fellow instructors.

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CHAPTER 6

The Effect of Intellectual Capital and Business Sustainability of MSMEs on Local Community Empowerment

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ABSTRACT

In the context of Micro, Small, and Medium Enterprises (MSMEs) in West Java, Indonesia, this research project explores the complex interactions between intellectual capital, company sustainability, and local community empowerment. Data from 200 MSMEs were used in a quantitative research to examine the impact of sustainable practices and intellectual capital on community empowerment. The findings show that both intellectual capital and corporate sustainability have a strong positive impact on local community empowerment. It has been discovered that intellectual capital, which includes knowledge, skills, and intangible assets, promotes innovation, knowledge sharing, and community participation. Similar to how company sustainability practices, such as resource efficiency and ethical sourcing, promoted economic growth, employment, and ethical business conduct, they significantly contributed to community empowerment. These results highlight the significance of knowledge management and sustainability measures in MSMEs as catalysts for neighborhood growth. For the benefit of all parties, policymakers, MSME stakeholders, and local communities are urged to work together to promote sustainable and community-focused business practices.

Keywords: Intellectual Capital; Business Sustainability; Local Community; Empowerment

Paper type Research paper

1. INTRODUCTION

Micro, Small and Medium Enterprises (MSMEs) play a crucial role in economies around the world, contributing significantly to job creation, economic growth, and local community development. They serve as engines of innovation and job creation, possessing intangible assets such as intellectual capital (Iskandar & Kaltum, 2021; Supriandi, 2022). MSMEs are also expected to fulfill a broader social role by actively contributing to the empowerment of local communities (Iskandar, Joeliaty, et al., 2023). Intellectual capital, which includes human capital, structural capital, and relational capital, has been shown to positively affect MSME resilience during challenging times, such as the COVID-19 pandemic (Orba et al., 2020). By investing in education and knowledge sharing, MSMEs can expand their skills and knowledge, enabling them to adapt and thrive in a dynamic business environment (B. Li et al., 2021). MSMEs also contribute to local community development by generating income through various channels, such as employment and business expansion (Al-Mubarak & Busler, 2010). For example, in Nigeria, a study found that MSMEs play a significant role in employment generation, highlighting the importance of understanding their impact on the local economy (Ajuwon et al., 2017). In Indonesia, MSMEs have been found to increase local community income and improve social aspects such as mutual respect, social service, and mutual cooperation (Ardhiyansyah et al., 2023; Iskandar et al., n.d.; Iskandar, Ardhiyansyah, et al., 2023). Furthermore, MSMEs have the potential to support rural bio-industry development, as seen in the case of the rice-analog "Beras Siger" business in Lampung, Indonesia⁹. By focusing on financial feasibility and fulfilling production capacity, MSMEs can create a strong foundation for sustainable growth in their respective communities (Fitriani et al., 2022). In summary, MSMEs are vital to economies worldwide, contributing to job creation, economic growth, and local community development. They possess intangible assets, such as intellectual capital, which help them adapt and thrive in a dynamic business environment. MSMEs also play a broader social role by empowering local communities and supporting rural bio-industry development.

West Java offers a distinctive setting for examining the relationship between intellectual capital, company sustainability, and their effects on local community empowerment thanks to its diverse and thriving MSME sector (Anatan & Nur, 2023, 2022). To fully comprehend the complexities of this relationship and its ramifications for the West Java region, this paper conducts a quantitative analysis. While earlier studies have looked at different MSMEs, intellectual capital, company sustainability, and community development factors in isolation, there is a clear knowledge gap about how these components interact in the context of West Java. It is yet unknown how the empowerment of local communities is influenced by the interaction between intellectual capital and business sustainability in MSMEs.

MSMEs are becoming more and more recognized as important forces in the growth of the economy. These businesses are viewed as change agents in promoting economic growth and social well-being since they are frequently distinguished by their adaptability, inventiveness, and closeness to local communities (Al-Mubarak & Busler, 2010; Lalkaka, 2002). All of an organization's knowledge, abilities, and intangible assets that support its competitive advantage are referred to as intellectual capital. It consists of three components: relational capital (internal relationships and networks), structural capital (organizational procedures and systems), and human capital (employee knowledge and skills). Understanding and using

intellectual capital effectively can be a key factor in an organization's success (Allameh, 2018; Aseanty, 2016; Diugwu, 2011).

The technique of incorporating social, environmental, and economic factors into corporate strategy and operations is known as business sustainability (French et al., 2020; Leninkumar, 2017). Sustainability initiatives seek to maximize an organization's longevity and resilience while reducing its detrimental effects on the environment and society. Local community empowerment refers to programs and actions intended to improve the wellbeing, independence, and active involvement of community members in determining their own future. Due to their proximity to the local population, MSMEs are being more and more recognized as potential agents of community empowerment.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENTS

MSMEs and intellectual capital

Intangible resources that help a business create value and gain a competitive advantage are referred to as intellectual capital. There are three main components that make up intellectual capital. These include the expertise, knowledge, and skills of the workforce. Human capital is frequently directly correlated with the skills and talents of owner-managers and employees in the context of MSMEs (Bontis et al., 2018; Mention & Bontis, 2013). The organizational systems, processes, and intellectual property that enable the effective operation of the company are represented by structural capital. This covers organizational procedures, databases, and patents (Marinelli et al., 2022; Pérez-Cabañero et al., 2015). External networks, relationships, and cooperation are all related to relational capital. Customers, suppliers, and local communities are frequently included in these connections in the case of MSMEs (Hussinki et al., 2017).

Despite the fact that most intellectual capital research focuses on large companies, MSMEs should not undervalue the value of intellectual capital. Intellectual capital is more readily available and essential to innovation and competitiveness in smaller businesses because it frequently lives in teams of just a few people (Allameh, 2018; Astuti et al., 2019; Bontis et al., 2018; Musibah & Alfattani, 2014). According to research, MSMEs with more intellectual capital are more able to innovate, adapt to market changes, and create value (Hashim et al., 2015; Nirino et al., 2022).

MSMEs and business sustainability

The incorporation of social, environmental, and economic factors into an organization's strategy and operations is referred to as business sustainability, sometimes known as corporate sustainability (Jones et al., 2018; Kim & Lim, 2017; Leninkumar, 2017). A sustainable business seeks to maximize long-term benefits while minimizing harm to society and the environment. Sustainability techniques include waste reduction, resource conservation, and good corporate behavior. MSMEs have been more aware recently of the value of sustainability in their business practices. They play a significant part in local communities, and their sustainability initiatives may directly affect those communities' wellbeing. Resource efficiency, ethical sourcing, waste reduction, and community involvement are all examples of sustainability strategies used by MSMEs (Doherty & Kittipanya-Ngam, 2021; Schaltegger & Burritt, 2010; Suriyankietkaew et al., 2022).

Empowerment of the local community

Local community empowerment is the process of giving people and groups within a community more autonomy and capacity to take part in and have an impact on decisions that have an impact on their lives (Christens, 2012). Communities that are empowered will be more capable of addressing their own needs, finding solutions to issues, and achieving sustainable development.

MSMEs have the potential to be significant contributors to community empowerment because of their close connection to local communities. MSMEs can aid in the development of their communities by generating jobs, providing goods and services that are suited to regional requirements, and adopting ethical business practices (Iskandar et al., 2022; Iskandar, Ardhiyansyah, et al., 2023; Iskandar & Kaltum, 2021).

Knowledge Gap

While there is a significant knowledge gap about how intellectual capital, company sustainability, and local community empowerment interact in the context of West Java's MSMEs, the literature does offer useful insights in these areas. In the specific context of small and medium-sized firms, few studies have examined the combined effects of intellectual capital and sustainability practices on local community empowerment.

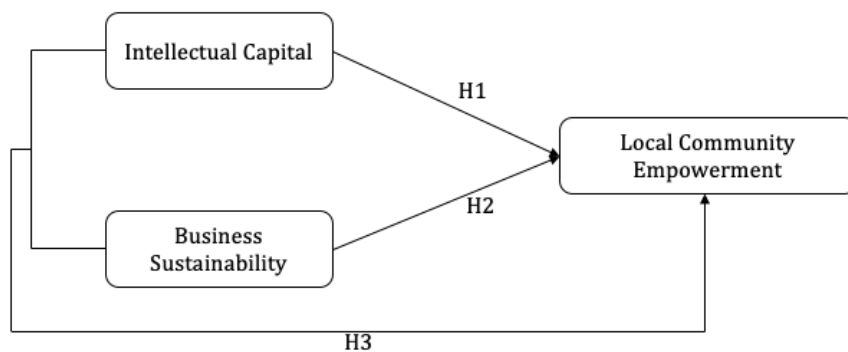


Figure 1: Research Framework (write your variables and hypothesis)

The research hypotheses for this study are as follows:

Hypothesis 1 (H1): Intellectual capital positively affects local community empowerment in MSMEs in West Java.

Hypothesis 2 (H2): Business sustainability positively affects local community empowerment in MSMEs in West Java.

Hypothesis 3 (H3): Intellectual capital and business sustainability positively affect local community empowerment in MSMEs in West Java.

3. METHODS

This study uses a quantitative research design to investigate the effect of intellectual capital and business sustainability of Micro, Small, and Medium Enterprises (MSMEs) on local community empowerment in West Java. Quantitative research allows for collecting numerical data that can be statistically analyzed to test the research hypothesis.

Research Hypothesis

The research hypotheses for this study are as follows:

Hypothesis 1 (H1): Intellectual capital has a positive effect on local community empowerment in MSMEs in West Java.

Hypothesis 2 (H2): Business sustainability has a positive effect on local community empowerment in MSMEs in West Java.

Hypothesis 3 (H3): Intellectual capital and business sustainability have a positive effect on local community empowerment in MSMEs in West Java.

Data Collection

Survey Questionnaire

A structured survey questionnaire will be developed to collect data from MSME owners and managers in the West Java region. The questionnaire includes questions related to intellectual capital, business sustainability practices, and local community empowerment. Respondents rated their agreement with the statements using a Likert scale.

Sampling Procedure

A stratified random sampling technique will be used to select a representative sample from the population of MSMEs in West Java. MSMEs will be categorized into several strata based on industry, size, and location. 250 questionnaires were distributed and 200 questionnaires were returned, resulting in 200 samples.

Data Analysis with SPSS

The collected data will be analyzed using Statistical Package for the Social Sciences (SPSS) software (Ghozali, 2018). The data analysis process will involve the following steps:

Data Screening and Cleaning

Prior to analysis, the collected data will be screened and cleaned to identify and correct missing values, outliers, or data entry errors. This process ensures data integrity and reliability.

Descriptive Analysis

Descriptive statistics will be calculated to summarize and describe the data. These include measures such as means, standard deviations, frequencies, and percentages. Descriptive analysis provides an overview of the variables and characteristics of the sample.

Inferential Analysis

To test the research hypotheses (H1, H2 and H3), inferential statistical techniques are used. Multiple regression analysis will be the main method used to assess the relationship between intellectual capital, business sustainability, and local community empowerment.

4. RESULTS

Before discussing the regression analysis, it is important to provide an overview of the sample characteristics. The sample consists of 200 MSMEs operating in West Java. The majority of respondents are owners and managers with an average age of 35.6 years. The

distribution of MSMEs across different industries and locations in West Java is very diverse, reflecting the vibrancy of the economy in the region.

5. Table 1. Variable Descriptive Statistics

Variable	Mean	S.D	Min	Max
Intellectual Capital	3.78	0.92	2.10	5.00
Business Sustainability	4.25	0.78	3.00	5.00
Local Community Empowerment	3.92	0.88	2.30	5.00

6. Source : Primary Data (2023)

The descriptive statistics for the major study variables are shown in the table above. The average score for intellectual capital was 3.78, and the standard deviation was 0.92. The average score for business sustainability was 4.25, and the standard deviation was 0.78. The average score for local community empowerment was 3.92, and the standard deviation was 0.88.

Regression Analysis

Multiple regression analysis was conducted to test the research hypotheses and examine the relationships between intellectual capital, business sustainability, and local community empowerment.

Table 2. Regression Analysis

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	7.284	2.958		2.454	.060
	Intellectual Capital	.544	.102	.384	3.608	.001
	Business Sustainability	.612	.115	.594	5.089	.000

a. Dependent Variable: Local Community Empowerment

Source : Primary Data (2023)

The results of the multiple regression coefficient table are shown in Table 3, and the result is the multiple regression equation shown below: Conclusion: The equation $Y = 7.284 + 0.544 X_1 + 0.612 X_2 + e$ shows that the independent factors (intellectual capital and business sustainability) significantly affect local community empowerment. The coefficients obtained from the regression analysis provide strong evidence that both intellectual capital and business sustainability have a positive and significant influence on local community empowerment in MSMEs in West Java. Intellectual capital, encompassing knowledge and intangible assets, plays a role in enhancing community well-being. Similarly, business sustainability practices, which promote responsible and ethical business operations, contribute significantly to community empowerment. These findings underscore the importance of MSMEs as agents of positive change within their communities and highlight opportunities for fostering sustainable and community-oriented practices.

Table 3. Simultaneous Test and Coefficient of Determination

Simultaneous	Test	Coefficient Determination
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F court	Sig	R-Squared
419.395	0.000	0.560

Source : Primary Data (2023)

The F-statistic, which stands for the Simultaneous Test, evaluates the overall significance of the regression model as a whole. The F-statistic in this instance is 419.395 and the corresponding p-value (Sig.) is 0.000, which is below the usual significance level of 0.05. This demonstrates the statistical significance of the full model, which incorporates both independent variables (intellectual capital and business sustainability). The F-test determines whether there is a statistically significant relationship between the independent variables and the dependent variable (local community empowerment). In other words, it evaluates whether the entire model fits the data more accurately than a model with no independent variables. The extremely low p-value (0.000) shows that the model does, in fact, offer a considerably better fit than the null model, indicating that, when taken together, intellectual capital and corporate sustainability have a considerable impact on local community empowerment.

The Coefficient of Determination, commonly abbreviated as R-squared, quantifies the percentage of variance in the dependent variable (local community empowerment) in the regression model that can be accounted for by the independent variables (intellectual capital and business sustainability). The R-squared value for this analysis is 0.560, which indicates that the combined effects of intellectual capital and corporate sustainability explain for around 56% of the variation in local community empowerment. This high percentage shows that the model's ability to explain the relationship between the variables is comparatively good. Practically speaking, an R-squared of 0.560 indicates that intellectual capital and company sustainability are substantial contributors to community empowerment in the context of MSMEs in West Java, explaining more than half of the variability in local community empowerment.

5. DISCUSSIONS

Intellectual Capital and Community Empowerment

The findings of the regression analysis clearly support Hypothesis 1, which contends that in MSMEs in West Java, intellectual capital has a favorable and significant impact on local community empowerment. This result is consistent with the rising understanding that intellectual capital, which comprises knowledge, skills, and intangible assets, is a critical factor in determining organizational success and community development (Aseanty, 2016; Diugwu, 2011). There are many ways intellectual capital supports community empowerment. First, MSMEs with strong intellectual capital are more able to innovate, adjust to market shifts, and provide goods and services that satisfy social requirements (Astuti et al., 2019; J. Li et al., 2008). This adaptability and creativity can result in increased employment possibilities, better living conditions for local residents, and economic progress.

Second, intellectual capital promotes information sharing among team members and with outside stakeholders (Zamora Matute, 2012). This knowledge sharing can also be used to improve community members' capacities and skills through capacity-building projects, training efforts, and educational outreach. Third, having a strong intellectual foundation can help build connections and collaborations with regional businesses, government organizations, and neighborhood associations (Allameh, 2018; Bontis et al., 2018; Musibah & Alfattani, 2014). Joint community development activities, such as environmental conservation projects, social responsibility initiatives, and help for impoverished populations, may come

from this collaboration. In conclusion, the connection between intellectual property and local community empowerment for the better highlights the significance of knowledge management in MSMEs. The invention, dissemination, and application of knowledge can improve a community's well-being in a variety of ways.

Business Sustainability and Community Empowerment

The findings of the regression analysis also offer strong evidence in favor of Hypothesis 2, showing that corporate sustainability practices positively and significantly impact local community empowerment in West Java MSMEs. This result is consistent with the global trend towards sustainability as a fundamental component of corporate responsibility and community involvement (Abbas et al., 2019; Park et al., 2019; Yaniar et al., 2021). Resource efficiency, ethical sourcing, waste reduction, and community involvement are just a few of the strategies that make up business sustainability. Both directly and indirectly, these actions support the empowerment of the community.

First of all, environmentally friendly business practices help MSMEs have less of an impact on the environment, which can improve the local community's access to cleaner air, water, and surroundings. Additionally, less waste creation and resource consumption can minimize production costs, thus enabling MSMEs to provide goods and services at more competitive pricing (Georgakopoulos et al., 2016). Secondly, ethical sourcing and responsible supply chain management can benefit neighborhood economies by promoting economic resilience, supporting regional producers, and creating chances for fair and stable employment (Yaniar et al., 2021).

Thirdly, community empowerment can be directly influenced by initiatives that actively engage the community, such as collaborations with neighborhood NGOs, community education campaigns, and social impact projects. These programs can build the social fabric of the community while tackling important local issues including poverty, education, and healthcare (Hongyun et al., 2019; Mansour et al., 2018; Nurhajati, 2010). The results essentially show how company sustainability can act as a spark for community empowerment. MSMEs that place a high priority on sustainable practices are not only better positioned to succeed over the long run but also to influence their communities in a positive way.

Future Directions and Implications

For policymakers, MSME stakeholders, and local communities in West Java, the study's findings have the following implications:

- 1) **Policymakers:** Policymakers can utilize the findings to guide the creation of beneficial policies and programs that motivate MSMEs to invest in sustainable business practices and the growth of their intellectual capital. Customizing incentives and capacity-building programs to encourage ethical and civic-minded company conduct is possible.
- 2) **MSME Stakeholders:** Owners and managers of MSMEs can gain by being aware of the advantages of sustainable business practices and the growth of intellectual capital. To improve community wellbeing, they can look at possibilities for collaboration, innovation, and partnerships with nearby organizations.
- 3) **Local Communities:** To encourage collaborative initiatives that solve community concerns, local communities can actively interact with MSMEs. Community-based

groups can facilitate partnerships with MSMEs to develop programs that are meaningful and long-lasting.

- 4) Future Research: By examining additional factors that affect local community empowerment in MSMEs, future research might build on this work. The long-term impacts of sustainability programs and the growth of intellectual capital on a community's well-being can be better understood through longitudinal studies.

6. CONCLUSIONS

With its ability to spur innovation, knowledge dissemination, and community involvement, intellectual capital has emerged as a powerful force behind local community empowerment. MSMEs enhanced their competitive edge as a result of utilizing their intellectual capital, and they also actively participated in local community development. Business sustainability strategies were also identified as a key component of community empowerment. MSMEs that adopted sustainability strategies, such as resource efficiency and ethical sourcing, not only lessened their environmental impact but also played a crucial role in boosting regional economies and encouraging ethical business practices. These findings have significant implications for both local communities and policymakers as well as MSME stakeholders. To provide a conducive climate for community development, policymakers can create specific policies that encourage knowledge management and sustainability initiatives among MSMEs. Owners and managers of MSMEs are urged to adopt these procedures because they understand how closely their success is related to the well-being of their local communities. Local communities have a special chance to work together with MSMEs to address urgent societal concerns.

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CHAPTER 7

Implementation of Legal Principles in the Cyber Notary Concept to Maintain the Duties and Authority and Position of the Notary in the Digital Era

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ABSTRACT

This research aims to analyze the implementation of legal principles in the cyber notary concept in order to maintain the duties, authority and position of notaries in the digital era. The concept of cyber notary still seems to be a matter of debate in Indonesia and this is considered only a discourse, not a necessity. Therefore, this researcher used normative legal research methods. Data collection was carried out by means of observation, document analysis and literature study. The method used to analyze is a destructive and qualitative method. The results of this research show that the role of notaries, the objectives and functions of the Information and Electronic Transactions (ITE) Law, and the importance of the deeds included in all e-business statements and the deeds being examined are all legally related as proof of their authenticity. In Indonesia, electronic signatures are also allowed. The use of electronic documents as evidence is a challenge for notaries because they must be authentic and able to accurately show the existence of the document. Due to rapid industrial progress at this time, notaries must be prepared for advances in the legal field in order to be able to keep up with existing technological developments. The development of new technology and industry is expected to undermine the role of notaries. Notaries must also follow developments in the current era of globalization.

Keywords: Cyber Notary, Notary, Digital Era, Legal Principles

INTRODUCTION

Indonesia is a country of law, according to Article 1(3) of the 1945 Constitution. This idea was previously expressly expressed in the description of the 1945 Constitution, but with the passing of the 4th Amendment in 2002, it is now expressly stated in the 1945 Constitution that Indonesia is a country of law. Law is the most essential thing in Indonesia, according to jurisprudence. In state and social life, law occupies the highest position.

It is explained that to implement the concept of a rule of law, especially in Indonesia, the state is obliged to provide guarantees to the community or its citizens regarding legal certainty regarding all behavior, events and matters relating to the law that occur and are carried out by all members of society. If there is clarity, this order will be given, and for legal certainty it must be in writing. As a result, existing Indonesian legal regulations must be used to demonstrate legal certainty (Syuaib et al., 2021). The rules of evidence are used to implement legal certainty by ensuring that people's rights are legally protected. There are five (five) pieces of evidence that can be relied upon in relation to Indonesian civil law. The five pieces of evidence are as follows: written evidence; testimony; conclusion; confession; and promise/oath (Asshiddiqie, 2009).

Meanwhile, written evidence can be divided into two categories: in the form of goods and personal actions. Official documents are documents issued by or in front of public officials who have the right to publish them. Such issuance may be carried out in the form determined by the applicable law in which the document is issued. According to this definition, if a document is issued by a party who is not authorized, does not have the capacity to issue the document, or is physically disabled, then the document issued is categorized as void or invalid as the formality of the document (Lubis, Murwadji, Sunarmi, et al., 2022). Value is an act of cowardice because it does not meet the necessary requirements. Official documents are the basis and importance of the existence of the authorized party to ratify them. The party who has the right to issue these important documents is the notary (Faulina et al., 2022).

Guarantees of legal protection can be more easily created in people's lives with the help of notary work. The ability to uphold and enforce rights is a notary's competency in the field of civil law. Considering the importance of notary work, the existence, status and authority of notaries cannot be separated from ensuring legal certainty and providing legal protection in carrying out their duties. UU no. 30 of 2014 (UU JN 30/2004) which regulates the appointment of a notary, regulates the appointment of a notary (Kie, 2007). This law regulates and describes Notarial Services (UU JN/2014). Meanwhile, based on Article 1 paragraph one in the Notary Position Law number 2/2014, it explains the definition of the notary profession. They are considered public officials with the power to issue or print authentic (original) documents/deeds/certificates and have no other powers (Prabowo, 2017).

The authority of a notary is strictly regulated in Article 15 of Law JN 2/2014. According to Article 15 paragraph (1) of Law JN2/2014, notaries in all matters related to behavior, agreements and provisions that have been required in statutory regulations or that have been required by parties who have certain interests in terms of making deeds must be done through a notary. Production of documents, ensuring the certainty of the date of creation, archiving of documents, totality of documents, availability of copies and quotations, are all subject to law unless the production of documents is delegated or obstructed by

officials or other parties. In this case, the powers of a notary are also regulated in detail and in detail in Article 15 paragraph (2) of Law JN 2/2014 (Andasasmita, 1999).

Progress in the fields of technology, information and digitalization has made forms or patterns of communication between individuals or groups, as well as gathering information easier, faster and more efficient. There is little or no communication, less face-to-face interaction between individuals and other individuals. The notary profession is also affected by globalization in its profession and implementation of its duties (Lubis, Murwadji, et al., 2023). One of the challenges faced in the industrial revolution 4.0 Era is cybercrime or cybercrime which can disrupt national and global security (Budhijanto, 2019). Notaries are tasked with making a positive contribution to law enforcement and national security. Namely, to prevent and eliminate funding related to terrorism and money laundering crimes which have been rampant recently. To overcome this problem, a notary is required to make a mandatory report regarding the application of the principle of recognizing ownership of a company with the aim of avoiding or preventing the occurrence of criminal acts related to money laundering and terrorism (Kusumawardani, 2019).

Guarantees of legal protection can be more easily created in people's lives with the help of notary work. The ability to uphold and enforce rights is a notary's competency in the field of civil law. Considering the importance of notary work, the existence, status and authority of notaries cannot be separated from ensuring legal certainty and providing legal protection in carrying out their duties. UU no. 30 of 2014 (UU JN 30/2004) which regulates the appointment of a notary, regulates the appointment of a notary. "This is related to the issuance of documents, waqf deeds, or it could also be mortgages on aircraft and others."

Parties who exchange information to carry out transactions via electronic media are obliged to fulfill their obligations to carry out these transactions electronically or online (computer). Online contracts are often referred to as electronic transactions, but are essentially "electronic and computerized information systems (computerized information, legal responsibilities or any relationship carried out by" Systems Integration (Network)". The existence of a global internet computer network (Network) provides support addition to this. This is increasingly supported by the existence of a global internet computer network (Network of Networks), as part of the government's efforts to provide legal guarantees for transactions carried out online. In this case, the purpose of the electronic transaction component is to protect the rights of the parties. To regulate this, the government enacted Law Number 11 of 2008 concerning Information and Electronic Transactions.(Lubis, Murwadji, Siregar, et al., 2022) Law Number 19 of 2016 concerning Information and Electronic Transactions which applies in Indonesia replaces Law Number 11 of 2008 concerning Information and Technology and regulates electronic commerce.

According to Article 1 Paragraph 2 Number 19 of the ITE Law, electronic trading is defined as legal activities carried out using computers, internet networks and other electronic media. A valid electronic certificate, consisting of an electronic signature and identity that shows the position or certainty of a party when carrying out an electronic transaction, will then be provided by an electronic certification organization or business (Purnastuti, 2012).

Regarding e-authentication, the Ministry of Communication and Information of the Republic of Indonesia issued Minister of Communication and Information Regulation Number 11 of 2018 which explains the implementation of e-authentication. This regulation was created to regulate the implementation of digital certificates. You can appoint a notary as

the registration authority at the request of the person applying for the issuance of a digital certificate. This is also confirmed in article 25, article 27 letter c, Minister of Communication and Information Regulation Number 11 of 2018, and Minister of Communication and Information Regulation Number 30 of 2018. These regulations regulate that if the inspection carried out by a person is deemed sufficient, then the notary submits an application to the digital certificate provider for issuance of digital certificates (Álvarez Royo-Villanova, 2019). Here cyber notaries make an important contribution to achieving legal certainty, namely verifying that the requirements for electronic transactions are met before a digital certificate is issued (Riswandi, 2020).

The power of notaries (cyber notaries) to validate electronic transactions is controversial among the public (Lubis, Murwadji, Sukarja, et al., 2022). The concept of cyber notary still seems to be a matter of debate in Indonesia and this is considered only a discourse, not a necessity. Technology allows the role of notary online and remotely, but this does not seem legally possible because the paradigm underlying notarial law is built on conventional mechanisms. In the regulations of UUJN 2/2014 and UU ITE19/2016 and their implementing regulations, there is no definition of a cyber notary. There is disagreement among experts due to the lack of a definitive understanding of cyber notaries (Suparni, 2009).

Computers and other electronic devices are used in almost all notary offices. Automation and streamlining with modern equipment, both hardware and software, should not only save labor costs, but also create a document product that is more efficient, faster and accurate. However, the changes caused by the use of more modern equipment in notary institutions have resulted in changes to the procedures for notarization, including the execution of deeds both in front of a notary and at a notary. The presence of witnesses and notaries, as well as the office of the person whose signature must be affixed. On the other hand, the cyber notary concept is a concept that uses advances in existing technology and information in order to support the duties or performance of a notary. The process of digitizing documents is a challenge in itself for a notary, especially in terms of notarialization and authentication of a published document (Nurita, 2012).

There have been slight changes in the authority and practices of notaries over the years. Perhaps the most significant technological advance for underdeveloped notaries is the slow change in the type of notary seal used to create a notary's signature on documents. Old wax seals gave way to metal embossers that impressed letters and symbols with raised edges into the paper. Embossers, which with the advent of copiers did not photocopy well, gave way to ink stamp seals (with separate ink pads). And then, the self-inking stamp was invented. Resistance to changes in notarial practices can be witnessed in the articles of association relating to the official symbol of the notary. In fact, as has been noted, several states have passed laws to remove the requirement for a seal as part of the notarial ceremony, rather than resisting calls for a change in practice (Murray, 1986). Meanwhile, it is slowly adopting minor modifications of the seal requirements, such as computer-generated recognition of notary seals. It said that "sound practice still requires transactions to be formalized in a manner that ensures the validity and enforceability of the parties." (Ayu & Hutabarat, 2022).

This statement is very important considering developments surrounding the use of electronic communications and transactions. It is clear that digital communications is the technology of the day, and the future. However, as Patrick Henry's quoted statement suggests—that the past is a prediction of the future—it remains to be seen whether

cybernotaries will rise above the dubious practices and lack of prestige of ordinary notaries. A major advantage of replacing traditional notarial practices with cybernotarization is the cost effectiveness of a fully computerized system to the parties conducting electronic transactions (Anderson & Closen, 1999). There is a huge time and cost savings for the parties to the transaction, because under current notarial standards, the signer of a paper document must personally appear before a notary and sign or acknowledge their signature in the notary's physical presence. Instead, electronic transmission and cyber notarization can be completed in a short time without the need to meet the signer and notary in person.

Another goal of electronic transactions and communications is to reduce or eliminate the use of paper (Evans & Yen, 2006). It is not surprising then that many supporters of laws promoting electronic communications consider digital signatures superior to paper documents and signatures. Reducing the amount of paper used is just one of several practical goals achieved by using digital signature technology. For example, electronic documents and digital signatures reduce the amount of storage space required (as opposed to the area required to store paper documents), reduce the weight of stored documents (which must be carried and supported by personnel and facilities), and reduce collateral materials, and the equipment necessary for effective use of paper documents (including everything from notebooks and staplers to copiers and faxes). Almost every process takes less time because computers handle functions that were previously done by hand (Felzenszwalb & Huttenlocher, 2006). All this, in turn, reduces the administrative costs required to complete paper documents, and achieves significant savings.

Effective measures are urgently needed because many security problems associated with computer-generated business transactions are the result of inadequate identification procedures (Trim & Lee, 2021). Indeed, attention to proper identification has driven a significant amount of discussion, development of practices and procedures, and, ultimately, legislation regarding the establishment of an individual's electronic identity. Most, if not all, countries implementing such laws to date have placed their reliance on a technique called asymmetric cryptography, a technological method of encryption.' Encryption is the process by which documents traveling through electronic media are scrambled and scrambled through a series of mathematical formulas, or algorithms. Electronic documents are sent using encryption/decryption software, which allows the electronic transmission to be unscrambled by the sender and unscrambled by the recipient.' Encryption technology can work for many aspects of communications, including "digital signatures." Based on the author's explanation above, the aim of this research is to analyze the opportunities and challenges of implementing the cyber notary concept in carrying out the duties of a notary position in Indonesia.

RESEARCH METHODS

Normative research is a type of research that focuses on the analysis of norms or rules that apply in a legal or policy system. This research aims to understand, explore and evaluate the norms that exist in a particular domain. Normative research focuses on the legal, ethical, or policy norms that govern a particular field or issue. This involves an analysis of the basic principles and rules that form the basis of a context. Conceptual analysis is a key element in normative research. Researchers examine the meaning and implications of the concepts contained in the norms studied. Conceptual analysis is a key element in normative research.

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The results of normative research can make a significant contribution to the development of law and policy. The resulting recommendations can help related parties in making better decisions and in accordance with applicable norms. Normative research often involves philosophical and theoretical analysis of the foundations of existing norms. This includes understanding the moral, legal, or policy principles underlying those norms. Normative research is often related to the fields of law and policy. Researchers can explore the legal aspects of a regulation or examine the effectiveness of a particular policy. One of the main objectives of normative research is to provide recommendations or solutions to problems or problems that exist in a normative system. This may include suggestions for changes or improvements to existing norms.

In collecting data, the author conducted a literature review to identify legal principles relevant to the concept of cyber notary. A literature review can help understand existing frameworks and thinking and ensure that the research conducted is a new contribution. Then, the author also carries out practical implementation of certain legal rules or policies, direct observation of these situations can provide additional understanding. For example, seeing how notaries implement cyber notary principles in Indonesia. The author also monitors legal developments through observing changes in laws, regulations or policies. These observations can help understand how legal norms develop over time. In further data collection, the author also carried out document analysis, namely, a thorough reading of each document to understand the context, rules and legal principles contained therein. Identify legal principles that are relevant to the legal principles in the cyber notary concept, the duties and authority and positions of notaries in the digital era.

The data analysis method in this research is by systematically processing research materials to be studied comprehensively. The method used to analyze is a destructive and qualitative method. Descriptive is analyzing data by explaining in detail and precisely certain phenomena related to legal writing. Qualitative is analyzing the presentation of writing results that have been systematized with a study of legal theories and positive law. This is to explain legal research problems in sentences that are logical, scientific and easy to understand.

RESULTS AND DISCUSSION

In theory, noble notaries should carry out their official duties with competence, diligence and integrity, as holders of positions of public trust (Diastami M. et al., 2019). From the obligation to respect the public trust, in conjunction with the public official status of notaries, which enables them to perform functions normally reserved for judges. Unfortunately, many notaries are not competent, diligent, or honest. Incidentally, the geographical authority of judges and notaries is another similarity between the two positions. That is, while most judges and notaries have authority throughout the State, other judges (especially justices of the peace) and notaries have authority only in the county, parish, or city where they reside. While the powers of a notary may vary somewhat from one place to another, the standards of notary services do not. The standard of notarial responsibility is almost uniformly one of objective reasonable care, meaning that under the law the notary must act as a reasonable notary would act under the same circumstances. The subjective

standard of whether the notary acted in such a way that he had a clear conscience regarding the incident is rarely asserted, and rarely adopted.

Apart from that, notaries also have several powers, including:

1. Verify the signature and record it in a certain book to confirm the date of the letter written under the hand.
2. Register underhand letters in a special book to keep track of them.
3. Make a hidden copy of the letter that includes the textual description described in the original letter.
4. Verify the correspondence of the copy to the original letter.
5. Legal advisor on certificate issues
6. Make land deeds and other documents
7. Create documents for auction records (Maharani et al., 2019)

Of course, the enthusiasm to instill a legal event, an act, or a guarantee, protection and certainty to the parties interested in a document, and to obtain a signature and stamp, is also a guideline to be used as evidence. It can be a time when the parties argue. Recording of events, actions and circumstances can only be carried out between interested parties or by involving public officials. When a party asks a notary to make a deed, of course the notary hopes. One of them is the hope that the resulting document is an original document with full evidentiary value. Behind all the advantages obtained by having a Cyber Notary, there are weaknesses related to the risks posed in the form of loss of electronic deeds that have been stored due to computers being infected with viruses, data theft, data falsification and data modification. This becomes an obstacle in itself when the deed is electronic. Regarding the ratification of an authentic deed according to the provisions of Article 1867 of the Civil Code, if it meets the requirements it must be issued in front of or by a public official, then it becomes complete evidence. Although information and/or documents can be displayed in various ways, according to Article 6 of Law Number 11 of 2008 concerning Information and Electronic Transactions, written form is equated with information and/or documents on paper. Electronic media is a form of media. The notarial deed in question is a notarial deed that meets the legal requirements of Article 1868 of the Civil Code. Based on this regulation, original musical instruments have three requirements, including:

1. Made in the manner prescribed by law, namely the original deed must be made according to the rules of law.
2. The need to carry out the act in the presence or by a public official, as well as the intention to carry out the act first, indicates that the act was carried out at someone's request, whereas the act was carried out by a public official because of an incident, examination, decision, or other circumstances, meeting minutes, as an illustration.
3. The official must be in a position of authority where the deed is executed. Authority in this case relates to three (three) specific things: a) His position and the nature of the actions he takes. b) Day and time of execution of the deed, and c) Place of deed.

Regulations that already exist in legislation certainly cannot be ignored. However, this must be seen as a means that can be used with the aim of creating order, comfort and clear legal certainty for the community. Government institutions that have the authority to handle this matter are part of state-owned institutions that are expected to be able to prevent,

socialize and develop systems that intersect with law and legal politics or vice versa. One of the indicators that can be used to determine what legal politics is and how it is implemented in a country can be found and expressed in the Constitution of the Republic of Indonesia (Hasudungan, 2022). Regarding the position of Notary, in the development of this digital era, the discourse of e-notary or the concept of Cyber Notary has emerged. The use of this term varies depending on which country is meant, the use of the expression "e-notary" has been introduced by legal experts from various countries with Continental European heritage, while the use of the word Cyber Notary was popularized by legal experts who inherited the Common law tradition (Shi, 2018; Hildebrandt, 2016).

To carry out tasks more effectively and efficiently, there are electronic signatures (digital signatures) and video conferencing. It becomes a problem in itself if this development is related to the position of Notary as stated in Law Number 2 of 2014 concerning the Position of Notaries (*Undang Undang Jabatan Notaris, UUJN*) that in carrying out his position, the function of a Notary is to make authentic deeds to guarantee certainty, order and legal protection. The role of a Notary in making a deed starts from the establishment, qualification and formation of an event. In the case of making an agreement, the parties appear before a Notary. Based on the Notary Position Law, legal certainty in the form of norms must be adhered to in making authentic deeds so as to guarantee perfect proof. However, as part of serving the community, especially the business world, apart from guaranteeing legal certainty, speed or flexibility is needed so that legal norms are needed that are flexible, not rigid and do not only prioritize aspects of legal certainty. Although the definition of e-notary or Cyber Notary in Indonesian cannot be found, it can be said to be a Notary who carries out his duties in accordance with advances in information technology. A notary is now a person who offers an independent archive of the electronic transactions carried out by the parties thanks to e-notarization (Nazran et al., 2021). Application of the Cyber Notary concept in Indonesia includes:

1. A Notarial Deed is an authentic deed made by or before a Notary in the form and manner specified in the Law, according to Article 1 Number 7 of the Law concerning the Office of a Notary.
2. Article 1 UUJN Paragraphs 8 and 9 concerning minutes of deeds and copies of deeds. When referring to the UUJN, there is still a difference between the Minutes of Deed which are word for word copies of all deeds, and the Deed Copy which contains the sentence "presented as a copy with the same voice" at the bottom of each copy.
3. The requirement to read the deed in front of 2 (two) witnesses and at the same time sign it is stated in Article 16 Paragraph 1 UUJN. The reading of the deed is carried out in the presence of presenters and witnessed by at least 2 (two) witnesses, according to Article 16 Paragraph 1 Letter M of Law Number 2 of 2014 concerning the Position of Notaries. According to UUJN information, the notary must sign the deed directly in front of witnesses and an audience. The words present and physical both have the definition of present and existing or coming, while the word physical also has the definition of body or body. This statement of physical presence raises problems in applying the concept of cyber notary when applying technology. progress by bringing both or each party together via video conference. Another challenge relates to the provisions of Article 16(1) (m) UUJN that the reading of a deed by a notary is an obligation to determine the authenticity of the deed. According to Article 16(9) UUJN,

if one of the conditions regulated in Article 16(1) (m) and (7) is not fulfilled, then the document in question only has evidentiary value as a fake or lost document.

4. The form and type of deed, description of the place, or translation of the deed are all covered in Article 38 paragraph 4 UUJN.
5. According to Article 48 of the UUJN, no changes or additions can be made through duplication, insertion, erasure, erasure or erasure of documents (Section 1). A deed can only be changed in the form of additions, replacements or deletions if the presenter, witness and notary initial or prove the change (paragraph 2).
6. Article 50 UUJN concerning deletion of words, letters or numbers is carried out in such a way that it can still be read according to what was originally stated, declared valid after being initialed or given another sign of validation by the party facing the witness, and the notary.
7. Based on the advantages and disadvantages of Cyber Notary, it is necessary to further study the concept that is most suitable to be applied in Indonesia, including being linked to the process of proving the validity of an authentic deed using electronic deeds and electronic signatures. As technology develops, it will be a problem if notarial deeds are made electronically because there are no further regulations in the Law on Notary Positions.

A notary is a public official whose function is to administer oaths and declare and certify with his hand and official seal certain classes of documents, to provide authenticity in foreign jurisdictions, to take acknowledgment of deeds and other conveyances and certify them, and to perform certain official acts, especially in commercial matters, such as protesting notes and bills and notarization of foreign money orders. Technological changes are increasingly advanced, triggering notaries to grow well in the openness of methods that are also developing. People find it difficult to use existing technology if they do not have existing knowledge. Notaries participate in developing existing human resources to increase the community's need for legal services. The development of technology and science is growing rapidly, so notaries are far behind in using current technology. For this reason, Notaries make changes to legal services in the community to keep up with existing technological developments. Based on statutory regulations regarding the position of notaries in Indonesia, it can be seen that the duties of notaries are not only to legalize transactions but also as witnesses and executors of transactions carried out.

However, the position of a notary is only regulated according to the provisions of the law where every agreement made by a notary must be made before a notary because it is regulated by law so it is not yet known how it will be handled or regulated online actions can occur. Notaries are only authorized to carry out or work in accordance with their position, namely in the district or city within the province where they are domiciled. The state provides opportunities for notaries to exercise their authority which is closely related to and influenced by current information technology.

In the Cyber Notary concept, it can also be interpreted as a notary carrying out the duties and authority related to his position, by utilizing media or tools related to the latest technology and information. In that sense, the use of supporting suggestions follows current developments, but in its implementation it is still in accordance with what is regulated in the legislation that has been issued by the state. In principle, Cyber Notary is nothing new. It has

been implemented in several countries, including the United States, England, France, Belgium, Germany, the Netherlands and countries in the Asian region including Hong Kong and Japan. Cyber Notary in this case does not mean there are no meetings between the parties or meetings via teleconference, but in this case the parties still face the Notary directly, only the draft deed can be read from the computer and if the parties have agreed then the deed is signed electronically (Barkatullah, 2012).

The documents used in this case are electronic so they no longer use paper. Of course, it will make the storage process easier, make searching easier with the support of a system that is reliable, effective, efficient and of course saves operational costs (Lubis, Murwadi, & Sukarja, 2022). Cyber notary practice is an important harmonization process regarding the requirements for making notarial deeds. Because, in it there are several statutory regulations. However, there are still conflicting rules in existing Indonesian laws and regulations. For example, Article 15 PUUJN and Article 16. Related to Articles 11 and 12 PUUJN and Law no. 11/2008 and Law no. 19/2016 concerning Information and Electronic Transactions (UU ITE and PUU ITE) (Prabu et al., 2019).

In terms of making deeds, the Notary profession plays an important role in ensuring public protection and legal certainty. This is an integral part of the notary's primary powers and responsibilities under civil law. It has to do with asserting and defending some kind of right. Because of the importance of the notary profession, laws are needed to regulate the profession, authority and role of notaries in society. This regulation also aims to provide legal protection to Notaries in carrying out their duties and obligations related to deeds. The government has made a number of regulations governing the position of notaries to overcome this problem, including; Law Number 30 of 2004 and Law Number 2 of 2014 concerning Amendments to previous regulations (Handoko, 2019).

Due to the rapid development of the industry today, notaries must be ready for advances in the legal field and ready for today's technological innovations. is a new industrial and technological advancement that is expected to reduce the need for notaries. A notary must be able to search for information and pursue other opportunities in order to maintain a positive role and opportunity. The 4.0 revolution era is marked by the invasion of technology and information, and notaries are at the forefront of the business world (Hasudungan & Kurniawan, 2018). It is critical to have a leading notary to maintain the notary's role in this environment, facilitated by the spread of technology and data.

The world is changing now in the development of industry 4.0 in the field of information technology which has become the basis of human life. The Indonesian state must prepare people or human resources who are able to compete with current technological developments because this is an interest that must be prioritized for the future or the country's position in the future. The evolution currently occurring is the Industrial Revolution 4.0 which has been shaped by the era of disruption, the emergence of online/digital based industries. It's not just computers, mobile technology is everywhere, and most people are online. In this revolution, it turns out that the role of innovation is the competitiveness of products in the market, and there is a debate between industries that depend on innovation and the will of the workforce (Makarim, 2011).

The most important and urgent thing related to the industrial revolution 4.0 and 5.0 in carrying out the duties and authority of the Notary position is to make changes to Article 5 Paragraph (4) of the ITE Law and Amendments to Article 16 Paragraph 1 letter m and

Paragraph (7) UUJN. Cyber Notary is both an opportunity and a challenge for Notaries to be able to carry out their duties and authority based on advances in information technology while still paying attention to the validity of making authentic deeds so that they have legal force. Therefore, it is important for the Indonesian people to realize synchronized laws and regulations, especially in Law Number 4 of 2012 concerning the Position of Notaries. It is necessary to further regulate the authority to implement Cyber Notary as regulated in other laws and regulations which recognize the existence of electronic mail or electronic documents equipped with electronic signatures. Legal politics is the basis for policies to update existing laws and regulations to suit the rapid development of technology (Makarim, 2013).

Cybernotaries will play an important role in the digital communication process. This is because cryptographic systems rely on impartial third parties to verify the authenticity of electronic transactions. Cybernotaries, like notaries before them, will be created, authorized, and regulated by law (Catur, 2023). They would be licensed or commissioned by the state, much like notaries are now. Therefore, cybernotaries will act as public officials, subject to the obligation to uphold the public trust entrusted to them. Cybernotaries do not have to be notaries, although some notaries can also be cybernotaries. In fact, although notaries must be human, certifying authorities or cybernotaries can be entities such as accounting firms, banks, real estate companies, and the like (Nurita, 2012).

The Electronic Commerce Law can be used as a basis for making deeds, but notaries who make deeds using the concept of cyber notaries can collect information and use it as a legal basis, according to researchers who focus on the meaning of cyber notaries. Because Article 16(7) of the Law on Notary Positions makes it possible to carry out Notary office in cyberspace, Article 16(1) (m) of this regulation can be misinterpreted. Deed before a notary, conclusion of the deed and information on each page for this if the person appearing does not want the deed to be read because he already knows and understands its contents. The speaker, witnesses, and notary, if any, must initial the note. Electronic signatures are also regulated in Article 1 Paragraph 12 of the Electronic Information and Transactions Law. Digital signatures use asymmetric cryptography, which combines two keys, namely a private key and a public key to indicate that the sender of an electronic document is who they say they are (Wibowo, 1999).

Notaries have the authority to make deeds in deed form, either as notarial deeds or under manuscript (Lavecchia & Stagnaro, 2019). This is just one part of a total of legal acts that occur in the private sphere in the midst of society which become evidence with clear and complete legal force. Electronic Information Transaction Law Number 11 of 2008 (hereinafter abbreviated as UU-ITE), contains a statement regarding the requirements for making a certificate based on the provisions of Article 5(4) paragraph (b). The document is in the form of an original deed, has written legal force, and meets the requirements contained in the form of a notarial deed (Putri, 2017).

There is a legal relationship between the function of a notary, the function and objectives of UU-ITE, and the importance of the signing deed contained in all e-business declarations and deeds under consideration, as proof of authenticity. Implications of legal involvement between notaries, the function and purpose of ITE law and the burden of proof for signing an electronically signed instrument. Electronic signatures are also available in Indonesia. However, the responsibility to prove the validity of the document lies at the verification stage, and even though it is a document, it cannot be made official, so it cannot be said to be an

important legal document (Raharjo, 2015). The legality of internet trading is permitted by Article 1320 of the Civil Code because orders placed electronically through electronic intermediaries are free orders. This happens because Article 164 HIR states that written and oral evidence must be submitted in theory, and written evidence can be in the form of deeds or electronic documents. This is because the contract requirements outlined in the Civil Code have been fulfilled (Adjie, 2013).

The challenges that notaries often face are related to the existence of an electronic signature as evidence, namely a document that shows the existence of the document in a valid and accurate manner. Electronic evidence relating to a document must be able to be used as evidence which in the future can be legally binding and cannot be denied. Evidence of expert opinion must be attached and attached. Everything related to information documents must receive approval and approval from the competent authority, and electronic transactions must be in their original form, even if they cannot be presented in the process (Rahardjo, 1986).

With the issuance of an electronic deed, it is also necessary to have an electronic signature that has been verified and has clear legal force when proven in court. To obtain a valid signature, the notary is required to register it with a body that has the capacity to certify a digital signature. The institution or body that has the right to do this is the Certification Authority (CA) (Sari et al., 2017). This body is considered an official or general authority that handles these issues. By utilizing the infrastructure provided by CA to find out when and by whom electronic transactions are signed. Regarding whether an electronic deed issued by a notary is valid or not, it can be seen from the digital signature that has obtained a certificate from the institution concerned. This is done to avoid signature forgery and to avoid matters related to crime. In the process, a deed containing a digital signature will be combined and locked privately so that it is not misused by certain parties.

Putting the legal relationship of the parties on paper and following a certain format allows a deed to be created, which can be an effective weapon in legal procedures. Making a valid deed, whether required by law or at the request of a particular person or organization, is the main task of a notary. The role of a notary is to represent the government and provide legal certainty to the wider community. Law Number 2 of 2014 concerning the Notary Public Process regulates the implementation of Notary functions (Ferdianti et al., 2020).

The notary places the deed in the place desired by the parties or in the place required by law in the form of an authentic deed. A deed must be made using legal rules that regulate the process for doing so. Notaries carry out their duties in accordance with corridor regulations. This limitation is carried out to prevent the Notary from exercising his authority excessively and taking responsibility for everything. Without boundaries, a person is likely to act irrationally. There must be restrictions on notary work for the sake of justice. A public official (*openbaar Ambtenaar*) is obliged to help the public in accordance with the authority he has, in carrying out services his obligations must compare his duties in comparing what is halal and what is not halal. These two obligations are in line with the principle of order according to the practice carried out (Melinda & Djajaputra, 2021).

The readiness of a notary to face the industrial revolution 4.0, namely having social, cognitive, creative abilities, knowledge of company law, tax law, data protection and accountability and being able to brand himself and his law office in the world of digital technology and continuing to learn and adapt to existing changes (continuous learning). Don't forget to strengthen the strengths you have, or hone your soft skills. A person continues to

upgrade himself in order to take advantage of the various opportunities that exist. Changes caused by technology cannot be prevented. However, it still has to be addressed and one of them is by ensuring the development of skills to be able to keep up with changes. Regarding the role in period 4.0, the notary in his position still follows the applicable legal regulations, so he cannot be careless in interpreting other activities and actions as quickly as desired. However, it can be conveyed at the level of information and training as well as applicable norms so that there is no overlap.

Notaries must follow changes in the era of globalization, where these changes are still ongoing (Rina et al., 2023). Civil laws that allow internet transactions, as well as sustainable development and mutual integration with the Ministry of Foreign Affairs, are to blame for this. In the Coordinating Ministry for the Economy, law and human rights are interrelated. According to PP no. 24 of 2018, this relationship is built economically through the use of a contemporary method called OSS (Online Single Submission), applies to the Unitary State of the Republic of Indonesia, accelerating the implementation of procedures and capital investment appropriate for that country.

To obtain legal clarity and public security, the status and ability to act as a notary is very important (Lubis, Siregar, et al., 2023). Considering that the authority and position are in the area of avoiding or avoiding legal issues. Notarial deeds drawn up by notaries provide society with a legal framework for civil law and can be used as ideal evidence in future court cases. In essence, the notary authenticates and controls the parties involved in written legal acts.

A notarial deed is made with the intention that all parties interested in the implementation of a legal act can be represented in a notarial deed which can serve as convincing and complete evidence. Therefore, to comply with the provisions of Article 1868 of the Civil Code, notarial deeds must be made according to established procedures, such as closing or terminating the original deed and the designated deed in accordance with Article 38 of Law 30 of 2004. The position, function and authority of a notary organization is always assigned to each member of the organization and the notary concerned must truly understand the law and comply with notary regulations (Lubis, Murwadji, Siregar, et al., 2022). Apart from that, a Notary's careful attitude is needed to gain the trust of parties who need Notary services and to ensure legal certainty in its development. For a deed issued by or before a notary, the deed is only valid as a fake deed if certain conditions are not met. If the notary's negligence is the cause, the notary must bear legal responsibility.

CONCLUSION

The definition of "cyber notary" given in the UUJN can be interpreted as a notary who exercises powers or carries out responsibilities related to his position based on information technology. The task of a notary is to formalize the legal relationship between the parties in writing and in a predetermined format so that it can be used as a legal tool that can be relied upon in court. The main responsibility of a notary is to make notarial deeds at the request of certain persons or legal organizations when necessary or required by law. The role of the notary, the purpose and function of UU-ITE, and the importance of the deed included in all e-business statements and the deed being examined are all legally related, as proof of its authenticity. Legal consequences of the involvement of a notary, the role and objectives of the

ITE Law, and the burden of proof for documents that have been signed electronically. In Indonesia, electronic signatures are also allowed. The use of electronic documents as evidence is a challenge for notaries because they must be authentic and able to accurately show the existence of the document. In relation to the position and authority of the notary profession in Period 4.0, the position of Notary remains subject to applicable legal regulations. Thus, it is not permissible to arbitrarily assume that activities and other activities are at will. However, to avoid overlap, it is possible to convey not only the standards applied, but also the level of information and training. Due to rapid industrial progress at this time, notaries must be prepared for advances in the legal field in order to be able to keep up with existing technological developments. The development of new technology and industry is expected to undermine the role of notaries. Notaries must also follow developments in the current era of globalization. To ensure legal certainty and public protection, the position and authority of a notary to make notarial deeds is very important. Considering that his position and authority are in the prevention domain, or the area to prevent legal problems.

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CHAPTER 8

A Strategy for Electric Vehicle Conversion Company to Support Bali, Indonesia in Reducing Emissions

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ABSTRACT

Research on electric vehicle (EV) conversion to reduce emissions is limited which made EV businesses less popular and stagnant. Conversion vehicle from gasoline-based (Internal Combustion Engine) to electric or battery-based is part of the circular economy. Therefore, the Indonesian government has targeted the numbers of conversion electric vehicles as one of the initiatives to accelerate emissions reduction.

The objective of the research is to find the strategy and effective business models for EV conversion companies to be implemented. This is a concept for people and businesses who have an interest in EV conversion business. The paper will be supported by literature review and relevant research in Electric Vehicle. The big picture about EV conversion business is a certified business to change ICE (gasoline) vehicle to be Electric Vehicle. The conversion permit is issued by the Transportation Ministry. The target market is ICE (Internal Combustion Engine) motorcycle owners who would like to change their vehicles to be EV.

This paper is used to help business owners to build an effective business model and strategy despite the challenges. The research methodology focusses on three areas. The first step is identifying the current strategy and business operation of one of the certified conversion companies in Bali and examine it using Business Model Canvas (BMC). The second step is analyzing internal and external factors using Social Network Analysis, SWOT, TOWS, and VRIO. The third step is formulating the business strategy by using Business Model Canvas (BMC).

Keywords: Electric Vehicles, Conversion, Emissions, Indonesia, Business

1. INTRODUCTION

A. Background

Based on the data provided by the Ministry of Environment and Forestry (KLHK), the transportation sector contributes 44% of air pollution, followed by the industrial sector (31%), manufacturing (10%), housing (14%) and commercial (1%). Various solutions are being implemented by the Indonesian government to reduce air pollution and greenhouse gas emissions because they increase global warming and have a negative impact on health. Transportation such as motorcycles, cars, buses and trucks are the biggest contributors to air pollution. The government is very concerned about climate change. Besides encouraging the people to test the emission on their vehicles regularly, the government is also accelerating the growth of electric vehicles.

The type of transportation that is commonly used by the people in Indonesia, particularly in Bali, is the two-wheeled vehicles or named as motorcycle.

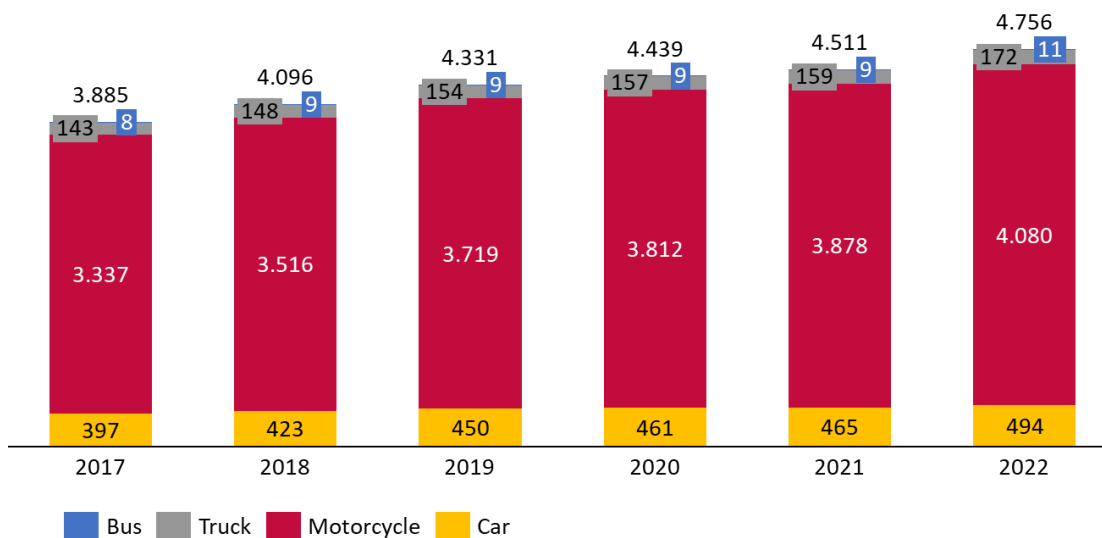


Figure 1: Number of Vehicles in Bali, 2017 – 2022 (sourced: BPS)

In Bali, the total number of vehicles is 4,7 million and the population is 4.3 million in 2022 alone, excluding local and non-local tourists. For the last five years, the number of motorcycles has increased by 4,1 %. Looking at figure 1, one can see that the most frequently used vehicles in Bali are motorcycles. Motorcycles contribute 85% - 86% of total ICE (Internal Combustion Engine) vehicles in Bali with an average growth of 5%. Several reasons are taken into consideration by the people when choosing motorcycles as their main transportation. Apart from Bali having many narrow streets, using the vehicles has many advantages, which are direct commuting, time convenience and saving money.

During the Covid-19, there was stagnation in the growth of the vehicles. However, since 2022, due to the increasing number of tourist visits (both domestic and international), the number of vehicles has grown.

Considering a motorcycle produces 113 grams of CO₂ per km [CO₂everything], then with 3,811,597 motorcycles running per 1 km per day, we can calculate that it will produce

around 4,3 ton of CO₂ into the air. By replacing the ICE vehicles with electric vehicles, the government expects air pollution to be decreased.

However, if all motorcyclists decide to buy new electric vehicles, this poses another issue which will add to the stockpile of car waste. Could you imagine that 4 million ICE motorcycles will become another problem of pollution in Bali? To mitigate this problem, we need to provide a conversion solution by encouraging people to change their vehicles to be electric vehicles. By doing this conversion, we could solve two things, namely reducing the emission and vehicle waste.

The government has supported this solution by providing the incentive for the conversion kit and issuing some regulations. Nonetheless the amount of the incentive has not yet fulfilled the battery cost. Despite that, people have not yet become aware of this solution so that the conversion business has not grown as expected. Besides, the conversion company mainly comes from the small company which has a challenge to pay the conversion kit in advance. Those issues become the factors that slowed down the growth of the conversion business.

PT Percik Daya Nusantara (Percik) is a company which has certified workshop by The Ministry of Energy and Mineral Resources of the Republic of Indonesia to enable vehicle conversion & electric mobility based in Bali, Indonesia. The brand product of the conversion is named Volto Mechanix. Besides the conversion service, Percik provides other services as part of the end-to-end (E2E) solution in electric vehicles, which are customization and modification of EV, battery upgrades, EV performance enhancement, EV maintenance and repairs and legal documents of EV.

As one of the certified conversion companies in Indonesia and the only one in Bali, it is facing the mentioned challenges.

B. Problem Statement

Conversion ICE vehicle to EV is one of the circular economy initiatives. In the beginning, Indonesia government has targeted the numbers of conversion is 50,000 motorcycles in 2023. However, looking at the people's interest in conversion is still low, the government is targeting 350 motorcyces to be converted in 2023. There are several reasons why people are not yet interested in conversions namely lack of socialization, expensive prices, and the concerns electric components such as battery and other parts.

Question problem:

How conversion company such as PT Percik Daya Nusantara overcome the challenges to grow the conversion of motorcycle becomes electric vehicle?

C. Scope of Paper

This paper will analyze the conversion business, the customer journey and the challenges of conversion company PT Percik Daya Nusantara. By analyzing those areas, the effective business model can be implemented.

D. Objective of the Paper

To support PT Percik Daya Nusantara implement the effective business model. By succeeding this business, PT Percik Daya Nusantara would inspired others and supported the emission reduction.

2. LITERATURE REVIEW

Business Model Canvas

The Business Model Canvas is a strategic management template used for developing new business models and documenting existing ones. It offers a visual chart with elements describing a firm's or product's value proposition, infrastructure, customers, and finances, assisting businesses to align their activities by illustrating potential trade-offs. The nine "building blocks" of the business model design template were initially proposed in 2005 by Alexander Osterwalder, based on his PhD work supervised by Yves Pigneur on business model ontology. [wikipedia]

Social Network Analysis

Social Network analysis is the study of structure, and how it influences health, and it is based on theoretical constructs of sociology and mathematical foundations of graph theory. Structure refers to the regularities in the patterning of relationships among individuals, groups and/or organizations.[Columbia University, 2023]

SWOT & TOWS

SWOT analysis (or SWOT matrix) is a strategic planning and strategic management technique used to help a person or organization identify Strengths, Weaknesses, Opportunities, and Threats related to business competition or project planning. It is sometimes called situational assessment or situational analysis.[wikipedia]

A TOWS Analysis is an extension of the SWOT Analysis framework that identifies your Strengths, Weaknesses, Opportunities and Threats but then goes further in looking to match up the Strengths with Opportunities and the Threats with Weaknesses.[wikipedia]

VRIO

VRIO is a business analysis framework that forms part of a firm's larger strategic scheme, proposed by Jay Barney in 1991. The basic strategic process of any firm begins with a vision statement, and continues on through objectives, internal & external analysis, strategic choices (both business-level and corporate-level), and strategic implementation.

VRIO falls into the internal analysis step of these procedures, but is used as a framework in evaluating just about all resources and capabilities of a firm, regardless of what phase of the strategic model it falls under.[wikipedia]

Regulation Review

1. Presidential Regulation No. 55 of 2019 regarding the Acceleration of the Battery-Based Electric Vehicle Program (KBLBB)
2. Bali Governor Regulation Number 48 of 2019 regarding the Use of Battery-Based Electric Vehicles.
3. Governor's Decree No. 548/03-G/HK/2020 regarding the Committee for the Acceleration of Battery-Based EV usage which stipulates one of the committee's tasks namely preparing a Regional Action Plan (RAD) for Bali Battery-Based EV (KBLBB).
4. Minister of Transportation Regulation No. 65 of 2020 regarding the Conversion of Motorcycles with ICE-Based (Internal Combustion Engine) into Battery-Based Electric Motorcycles
5. Minister of Energy and Mineral Resources Regulation No. 3 of 2023 regarding General Guidelines from Government for the Conversion Subsidy Program to Convert the ICE Motorcycles into Battery-Based Electric Motorcycles.
6. Minister of Industry Regulation No. 21 of 2023 regarding Amendments of Minister of Industry Regulation No. 6 of 2023 which regulates the Guidelines for Providing the Subsidy Government for purchasing Two-Wheeled Battery-Based Electric Vehicles.
7. Technical Instructions for Implementing Subsidy of Government in Converting Fuel-Based Motorcycles to Battery-Based Electric Motorcycles

3. RESEARCH METHOD

Method	Activity
Type and Source of Data	<ul style="list-style-type: none"> • Primary Data: Information from the business owner • Secondary Data: Regulation, Law, Theory, Open resource data, literature review
Data Collection Method	<ul style="list-style-type: none"> • In depth interview with Business Owner • Interview with stakeholders of the EV ecosystem

To answer the problem question in this paper, the author will present a sequential process of analysis using some strategy tools as below:

1. Understanding the mapping of conversion business from each stakeholder using SNA (Social Network Analysis). EV Conversion is part of the EV ecosystem. By understanding the stakeholders that support the ecosystem, the author could identify the important stakeholders and the role of them to support Percik in accelerating the conversion business.
2. Understanding the internal factors (strength and weakness), opportunities and the challenges that are faced by Percik using SWOT. Thereafter, using TOWS Analysis to find the effective strategy focuses on external factors (opportunities and threats).
3. Identifying Percik's internal resources and capabilities through VRIO to find out whether the company can become a source of sustainable competitive advantage. By

finding the competitive advantage, the author could give the recommendation as the focus of Percik to build the long-term business plan.

4. Providing the recommendation strategy to grow the business using The Business Model Canvas (BMC) as tool. BMC is one of the complete management tools to guide businessmen for implementing the strategy. The author will compare the previous BMC and the improved BMC based on the analysis which has been conducted via several tools as mentioned on points 1,2 and 3 above.

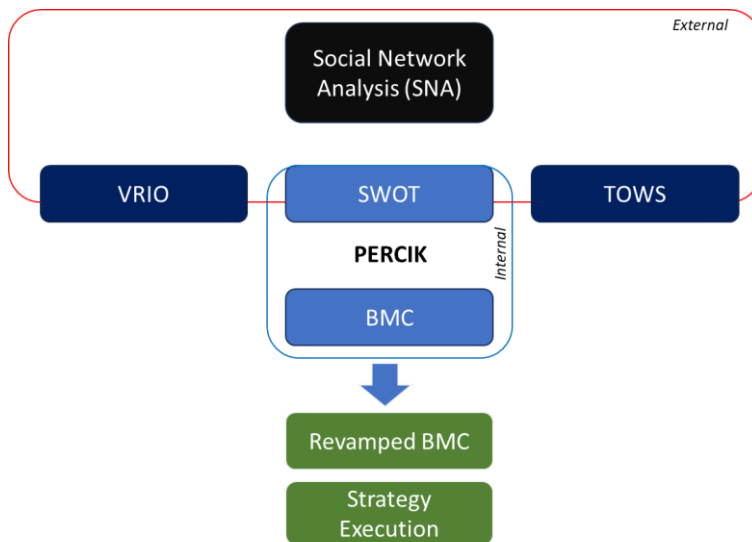


Figure 2: Analysis mapping of the methodology

By having the comprehensive analysis, both internal and external factors, the author will define and recommend the revamped Business Model Canvas and the strategy execution.

4. RESULT AND DISCUSSION

1. Stakeholders Analysis

To understand the challenges faced by PT Percik, the author needs to understand the stakeholders who contribute to the conversion business. The author will use Social Network Analysis (SNA) to analyze the relationship between stakeholders of EV ecosystem.

Referring to research conducted by WRI as the agency appointed by the Bali government to develop the Bali Regional Action Plan (RAD), there are four mandatory aspects that must be involved in the Electric/ Battery-Based Vehicle (KBLBB) ecosystem, such as industrial infrastructure, social, legal (including the regulations) and environment protection. This Regional Action Plan (RAD) contains the main targets for Bali Province to create an electric vehicle ecosystem, namely the number of electric vehicles (cars, motorcycles, and buses) as well as the reduction in greenhouse gas emissions because of

the use of electric vehicles.[RAD Bali, 2022]

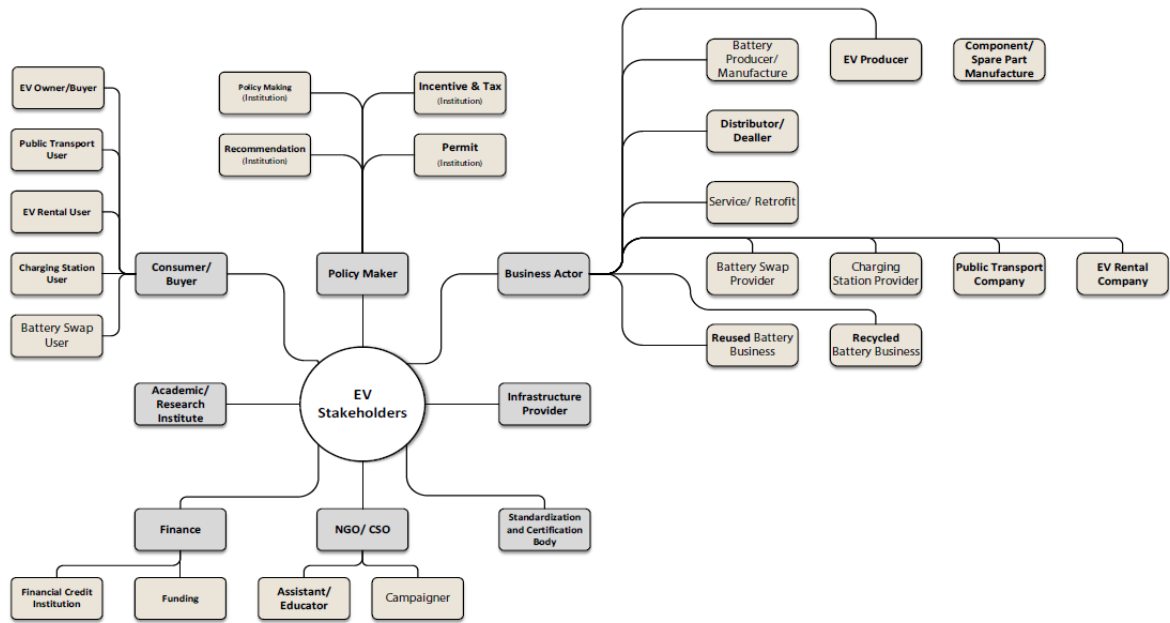


Figure 3: Cluster and Sub-Cluster of Battery-Based EV Ecosystem in Bali (source: WRI research 2021)

In terms of networks, relationships between individuals and other stakeholders are described by social interactions, social circles, and social identities. WRI divides social networks into two types: horizontal and vertical networks. Horizontal networks are defined as a type of relationship that can bring together individuals with relatively equal status and power. In contrast, vertical networks connect unequal actors/individuals/institutions in an asymmetric hierarchy (WRI Research, 2021)

Most of the existing literature focuses on public acceptance and business preparation as KBLBB requires technology adoption and behavioral changes. A top-down policy mindset can encourage this condition. This can be seen in the illustration in Figure 2, where the eight main clusters are interconnected with a vertical hierarchy, an example of that is when policymakers can organize all actors from other clusters. In addition, policymakers also have the authority to determine KBLBB business permits and formulate incentives and taxes. (WRI Research, 2021)

Horizontal ties are considered to be the main and most important layer of a social network. This network functions as one of the main channels of informal communication within the KBLBB ecosystem and serves as an important source of information for many individuals under the same cluster. (WRI Research, 2021)

EV conversion or named as Service Retrofit in figure 2 is shown in the cluster of Business Actors. If we zoom in thoroughly to EV conversion business using a similar approach, EV conversion has a vertical relationship with the battery swap and charging station provider. This can lead to inequalities in roles and business processes. In EV conversion products, the battery has an important role. Without batteries, the conversion product will be difficult to run.

2. SWOT and TOWS PT Percik

SWOT Analysis

STRENGTHS	WEAKNESS
A well-known company in conversion business in national scale	Low financial capability
Robust relationships with the EV stakeholders and regulatory	Low sales result (PO)
The only conversion workshop in Bali that has certification from ESDM	Low fixed asset as the capital to get loans from financial institution
Led by a leader who has a proven a technical competence and is often asked by government to become the trainer or the conversion expert for government programs	
OPPORTUNITIES	THREATS
Government supported in making the regulations to accelerate the conversion growth	Competition with EV dealers that provides new electric motorcycles
The incentives for conversion	The increase of conversion workshop nationwide that is driven by conversion incentives provided by the government
The number of motorcycles in Bali contributes to 86% of day-to-day vehicles in Bali	
Increased International tourist traffic which they have a higher level of awareness in reducing emissions	

TOWS Analysis

	External Opportunities (O)	External Threats (T)
Internal Strengths (S)	<i>SO</i> "Maxi-Maxi Strategy"	<i>ST</i> "Maxi-Mini Strategy"
	Driving an aggressive sales strategy with the strong brand as the attractor Collaborating with government agencies to be a catalyst for conversion growth	Leveraging the strong brand becomes an asset to pull the investors Encouraging collaboration strategies with EV stakeholders in carrying out the GTM
Internal Weaknesses (W)	<i>WO</i> "Mini-Maxi Strategy"	<i>WT</i> "Mini-Mini Strategy"
	Strengthening communication and sales strategies in communities that have strong bounding with the tourism sector and involvement with local governments, especially the energy and transportation sectors	Encouraging the acceleration of capital building and financial capability through partnership

Based on the TOWS analysis, the author recommends Percik to focus on building strong partnership and collaboration in EV conversion. Initiations need to be started by Percik with an attractive business model.

3. VRIO

The Strength	Value	Rare	Inimitability	Organized	Competitive Advantage?
A well-known company in conversion business in national scale	Yes	Yes	Yes	Yes	Long-term advantage
Robust relationships with the EV stakeholders and regulatory	Yes	No			Table Stakes
The only conversion workshop in Bali that has certification from ESDM	Yes	Yes	No		Short-term advantage
Led by a leader who has a proven a technical competence and is often asked by government to become the trainer or the conversion expert for government programs	Yes	Yes	No		Short-term advantage

EV conversion is a business that is easy to imitate. As the pioneer of this business, Percik needs to encourage the VOLTO Mechanix brand as a long-term business strength

4. Business Model Canvas

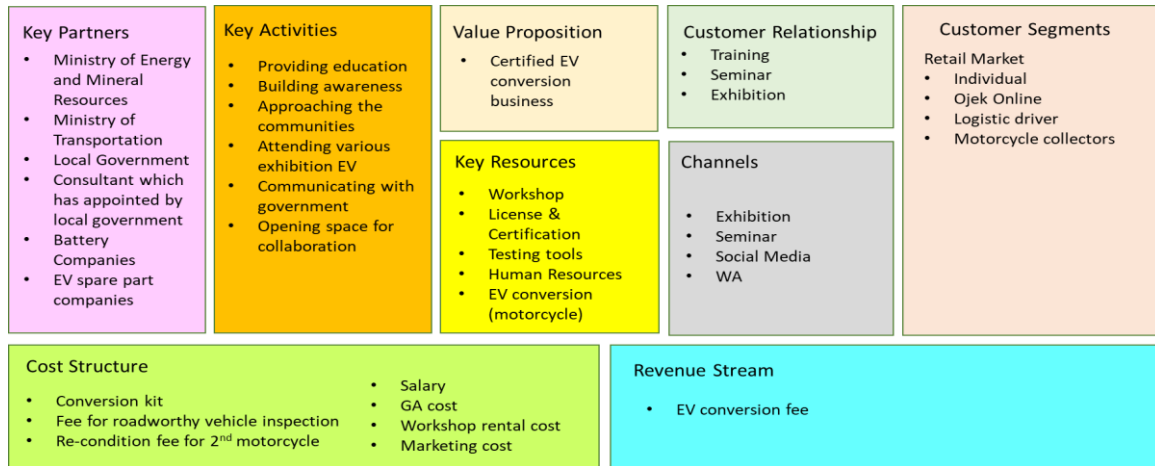


Figure 4: Previous BMC Percik

Based on the discussion with Percik’s owner, the author found that the business has never started with clear value proposition and GTM strategy. To understand the overall business of Percik, the author needs to define the existing strategy based on the BMC template. One can see in figure 3. Additionally, the author will examine and align with the SWOT, TOWS and VRIO analysis. Finally, the author will recommend the revamped BMC.

5. CONCLUSION AND RECOMMENDATIONS

This research comes up with the recommendation of Business Model Canvas and Strategy Plan for Percik to grow the conversion business and build the robust execution strategy. This study could be used for the government as well as to encourage the similar businesses to grow. Afterward, Bali could achieve the emissions reduction’s target.

The limitation

This is a case study from one conversion certified company in Bali.

The author recommends Percik starts to define the customer segments and value proposition. Referring to the type of ownership, there are 2 groups of segment, namely individuals and companies. Even though Percik can target these 2 segments in parallel, the author suggests that Percik's initial focus should be on the corporate and community segments to have optimal volume of orders. Pertaining to public doubts about conversion products, Percik must be able to provide a strong proposition to answer the conversion challenges. The author recommends that Percik should not declaim on certification only, yet the product's reliability, affordable price, easy process and conversion will provide operational efficiency to the owner.

In Customer Relationship and Channels, Percik needs to enrich the ways to reach its customers and build relationships with customers as viewed in Figure 6.

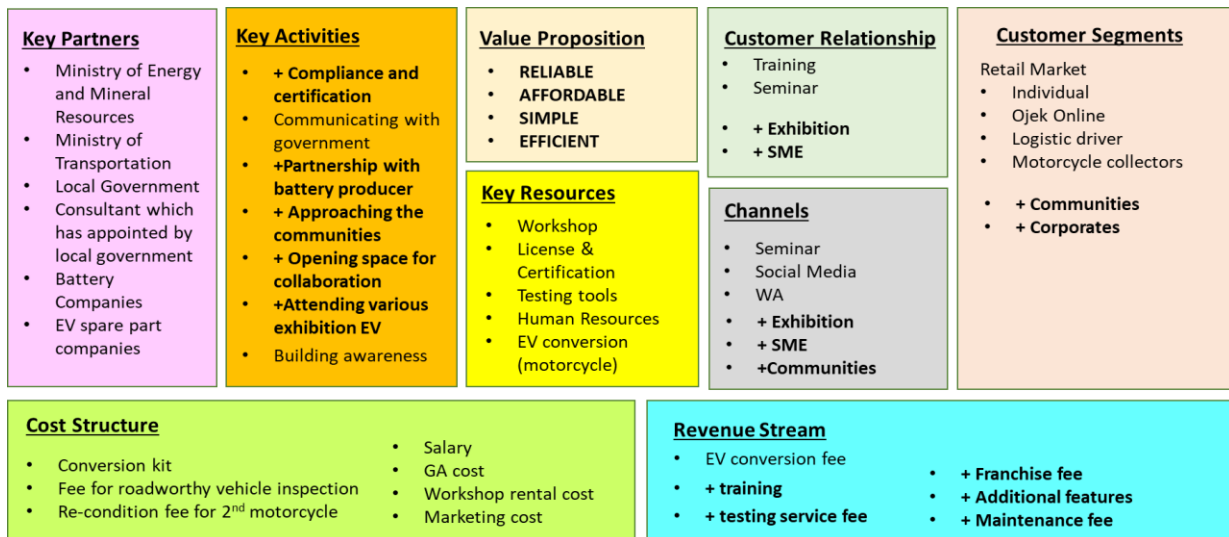


Figure 6: Revamped BMC Percik

In Revenue Stream, Percik is advised not merely to rely on conversion services but to start growing adjacent businesses. The Key Resources such as human resources and testing tools have played an important role in providing guaranteed services in accordance with the value proposition.

In Key Activities, Percik needs to give attention to fulfil of the compliance and certification to earn the trust and reliability. Maintaining good relations with the government is an important activity as well. Apart from that, building collaborations with battery manufacturers based on a business model without Capex, will help Percik to provide an affordable service. Collaboration is an important factor for Percik to provide the conversion service, hence strong relationship with the stakeholders are needed.

VOLTO as a strong brand in Bali could be utilized as a long-term strategy through a franchise business model. The author define this approach as the cost leadership driven strategy.

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CHAPTER 9

Unlocking Potential: The Role of Micro-credentials in Lifelong Learning and Professional Development

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ABSTRACT

Education and human resource development are essential for individual progress and organizational advancement. However, in an era of constant change and rapid development, conventional education may not always be sufficient to meet evolving competency needs by industries. Therefore, the concept of micro-credentials (MC) is gaining more attention as an innovative way of enabling human resources to continuously improve their capacity in a relevant, flexible and industry-recognized manner. Although micro credential has been prompted to higher education levels, however the intention to continue using such systems is still very low, and the acceptance and discontinuance is a common occurrence. The implementation of micro-credentials can be disruptive in higher education sector and present several challenges. The most recent research sought to identify gaps in the study of micro-credentials in higher education, as well as to create a model that depicts the fundamental linkages and integration of various stakeholders' viewpoints and aspects. This research combines the expectation-confirmation model (ECM), the technological acceptance model (TAM), the theory of planned behavior (TPB), and the social exchange theory (SET) to provide a theoretical model that may explain and forecast an employer's intention to continue using MC. The Micro-Credential Ecosystem Theory (MCCM) was developed as an integrative model that can be used to data from diverse sources from various perspectives.. The MCCM represents a substantial improvement as the first model created in micro-credential study especially for the higher education context. The model has revealed several relationships critical for the success of micro-credentials and pathways to supplement traditional degree programs. The research presented in the article has implications for policy development to guide the implementation of micro-credentials in the higher education sector.

Keywords: Higher education, Micro-credentials, Digital badges, Expectation–confirmation model (ECM), Theory of planned behavior (TPB), Technology acceptance model (TAM), Social exchange theory (SET)

Introduction

The Indonesian Minister of Manpower reports that 12% of unemployment in Indonesia is currently attributed to undergraduate and diploma graduates. This high number of unemployed college graduates is due to the lack of connection and alignment between universities and the employer. The job-skill mismatch issue particularly with regards to new hires of university graduates. However, this phenomenon is not unique to Indonesia, Malaysia has also experienced it, and it can be observed in other developed countries as well. Slowly but surely, the technological disruption are going to invade the world of professional jobs, permeating many aspects of the jobs.

Tod Rose, a professor in developmental science from Harvard University, wrote a phenomenal book “The End of Average” (Rose, 2016). The book strongly recommends the use of MCs as part of the architecture to replace the existing higher education systems. He argues that the current higher education system is becoming overly standardized, and in a way seems to be averaging out everyone who passes through the system, robbing them of their individuality and their talents. Quoting Rose verbatim : ‘ Grant credentials, not diplomas’. The existing education system is a form of macro-credentialing, it is rigidly designed system and widely recognized as formal education. It is ‘macro’ due to its typical all encompassing curriculum. Earning a degree or a diploma from universities and colleges represents completion of a certain level of formal education and along with it, a presumed skill competency level which could be instantly utilized in the professional job market. If this is the case, there would not be issues of graduate unemployment or job-skill mismatch. The breakneck speed of technological progress threatens to render the skill acquired from the traditional university system irrelevant or even worse, archaic. It is now even more urgent to constantly upskill and reskill oneself, regardless of whether one has just graduated from the university, or it is currently employed.

What could we do to remain relevant in our jobs, and what could future university graduates do to increase their chances of securing employment? How should we re-tool our arsenal of skills? One plausible solution lies in micro-credentials (MC). One plausible solution lies in micro-credential.

Micro-credentials are small educational programmes designed to provide an in-depth understanding of a specific topic in a short period of time. These programmes usually last a few weeks to a few months, in contrast to traditional education programmes that take years. Micro-credentials have a clear focus on skills and knowledge relevant to the world of work, and they allow participants to obtain additional qualifications or certifications in a specific field (Kemdikbud, 2023). Micro-credentials are not only aimed at students, but are also suitable for professionals who want to improve their skills, especially in the face of rapid changes in the work environment. They can be used as part of formal education or as an independent self-development endeavour. As stated by Orman, Şimşek, and Çakır (2023), micro-credentials are a way to officially recognise skills and knowledge that have been mastered. These certifications are often valued by relevant industries and institutions, which adds value and trust in the eyes of industry players. Thus, micro-credentials serve not only as a means for short-term learning, but also as an effective tool in supporting lifelong learning and continuous career development (Yilik, 2021).

To illustrate, a report by the World Economic Forum in 2020 noted that rapid changes in technology, business and society will continue to transform ways of working. Skills needed today may no longer be relevant in a few years' time, and new skills will emerge. The field of artificial intelligence technology has seen a significant increase in demand for professionals such as machine learning engineers, deep learning engineers, data scientists, and algorithm developers. This demand has grown by 74% annually on a global scale over the past four years. According to the World Bank, Indonesia is currently facing a shortage of digital expertise and will require around 600,000 talents annually, or a total of nine million talents in fifteen years, to catch up. State institutions in Indonesia, such as the Ministry of Finance, the Director General of Taxation and Customs, and the Ministry of Foreign Affairs, require experts in Data Science and Artificial Intelligence, not just the industrial sector.

Micro-credentials are an effective solution to this challenge as they allow individuals to quickly acquire new skills that match these developments. Micro-credentials are often endorsed by reputable universities, higher education institutions and online learning platforms. This means that participants can have confidence that they are getting a quality education that is recognised by reputable institutions (B. Oliver, 2019). For example, Harvard University, one of the world's leading universities, offers micro-credential programmes in various fields through their online platform. This shows that traditional educational institutions are increasingly recognising the value of micro-credential-based learning models.

A growing number of stakeholders, including government officials, employers and higher education faculties around the world, have shown an interest in micro-credentials because of the potential they offer. The popularity of micro-credentials can be directly linked to a decline in student enrollment. Institutions are increasingly reaching out to non-traditional and remote students as they extend their reach beyond traditional student groups (McGreal & Olcott Jr, 2022). Issuing microcredentials is one way of using online delivery to help achieve this (Wheelahan & Moodie, 2021).

One of the main advantages of micro-credentials is their flexibility. As work demands become more complex, many professionals do not have the time to pursue educational programmes that take years. Micro-credentials allow individuals to choose a programme that suits their needs and complete it at their own pace. This helps professionals to continue developing their skills without having to sacrifice work or other commitments (Orman et al., 2023). For example, a professional in management may be interested in learning project management. With a micro-credential, they can choose a programme that fits their schedule and study independently. This allows them to immediately apply the knowledge and skills they gain in their work, which can help improve their performance.

Micro-credentials (MCs) also offer advantages in terms of relevance to industry demands. These programmes are often developed with the involvement of industry and relevant stakeholders, so they can ensure that the learning materials are up-to-date and in line with labour market needs. This helps individuals to acquire the knowledge and skills most needed by their industry (B. Oliver, 2019). MCs are seen as a means to provide a competent workforce for rapidly changing sectors and to meet the need for up-skilling of those who wish to advance in their careers (Desmarchelier & Cary, 2022; B. Oliver, 2019). They are often referred to as 'open badges', 'digital badges', or 'virtual badges' in practice. Upon completion

of online courses, participants can receive these badges, which are digital tokens (Clements, West, & Hunsaker, 2020).

Digital badges are available as credentials for evaluated learning on major MOOC platforms such as FutureLearn (UK), FUN (France), and OpenupEd/the European Association of Distance Teaching Universities (EADTU). These badges are issued based on the European MOOC Collaboration's standards and assessment criteria for microcredentials on MOOC platforms produced through the Common Microcredential Framework (CMF) and the European Qualification Framework (Fischer, Oppl, & Stabauer, 2022).

Malaysia is currently developing its platform for MCs, which is a version of the Australian OpenCreds framework of lifelong learning. The platform was launched in 2020. It is a place where higher education providers and industry players can come together in offering their MCs. The Malaysian Qualification Agency (MQA) has developed and set guidelines on prior experiential learning accreditation and MOOCs; credit transfer in its effort to integrate them into the formal higher education framework, and to recognise them as MCs. In 2020 MQA has announced updated guidelines for both academic MCs (lead to accredited university program) and for continuous professional development (Soon & Ismail, 2021).

In Indonesia, the Ministry of Education and Culture, through the Directorate of Learning and Student Affairs, launched the Indonesian Student Micro Credentials (KMMI) programme in 2021. This programme is an initial step to support the Merdeka Belajar-Kampus Merdeka programme. The Indonesian Student Micro Credentials Programme supports the Merdeka Campus by providing students with the flexibility to learn, study, and gain experience beyond the campus. To keep up with the 9,000,000 digital talents, the University of Indonesia (UI) Center for Independent Learning conducts micro-credential certification activities in the fields of Data Science and Artificial Intelligence. These activities aim to equip students with competencies in these areas. This micro-credential activity is supported by industry and related associations, educational institutions, and the government. It includes training based on competency standards and certification that adheres to those standards. The basis for calculating credits in one KMMI activity is 3 credits in accordance with Permendikbud Number 3 of 2020 concerning National Higher Education Standards. Governments in many countries are keen to encourage businesses and learners to use micro-credentials as an alternative to the traditional education system. (Ahmat, Bashir, Razali, & Kasolang, 2021).

Although many scholarly articles support the positive impact of micro-credentials in higher education, there are several foreseeable challenges associated with their low acceptance, implementation, and discontinuance. Even in the higher education sectors of industrialized nations, the concept of micro-credentials and their relationship to larger forms of credentialing is still evolving (Australian Department of Education and Training, 2018). The term has been used to refer to both individual courses and entire degree programs, leading to a lack of consensus on its definition and scope (Yanan Wang, Chaw, Leong, Lim, & Barut, 2023). These differences continue to exist, which affects the evaluation and comparison of the value of micro-credentials for both businesses and learners (Cathrael Kazin & Clerkin, 2018).

There are two challenges in the implementation of MCs: Firstly, the absence of accreditation frameworks, (Zhang & West, 2023). The extent to which higher educational

institutions will recognise and reward micro-qualifications. Variability in recognition among institutions can create inequalities in educational recognition (B. Oliver, 2019). It is important to ensure that micro-credentials are recognised as valuable achievements (Fishman, Teasley, & Cederquist, 2018). Micro-credentials must be able to demonstrate that their holders have the skills and knowledge appropriate to the claims they make (Orman et al., 2023). Recognition processes must also be able to assess and verify the validity of these micro-credentials (Fishman et al., 2018).

Second, the use of micro-credentials has the potential to disrupt the higher education industry. Micro-credential deployment appears to be hampered by a lack of organizational preparedness (Zhang & West, 2023). The level of acceptability for using such technologies is still relatively low. Digital badges are frequently used to certify micro-credentials. However, some contend that this may diminish the significance, reliability, and reputation of traditional academic degrees. (Brown, Mhichil, Beirne, & Mac Lochlainn, 2021). There are also opposing views on whether higher education should remain an exclusive and elitist institution, often referred to as an 'ivory tower'. (Wheelahan & Moodie, 2021). By providing brief, credit-bearing programs that concentrate on certain abilities, micro-credentials (MCs) have the potential to improve and broaden current university qualification systems. For those without the resources or time to complete a full degree program, MCs can design routes for higher education that facilitate ongoing acquisition of credentials relevant to the sector (Carnevale, Smith, Melton, & Price, 2015).

While Oliver (2016) and Rossiter and Tynan (2019) have provided valuable insights, there is currently limited academic literature on the acceptance of these credential types by higher education institutions, particularly regarding the conceptual model. The purpose of this research was to first identify gaps in the implementation of micro-credentials in higher education, and then to develop a model that depicts the primary relationships between different elements and value perspectives of learners, higher education institutions, businesses, and government agencies in this field. Second, this study combines the expectation-confirmation model (ECM), the technological acceptance model (TAM), the theory of planned behavior (TPB), and the social exchange theory (SET) to develop a model that explains and predicts employers' continued desire to hire using micro-credentials. An integrative model, called the Micro-Credential Continuance Model (MCCM) was formulated, and has applicability for multiple sources data from different perspective. The MCCM represents a substantial improvement as the first model created in micro-credential study especially for the higher education context. The model has identified a number of connections that are essential to the effectiveness of routes and micro-credentials as add-ons to conventional degree programs. The study discussed in the paper has consequences for how policies are developed to direct the use of micro-credentials in higher education.

Theoretical Framework

MC Landscape

Micro-credentials aim to address the gap in credentialing beyond degrees. The demand for micro-credentials has increased due to adult learning and the need to stay relevant in the changing workforce of the fourth industrial revolution. Micro-credentials are currently found in higher education in four main models. According to R. M. Selvaratnam and Sankey (2021)

credentials consist of graduate courses and short courses where recognition of prior learning (RPL) is used, graduate courses where a series of shorter courses is taken for academic credit and these credits built up to achieve an accredited qualification, typically a graduate diploma, and undergraduate courses where a series of short accredited courses is used to supplement a more comprehensive course, typically based on skills. Non-accredited or extracurricular courses can be taken to enhance a student's portfolio and improve their employability prospects

According to Education New Zealand (2018), micro-credentials are already recognized in a number of nations, including New Zealand. The qualifications authority, which has integrated microcredentials into the broader framework for quality assurance, will ensure the quality of the learning included in each microcredential. R. Selvaratnam and Sankey (2019), claims that the certification systems of other countries, such as those that demand postgraduate work and short courses to establish microcredentialing, must be harmonized with, It was suggested that institutions of higher learning establish policies to monitor this behavior internally and standardize micro-credentials.

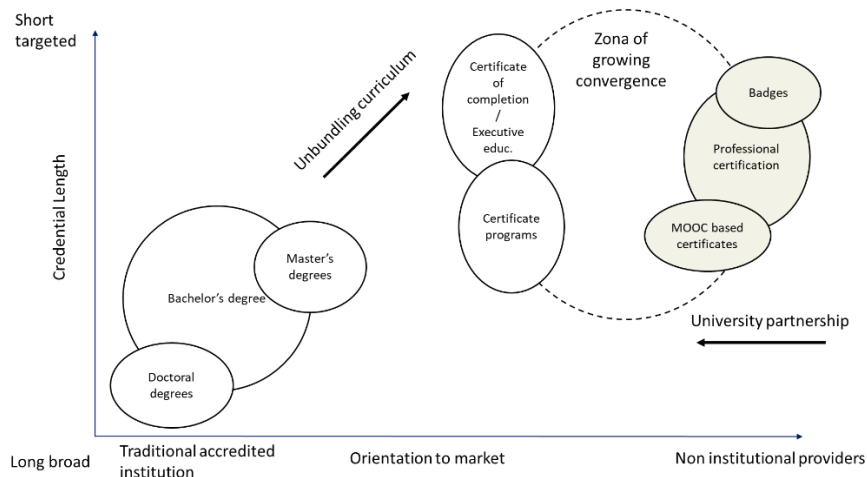


Figure 1. The Credential Landscape: Orientation and Credential Duration (S. R. Gallagher, 2022)

Figure 1 illustrates the emerging markets identified by (S. Gallagher & Maxwell, 2019) which shown that universities find it easier to achieve this convergence which also provides crucial opportunities for university partnerships, particularly those that leverage employment opportunities for graduates (R. M. Selvaratnam & Sankey, 2021)

MC Stakeholder

Credentials can be more effective if they are useful to both present and potential employers. According to B. Oliver (2019) model (Fig. 2) illustrates the unique function of employers in the ecosystem. Oliver suggests that third-party credential suppliers collaborate with the sector, and employers may also cooperate with other organizations or provide credentials internally. Oliver suggests that public or commercial certifying providers, businesses, and universities and other higher education institutions could collaborate. To accommodate students seeking

credentials outside traditional degrees, colleges would need to reconsider their business strategy, as they are not the sole providers of credentials and may reach a larger audience through partnerships.

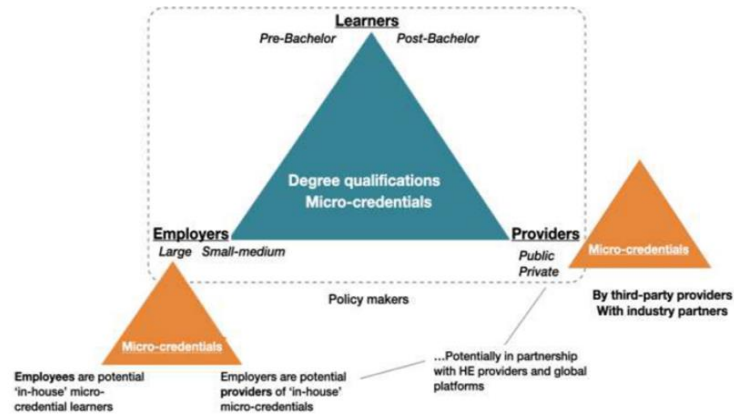


Figure 2. Micro-Credential Ecosystem

(B. Oliver, 2019)

Expanding on Oliver's model, begins to map out the digital interdependencies of a digital ecosystem at a macro level. In Figure 4 (below) the authors suggest a simple model linking the relationships between key stakeholders in the technology continuum.

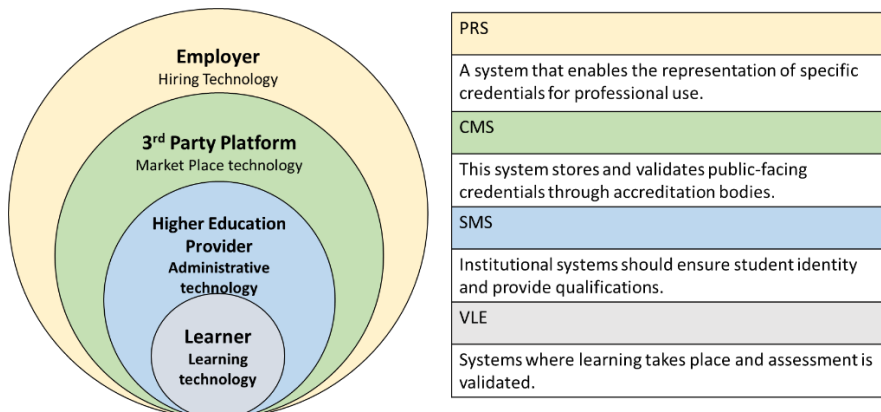


Figure 3. Stakeholder Engagement with Relevant Technologies

Source: (R. M. Selvaratnam & Sankey, 2021)

Through the use of interactive learning technology, students would find resources, platforms, or guidelines for working together as well as access real tests. Often called a Virtual Learning Environment (VLE), this consists of an LMS together with other related technologies including peer learning tools, ePortfolio, and lecture capture. Higher education institutions that oversee the administrative technology necessary to provide certifications make these services available. This would incorporate quality assurance procedures and business communication mechanisms seen in Student Management mechanisms (SMS). Employers would subsequently be able to view these credentials through one or more markets that all three stakeholders would have subscribed to and that would be run by outside suppliers. Digital credentials or badges are usually stored in virtual backpacks within Credential Management Systems (CMS).

Based on the explanation above, the four key stakeholders were identified: learners, higher education institutes, employers, and government bodies. Besides their engagement with technologies, Varadarajan, Koh, and Daniel (2023) identify the opportunities and challenges faced by stakeholders in adopting micro-credentials (Table 1).

Table 1 The opportunities and challenges of stake holders’ perspective

Opportunities	Challenges
Learners	
Increase flexibility for learning	Attainment of Knowledge
Promote lifelong learning / Upskilling /	Credential specific to one particular job
Increase employability	No aid for micro-credentials / lack of funding
Employers	
Fulfilling employers demands	Consistency
Acknowledgment of skills	Fraudulence / Authenticity due to variety
Close skills gaps in response to changing nature	Lack of Formal Recognition
Higher educational institutions	
Increase University Enrolment	Evaluation of Credit, Credit Transfer, and External Qualification Accreditation
Promote major education system reform	Extensive faculty review procedure
Advancement in Technology	Academic Assistance from Senior Managers and Faculty
Government	
Respond to IR4.0	Funding and financing
Respond to changing learners’ demographics	misunderstandings about taxonomy and terminology
Globalisation & Growth	

The low acceptance, and continuance implementation of micro-credentials, not only related to opportunity and challenges faced by stake holders, but also related to employer expectation, and higher education institution willingness and readiness to technology. Therefore, we approached the phenomena using theory of technology acceptance model (TAM), expectation confirmation model (ECM) and social exchange theory (SET), and replace IT with MC.

Technology Acceptance Model and Expectation Confirmation Model

Information systems (IS) research has made substantial use of the Technology Acceptance Model (TAM) (Davis, 1985; Davis, Bagozzi, & Warshaw, 1989) (Liao, Palvia, & Chen, 2009).

In more recent years, the expectation confirmation model (ECM) Bhattacharjee (2001) was proposed to describe user’s behavior in “continue to use” an information system.

The consumer satisfaction/dissatisfaction model (CS/D) (R. L. Oliver & Burke, 1999), served as the model from which ECM was derived. The hypothesis was first created in marketing research to simulate the repurchase behavior of customers. TAM, which focuses on an IS's initial acceptance, postulates that a user's attitude toward using the system ultimately drives their behavioral intention to utilize it. ECM claims that user happiness is the most crucial

factor in determining a user's intention to continue using the system, and it aims to assess a user's loyalty and persistence in using it.

According to TAM, users' behavioral intention to use (BI), which is impacted by their attitudes toward utilizing (A), determines actual system utilization. User behavior is directly impacted by two internal psychological variables: attitude and behavioral intention. Behavioral intention, by definition, is an indicator of how strongly a person is willing to make an effort while engaging in a certain activity. (Ajzen, 1991). According to Davis et al. (1989, p. 984), attitude is defined as "the degree of a person's positive or negative feelings about performing the target behavior." Perceived usefulness (PU) and perceived ease of use (PEOU), two external factors pertaining to system design qualities, drive the internal variables. Attitude and PU are both directly impacted by PEOU. According to Davis et al. (1989, p. 985), PU is defined as "the prospective user's subjective probability that using a specific application system will increase job performance." According to Davis et al. (1989, p. 985), PEOU stands for "the degree to which the prospective user expects the target system to be free of effort." (Davis et al., 1989, p. 985)." The supposition that intention to use might be predicated on an anticipated increase in work performance, independent of attitude, underlies an additional link between PU and BI.

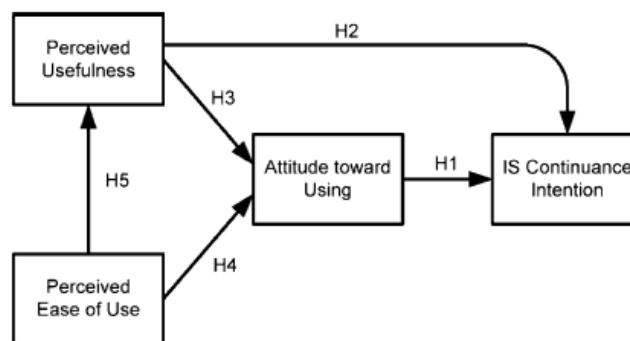


Figure 4. Technology Acceptance Model

Source: (Davis, 1985)

Bhattacharjee (2001) presented an ECM of IT continuity based on the agreement between people's decisions to keep using IT and customers' decisions to make repeat purchases. According to the ECM, a person's desire to keep using IT depends on three factors: how satisfied they are with it, how much they confirm their expectations, and postadoption expectations in the form of perceived usefulness.

There are five main hypotheses in the ECM. First, users' satisfaction has a positive effect on their intention to continue using the IT. Marketing studies have found that a consumer's level of satisfaction is the primary factor in their decision to repurchase products or use services (Szymanski & Henard, 2001)

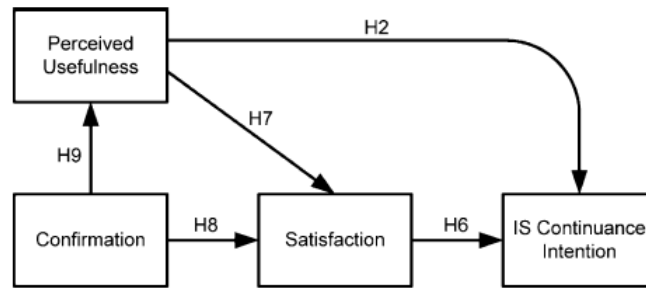


Figure 5. Expectation Confirmation Model (ECM).
(Bhattacharjee, 2001)

Confirmation of expectations and perceived usefulness are the key indicators of user satisfaction. Users must reap the anticipated rewards from their usage of IT in order for expectations to be confirmed. User happiness is positively impacted by this. As per the expectancy-confirmation paradigm, consumers' perceived usefulness of IT acts as a reference point for confirmation assessments, hence favorably influencing their satisfaction level. According to earlier marketing research, customer happiness increases with expectations (R. L. Oliver & DeSarbo, 1988). Moreover, the IT adoption literature has consistently found that perceived usefulness is the most important determinant of users' adoption intentions (Venkatesh & Davis, 2000). Therefore, the ECM proposes that users' intention to continue using IT is positively impacted by their perception of the technology's utility. Finally, the ECM asserts that the perceived utility of IT will increase if consumers validate their expectations. Thus, confirmation experience may be used to modify users' perceived utility of IT, especially in cases when users' initial perceptions of the technology's usefulness are ill-defined because they are unsure of what to anticipate from using it (Bhattacharjee, 2001). In MCs context, IT is substituted by learner or graduate degree who use MC.

Social Exchange Theory (SET)

Social exchange theory (SET) is a theoretical framework used to explain the perceptions of communities (Yasong Wang & Pfister, 2008). According to SET, if community perceive the benefits of program offered, they will be inclined to support the program (Andriotis, 2005). While, most studies using SET have been conducted in the context of tourism development, few studies have focused in the context of micro credential in higher education, related to government policy to be implemented in higher education (Telfer & Sharpley, 2015).

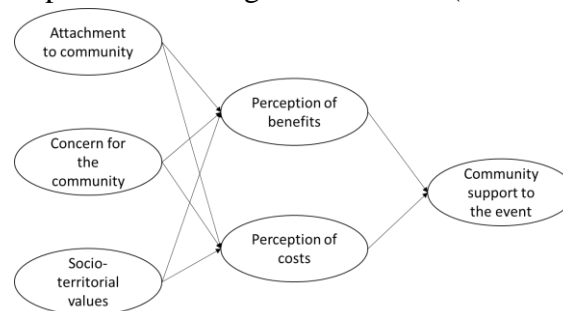


Figure 6. Social Exchange Theory (SET)
(Gursoy & Rutherford, 2004)

Methods

This study uses narrative review method for combining the findings of multiple studies from leading journals, reviews and chapter books (Popay et al., 2006). We develop our research model based on literature review of previous research in micro-credential in higher education, to identify opportunities and challenges of the stake holder. Next we developed our model using the expectation–confirmation model (EMC), the technology acceptance model (TAM), and social exchange theory (SET).

Result and analysis

This study's primary goal is to pinpoint any shortcomings in the higher education sector's use of microcredentials. We compiled the benefits and drawbacks of the viewpoints of the following stakeholders: employers, government, higher education institutions, and students. Our micro-credential continuance model (MCCM), which we developed based on the identification of four MC stakeholders, shows the primary relationships of various elements and multiple relationships of critical elements for the adoption of micro-credentials and the continuation of MC to complement traditional degree programs. (Fig. 5).

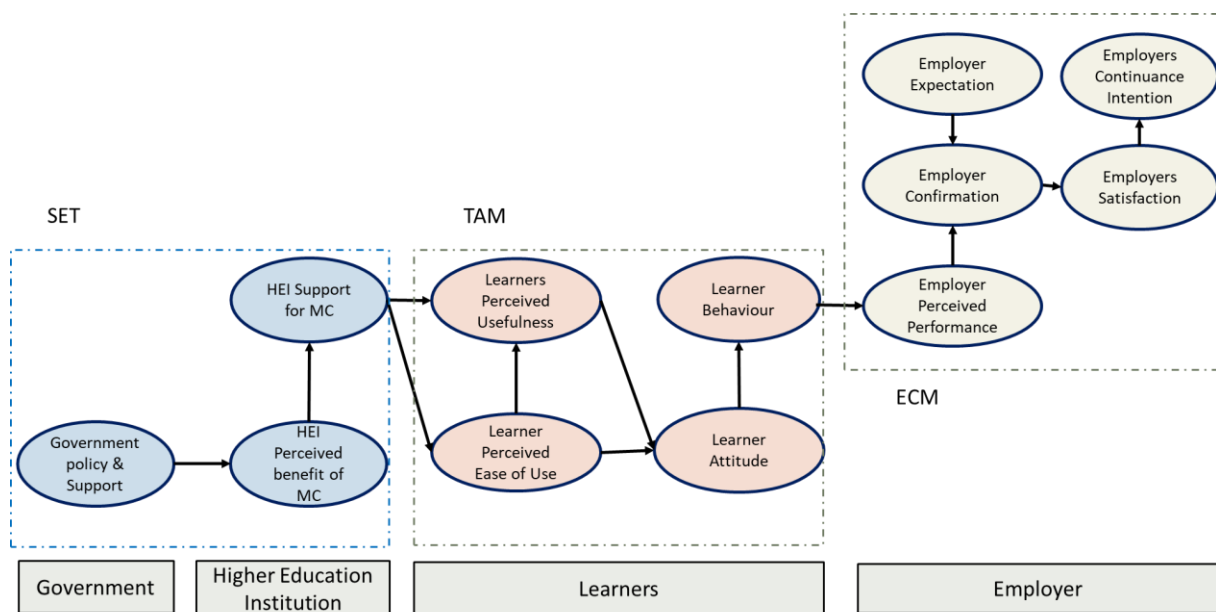


Figure 4. Micro-credentials continuance model (MCCM)

Starting with government policy to higher education institution, which produce learner that match with employee expectation, causing employer satisfaction of learner performance and continuance use of MC to fulfill the employer demand. The study discussed in the paper has consequences for how policies are developed to direct the use of micro-credentials in higher education.

Conclusion and Recommendation

The review's conclusions imply that higher education establishments considering micro-credentialing must understand the important players and how they fit into a bigger ecosystem. Our study's findings indicate that higher education institutions can be seen as being at the

center of the micro-credentials ecosystem, which is consistent with Brown and Mhichil's (2021) identification of the four main stakeholders of the micro-credentials ecosystem: students or learners, educational institutions, governments, and employers.

Based on three theory used in this study: technology acceptance, expectation confirmation model, and social exchange theory, we created a new model called micro-credential continuance model (MCCM) represents a substantial improvement as the first model created in micro-credential study especially for the higher education context. The model has revealed several relationships critical for the success of micro-credentials and pathways to supplement traditional degree programs. Because this model has not been validated, quantitative studies are required to improve it and connect to multiple stakeholder in which the research will be done.

Microcredentials are an innovative way of enabling human resources to continuously improve their capacity in a relevant, flexible and industry-recognised manner. In an increasingly connected and fast-paced era, micro-credentials are one of the best tools that can help individuals and organisations to stay competitive and succeed. Therefore, the utilisation of micro-credentials in enhancing human resource capacity is a wise investment for the future.

Implications and limitations of the study

The study discussed in the paper has consequences for how policies are developed to direct the use of micro-credentials in higher education. The capacity to pick up and master new talents is an invaluable quality in a world that is changing faster than ever. The focus of this study is higher education institutions, despite the fact that there are numerous adopters and implementers of micro-credentials, including learning centers or academies, industries (such IBM, Microsoft, Google, and others), and MOOC platforms (like Udacity, Coursera, EdX, and others). As a result, the examined literature has a defined scope. It is not possible to apply the conclusions and recommendations from this study to every other supplier or implementer of microcredentials. Additional research is required to incorporate MC providers as stakeholders and to validate the MCCM model empirically.

Acknowledgment

Not applicable

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CHAPTER 10

Factors Affecting the Integrity of Financial Statements: Institutional Ownership, Managerial Ownership and Independent Commissioners

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Abstract

Accurate financial statements are a product of sound accounting practices and serve as a means by which an organization's management and those outside the organisation may learn about the financial data and activities that took place within a given time frame. Examining what influences the reliability of financial accounts is the driving force for this research. Google Scholar, Taylor Francis, Science Direct, ProQuest, and SAGE Journal were used to conduct literature searches using the keywords "integrity of financial statements" and "integrity of the financial statements". In order to inform future studies, this one set out to construct hypotheses about the relationships between variables. According to this article's analysis of the research, there are three factors that influence the reliability of financial statements: 1) ownership by institutions, 2) ownership by managers, and 3) the role of independent commissioners.

Keywords: independent commissioners, managerial ownership, institutional ownership, integrity of financial statements.

INTRODUCTION

Background

Integrity, according to Mulyadi (2011), includes moral values such as neutrality and honesty, where the individual sees and conveys the facts as they are. Financial statements are data regarding the company's performance in one accounting period, which can provide an overview of how the company operates (Kasmir, 2014). Information presented in financial reports by many corporations lacks integrity, leading to erroneous and biased information for some readers of these reports (Fahmi & Nabila, 2020).

Financial reports are needed by parties such as investors, employees, creditors, customers and the government to obtain information for consideration in making decisions. These parties stand to lose financially and otherwise if the financial statements do not accurately reflect the situation or if the financial statements are manipulated (Tamara & Kartika, 2021).

When organisations or other entities hold stock in a company, this is called institutional ownership. To improve the company's performance, institutional ownership can control the management through an effective monitoring mechanism (Wardhani & Samrotun, 2020).

A higher level of managerial share ownership is associated with better corporate performance because it helps align the interests of managers and shareholders. Another benefit of managerial ownership is that it might make managers feel more accountable for meeting the needs of their own shareholders (Jensen and Meckling, 1976).

According to Fahmi and Nabila (2020), members of the board of commissioners are considered independent if they do not have any ties that could compromise their independence, such as financial, managerial, share ownership, familial, or other relationships. With the help of independent commissioners, we can all work towards a more neutral atmosphere, where everyone's interests—including those of minority owners and others—are treated fairly and equally.

From personal experience, I can say that a lot of students and writers struggle to locate relevant or supplementary materials to use as research for their scientific projects. In order to generate hypotheses, identify relationships or influences between variables, and bolster the theory under study, relevant papers are required. This article reviews the research on the topic of financial management and explores the impact of institutional ownership, managerial ownership, and independent commissioners on the reliability of financial statements.

Literature review and hypotheses developments

Financial Statement Integrity

When all relevant information about a company is presented in an accurate and transparent manner in financial statements, we say that the statements are credible. So that it can be used by investors, creditors, and other interested parties to make investment, credit, and similar decisions (Wardhani & Samrotun, 2020).

Financial statements that convey information without concealment are considered to be of high integrity. However, ensuring the integrity of financial accounts is a challenging task, as proven by the occurrence of court cases involving accounting data tampering, particularly in financial statements. Because most occurrences of fraud in altering financial statements occur in major corporations, this raises concerns among users of financial statements with integrity (Akmalia et al., 2022)..

A trustworthy company's financial statements are an end product of accurate

accounting that details the assets, liabilities, equity, expenditures, and gains or losses of the business. (Fahmi & Jeremiah, 2023). Statements of changes in capital, income statements, notes, balance sheets, and cash flow statements to financial statements are the five forms of financial statements that a business must prepare.

The integrity of financial statements has been widely studied by previous studies (Wardhani & Samrotun, 2020; Akmalia et al., 2022; Fahmi & Jeremiah, 2023).

Institutional Ownership

In the ownership structure, institutional ownership has a supervisory role to management. Because of its nature as the majority shareholder, institutional ownership is the most influential party in decision making. In addition, institutional ownership refers to a party that oversees and monitors the company's financial policies and management (Fahmi & Nabila, 2020).

Incorporating institutional ownership in the process of oversight can effectively mitigate the occurrence of financial statement manipulation, which companies may engage in to entice potential investors. Investors from these institutions typically possess voting rights at the general meeting of shareholders (GMS), which incentivizes managers to exercise caution when making decisions and adopting policies (Selvia et al., 2022)..

Investment firms, banks, insurance companies, and other domestic and foreign corporations are examples of external entities that hold shares in a company. This type of ownership is known as institutional ownership. In this scenario, the presence of institutional ownership serves as a means to oversee management performance, as it prevents the company from engaging in financial report manipulation and ensures the presentation of accurate financial reports (Dewanti & Karmudiandri, 2023).

Institutional ownership has been widely studied by previous studies (Fahmi & Nabila, 2020; Selvia et al., 2022; Dewanti & Karmudiandri, 2023).

Managerial Ownership

Managerial share ownership can foster alignment between managers and shareholders, resulting in improved corporate performance. In general, a company's performance improves when the percentage of managerial shares owned rises. A greater sense of managerial accountability to satisfy the needs of shareholders—who are, in essence, the managers themselves—can also result from managerial ownership (Wardhani & Samrotun, 2020).

Managerial ownership is one way to make financial reports more trustworthy. Managerial ownership is one method of company governance that can reduce agency conflicts and maximize value for all stakeholders (Mairiza Selvia et al., 2022)..

Managerial ownership is the situation in which members of the company's internal parties, such as the directors and board of commissioners, own shares in the company. Managerial ownership is considered to help reduce agency problems because it can align management and shareholders (Dewanti & Karmudiandri, 2023).

Prior studies have extensively examined managerial ownership (Wardhani & Samrotun, 2020); Mairiza Selvia et al., 2022; Dewanti & Karmudiandri, 2023).

Independent Commissioner

Independent commissioners are individuals who serve on the board of commissioners and are not financially, managerially, or personally connected to other members of the board, controlling shareholders, directors, or any other parties that could compromise their independent decision-making. The presence of autonomous commissioners aims to foster an impartial atmosphere and professional setting, ensuring

equity and parity among diverse stakeholders, including minority shareholders and other interested parties (Fahmi & Nabila, 2020).

When it comes to the issuer or public company's business operations, the board of commissioners is in charge of monitoring and making sure that management rules and practices are being followed correctly. Additionally, they provide guidance and advice to the board of directors. The board of commissioners comprises a minimum of two members, with one of them being an independent commissioner (Indrasti, 2020).

Independent commissioners are tasked with aligning the interests of majority and minority stakeholders and as a mediator between managers, auditors, and stakeholders. Not only that, independent commissioners play a role in planning the company's long-term strategy, as well as evaluating its implementation periodically. (Yulianti & Cahyonowati, 2023).

Several past scholars have conducted studies on Independent Commissioners, such as Fahmi and Nabila (2020), Indrasti (2020), Yulianti and Cahyonowati (2023).

Table 1
List of previous studies

No.	Author (year)	Results	Similarities with this article	Differences with this article
1	(Fahmi & Nabila, 2020)	A number of factors, including the presence or absence of an independent commissioner, an audit committee, managerial ownership, and institutional ownership, affect the reliability of financial statements.	Institutional ownership, managerial ownership, and the existence of independent commissioners are elements that can influence the integrity of financial accounts.	The reliability of financial statements is impacted by the audit committee's actions.
2	(Wardhani & Samrotun, 2020)	Financial statements are more or less trustworthy depending on the level of institutional ownership.	Accuracy and trustworthiness in financial reporting are directly affected by institutional ownership.	-
3	(Johana & Djuitaningsih, 2020)	Management ownership, audit committees, and independent commissioners all play a role in ensuring honest financial reporting.	Managerial ownership and the existence of impartial commissioners both affect the reliability of financial statements.	The trustworthiness and precision of financial statements are greatly affected by the actions of the audit committee.
.4	(Indrasti, 2020)	Institutional ownership and organisation size impact financial statement integrity.	Financial statements are more likely to be accurate and reliable when institutional ownership is present.	The credibility of a company's financial reporting is impacted by its size.
.5	(Selviaet al., 2022)	The credibility of financial statements is affected by the ownership of managers and institutions.	Both managerial and institutional ownership have an impact on the reliability of financial statements.	-

6	(Akmalia et al.,2022)	The trustworthiness of a company's financial statements is affected by factors such as its size, the amount of institutional ownership, and the ownership held by managers.	One factor that affects the trustworthiness and precision of financial accounts is the existence of institutional and managerial ownership.	A company's financial statements are more or less trustworthy depending on its size.
7	(Cahyaningtyas & Abbas, 2022)	Both managerial and institutional ownership have an impact on the reliability of financial statements.	Ownership by management and institutions both affect the reliability of financial statements.	-
8	(Dewanti & Karmudiandri, 2023)	The trustworthiness and precision of financial accounts are affected by variables such institutional ownership, leverage, profitability, investment opportunity set, and financial difficulty.	Financial statements are more or less trustworthy depending on the level of institutional ownership.	Leverage, profitability, investment opportunity set, and financial crises are some of the elements that impact the reliability of financial statements.
9	(Fahmi & Jeremiah, 2023)	When managers have a stake in a company's stock, it's called managerial ownership. When auditors, audit committees, and independent commissioners all undergo changes at the same time, it might compromise the reliability of financial statements.	Changes in auditors, audit committee composition, independent commissioners, institutional ownership, and management all affect the reliability of financial statements.	Both the audit committee and auditor turnover have an impact on the reliability of financial statements.

METHOD

Qualitative methods and library research were utilized to write this scholarly essay. Determine the validity of hypotheses and the relationships between variables by consulting scholarly literature found in print and digital libraries, as well as online resources such as Google Scholar and Mendeley.

In qualitative research, it is imperative to regularly incorporate literature study in accordance with methodological assumptions. Consequently, it is vital to employ inductive reasoning in order to avoid influencing the inquiries posed by the researcher. Qualitative research is mostly conducted for its exploratory nature (Ali & Limakrisna, 2013).

DISCUSSION

1. The Effect of Institutional Ownership on Financial Statement Integrity

The credibility of financial statements is severely impacted by institutional ownership. Consistent with the prior study, this one also found (Fahmi & Nabila, 2020). Institutional ownership has a substantial and detrimental effect on the credibility of financial statements. Specifically, the study suggests that a higher level of institutional ownership, including entities such as insurance companies, banks, and investment firms, is associated with lower integrity of financial statements. Conversely, a lower level of institutional ownership is linked to higher integrity of financial statements.

Due to management's interest in the shares held by institutional parties, who have a substantial stake, they are able to manipulate the preparation of financial statements and the company's profits, which compromises the integrity of financial statements (Fahmi & Nabila, 2020).

Selvia et al. (2022) shows that financial statements are more trustworthy and accurate when there is institutional ownership. A higher level of institutional ownership is associated with more reliable financial reporting. Management views the participation of institutional investors as a powerful tool for oversight in all decision-making processes.

Significant institutional ownership serves as a constraint on managers' ability to engage in fraudulent activities and can enhance the credibility and reliability of financial statements. Institutions that own shares in a company will demand management to make good financial reports (Selvia et al., 2022).

According to Dewanti and Karmudiandri (2023), the reliability of financial records is improved when they are owned by institutions. This demonstrates that an increase in the proportion of shares held by institutional parties is associated with an increase in their involvement in monitoring and controlling management to ensure they do not pursue their own self-interest.

Fahmi and Nabila (2020), Selvia et al. (2022), and Dewanti and Karmudiandri (2023) have shown that institutional ownership can impact the reliability of financial statements.

2. The Effect of Managerial Ownership on Financial Statement Integrity

The integrity and precision of financial reporting are affected by managerial ownership. The level of managerial ownership can significantly influence the formulation of policies and decision-making regarding accounting methods within a company. Consequently, managers who possess a higher percentage of managerial ownership will assume greater accountability in executing the company's operational procedures, making optimal decisions for the company's well-being, and producing accurate and truthful financial reports, thereby ensuring the integrity of such reports (Johana & Djuitaningsih, 2020).

Managerial ownership exerts a substantial and favourable impact on the reliability and accuracy of financial accounts. Managers with a significant stake in the company will experience the immediate implications of their decisions, including the negative outcomes resulting from poor managerial choices. Managers bear a significant duty in effectively managing the company and ensuring the accurate and honest presentation of financial reports, thereby enhancing their integrity (Selvia et al., 2022)..

Managerial ownership has an impact on the reliability and honesty of financial accounts. Greater ownership of shares by institutional investors or other entities directly correlates with the integrity of the financial accounts (Ardani & Aryati, 2023). This is because the presence of institutional investors or other institutions is considered to be able to optimize supervision of each decision made by management as a form of company control process, as a result, it can increase the integrity of financial statements.

Some previous studies undertaken by Johana & Djuitaningsih (2020), Selvia et al. (2022), and Ardani & Aryati (2023) supports the notion that managerial ownership has an impact on the integrity of financial statements.

3. The Effect of Independent Commissioners on the Integrity of Financial Statements

Independent commissioners affect the integrity of financial statements. With the function of independent commissioners as broad and comprehensive supervisors of management performance, a more reliable and impartial level of information disclosure can

be expected from companies with a higher proportion of independent commissioners. (Indrasti, 2020). The reliability of management's financial statements can be affected by the presence of independent commissioners in a company. With impartial commissioners present, management's financial accounts are more likely to be believed. The interests of outside parties are protected and management is prevented from abusing their position when an impartial third party is present inside the corporation.

Ensuring the reliability of financial statements is a major responsibility of independent commissioners. There is a negative correlation between the number of impartial commissioners and the degree of conservatism and the honesty of financial reporting (Cahyaningtyas & Abbas, 2022).

The reliability of financial reports is affected by autonomous commissioners. The credibility of the financial accounts is diminished as a consequence of the increased nomination of an impartial commissioner. The financial statements become less trustworthy when there are a lot of independent commissioners. This is because most of these commissioners are selected to fulfill formal obligations, not to provide actual independence (Damayanti et al., 2023)..

Independent commissioners have an impact on the honesty of financial records, according to studies by Indrasti (2020), Cahyaningtyas and Abbas (2022), and Damayanti et al. (2023).

Conceptual Framework

Formulation of the problem, theoretical studies, pertinent prior research, and description of the interplay between components constitute the basis of this article's thinking structure.

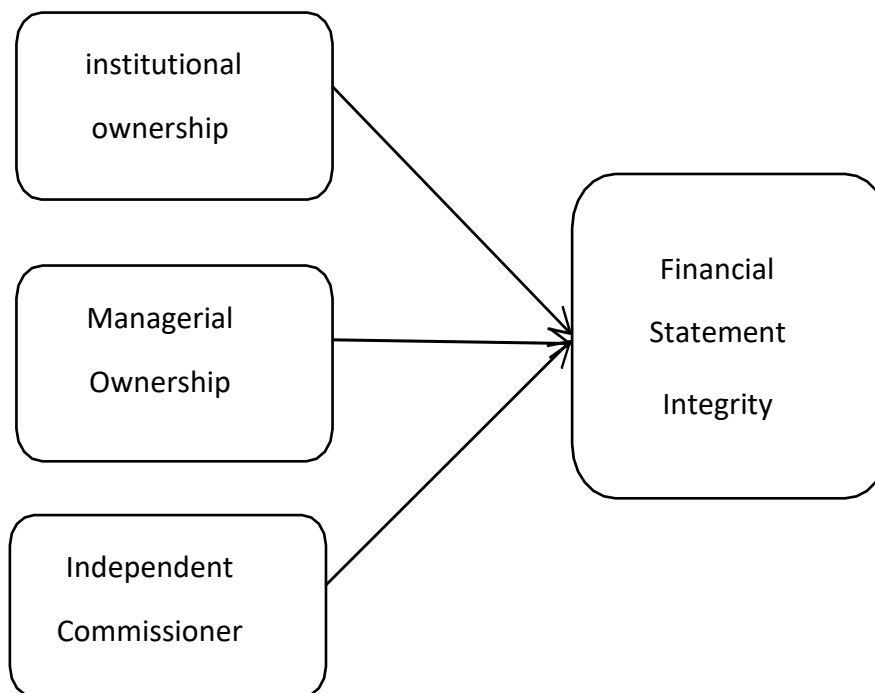


Figure 1
Conceptual Framework

According to the theoretical model shown above, independent commissioners, managerial ownership, and institutional ownership all have a role in determining how accurate financial records are. There are a plethora of additional factors that affect the reliability of financial statements, along with the three mentioned above, including:

- a) Audit Committee: (Johana & Djuitaningsih, 2020), (M. Fahmi & Nabila, 2020), and (Cahyaningtyas & Abbas, 2022).
- b) Company Size: (Indrasti, 2020), (Damayanti et al., 2023), and (Ardani & Aryati, 2023).
- c) Leverage: (Akmalia et al., 2022), (Damayanti et al., 2023), and (Ardani & Aryati, 2023).
- d) Debt Policy: (Indrasti, 2020).
- e) Profitability: (Dewanti & Karmudiandri, 2023).
- f) *investment opportunity set*: (Dewanti & Karmudiandri, 2023)

CONCLUSIONS AND SUGGESTIONS

Conclusion

By drawing upon theory, pertinent publications, and conversation, one might develop hypotheses that can serve as a basis for future research.

1. institutional ownership affects the integrity of financial statements.
2. Managerial ownership affects the integrity of financial statements.
3. independent commissioners affect the integrity of financial statements.

Suggestion

Financial statement credibility is affected by a number of aspects, according to this article. These include independent commissioners, managerial ownership, and institutional ownership in various companies. Hence, beyond the factors discussed in this article, additional research is needed to determine which other variables could affect the reliability of financial statements. Factors such as company size, profitability, audit committee, and investment opportunities also play a role.

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Financial Analysis for Indosat Telecommunication Company Using DuPont Methodology Before-During-Post Pandemic of Covid-19

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ABSTRACT

Indosat Ooredoo Hutchison (Indosat) provides cellular services, fixed data, leased lines, and internet services in Java and Southern Sumatra, Indonesia. Using the DuPont methodology, this study examined Indosat's Return on Equity (ROE) during 2017 – 2021. The author used secondary data to calculate the company's return on equity and found an interesting finding. While the return on equity seems to be flat for most of the period, the author found an increase in earnings after Interest and Tax in 2021. This study revealed that Indosat made a huge amount of income from the sales of its tower. While the sales increased with a compounding annual growth rate of 1% during the period, it is believed that Indosat struggled to increase the revenue while managing the operations cost-effectively and efficiently.

Keywords: Dupont, Indosat, ROE

INTRODUCTION

In 2019, the world was struck by the COVID-19 pandemic which caused widespread devastation. The outbreak began in Wuhan, China, and quickly spread, claiming the lives of nearly 7 billion people by December 2023, according to the World Health Organization. The economic impact of the pandemic has been severe, particularly in Indonesia where the GDP growth rate plummeted to a negative 2.10%, a significant drop from the previous average of 5% between 2017 and 2019, as reported by the Indonesia Central Bank. The government has taken steps to mitigate the impact, such as lowering interest rates and implementing restrictions on societal activities, although this has been challenging given that domestic consumption accounts for over 50% of Indonesia's GDP. During this period, investors have been cautious, avoiding risky assets such as emerging markets, and opting for safer investments.

Despite the pandemic, there have been some positive developments in Indonesia's digital landscape. The country has experienced accelerated growth in digital adoption, which has brought benefits to its population. People have become accustomed to working and studying from home, which has resulted in a significant shift towards online activities. According to a report by Google, Temasek, and Bain&Company, the number of internet users in South East Asia (SEA) has surged by 100 million in the last three years (2020 - 2022). This rise has boosted Indonesia's digital economy, which reached \$77 billion in 2022 (GMV) and is projected to reach \$130 billion by 2025, primarily driven by e-commerce. With this in the background, telecommunication companies in Indonesia are expected to play a crucial role in accelerating the digital adoption of the country's society.

PT Indosat Tbk (Indosat) is one of the biggest telecommunication players in Indonesia. Founded in 1967, Indosat provides cellular services, fixed data, leased lines, and internet services with a strong presence in Java and southern Sumatra. Indosat latest corporate action was merging the company with PT Hutchison 3, a Hong Kong telecommunication player that has been doing business in Indonesia since 2000. With this corporate action, Indosat aims to reach millions of additional customers, particularly in rural and hard-to-reach areas that were previously not economically viable. Telkomsel and Xl Axiata were two of Indosat main competitors.

This paper examined Indosat's return on equity (ROE) during 2017 – 2021 (before, during, and post-pandemic) using the DuPont model. The DuPont model is a calculation model that divides a company's ROE into extra levels. The DuPont analysis is still the ROE, just an expanded version. The DuPont analysis allows investors and analysts to examine the factors driving changes in ROE, or why an ROE is considered high or low, in addition to the ROE calculation alone which reveals how well a company utilizes capital from shareholders. Developed in the 1920s by the American Chemicals Corporation DuPoin, this methodology indicates which elements contribute the most (or least) to a company's ROE.

1. INDONESIA TELECOMMUNICATION LANDSCAPE

Gross Domestic Product (GDP) is the total monetary or market worth of all finished goods and services produced within a country's borders in a certain period. It serves as a comprehensive scorecard of a country's economic health because it is a wide measure of entire domestic production. GDP is normally estimated on an annual basis, although it is also calculated every quarter. In the United States, for example, the government publishes an annualized GDP estimate for each fiscal quarter as well as for the entire calendar year.

Because the data in this report is presented in actual terms, it has been adjusted for price changes and is thus net of inflation. To provide further perspective, the Author will define each year: 2017 - 2019 is before the epidemic, 2020 is during the pandemic, and 2021 is after the pandemic.

Indonesia, a nation with more than 280 billion people (2023) had an average 5,08% GDP growth during 2017 - 2019 (before the pandemic). However, when the pandemic hit in 2020, the GDP growth slumped to negative territory by 2,07%. However, Indonesia has rebounded to a positive 3,70% GDP growth a year later. According to the Indonesia COVID-19 task force, during 2020 we applied several protocols for activity, health, and travel. This includes the application of health protocols (3-5 mandatory vaccination shots, wearing masks indoors and outdoors, washing hands, etc), this includes activity restriction domestically (staying at home for at least in three months period, work and school from home is a mandatory by the government, etc) and outside Indonesia (travelers from outside Indonesia were prohibited to come to Indonesia, vice versa).

By design, the economic growth of Indonesia is driven by its Domestic Consumption, which contributes to more than 50% of the annual GDP growth (2022). Hence, several protocols applied during the pandemic directly impacted Indonesia's GDP growth.

Table-1: GDP Growth of Indonesia from 2017 - 2021

2017	2018	2019	2020	2021
5,07%	5,17%	5,02%	-2,07%	3,70%

Source: Badan Pusat Statistik (BPS) Indonesia, 2023

However, as Indonesia applied a strict activity restriction to its society, a new normal activity was introduced. Working from home (WFH), and school from home (SFH) were two the example of how a new normal was conducted. The pandemic also changed the behavior of society to shop online, even for groceries. Google, Temasek, and Bain&Company captured the shifting behavior presented in the below survey of Indonesian. More than 75% of consumers in Indonesia intend to use online services (E-commerce, groceries, transport, and food delivery).

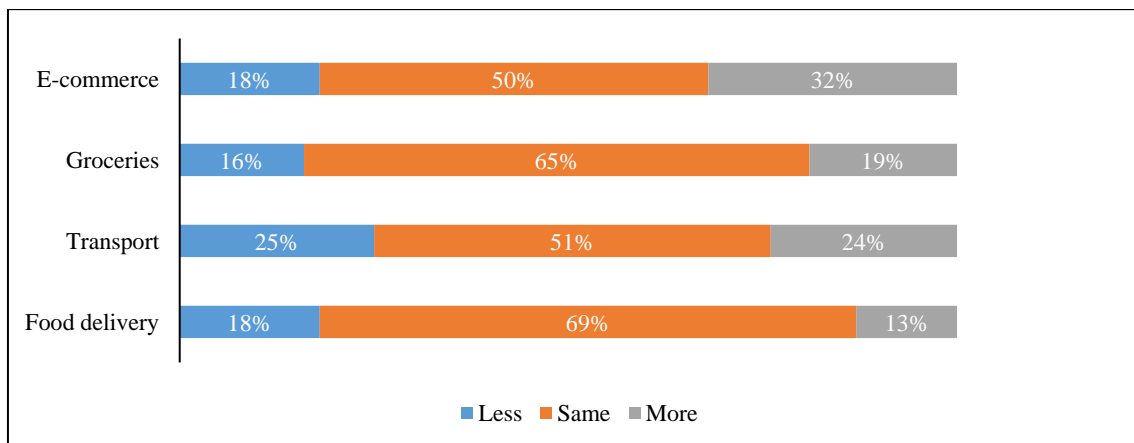


Figure-1: Usage Intent of Consumers Online

Source: Google, Temasek, and Bain&Company, 2022

Telecommunication companies will have a significant role in providing reliable internet connections across the nation. It is reflected in Figure-3 on the Telecommunication sector's growth, which was the highest growth in the last 5 years (2017-2021). So although

Indonesia's GDP slumped in 2022, Indonesia's telecommunication sector grew nearly 11% in the same period.

Table-2: Telecommunication sector contributions to Indonesia's GDP from 2017 - 2021

2017	2018	2019	2020	2021
9,81%	7,17%	9,41%	10,61%	6,81%

Source: Badan Pusat Statistik (BPS) Indonesia, 2017 – 2021

Entering the Indonesia landscape in Indonesia, there are three major telecommunication companies, PT Indosat Tbk (Indosat), PT Telkomsel Tbk (Telkomsel), and PT XL Axiata Tbk (XL Axiata). The three also have a sizeable market capitalization in the Indonesia Stock Exchange (JKSE) as presented in Figure-4 below.

Table-3: Indonesia telecommunication companies' current valuation

Market Capitalization	INDOSAT	TELKOMSEL	XL AXIATA
	75.185 BN	386.343 BN	27.045 BN

Source: Stockbit Data, as of December 2023

Many countries worldwide have privatized the telecommunications industry that was once held as a government monopoly (Investopedia, 2023), Indosat was an example of a government-owned business in Indonesia which later privatized. Indosat started the business as a government-owned company. Later the majority of Indosat's share (50% share) was sold to STT Communication Ltd (majority-owned by Temasek, Singaporean government-owned) in 2002. Indosat's ownership was acquired by Qatar Telecom QSC in 2007 when they bought all of Indosat's shares from STT Communication Ltd. Indosat has announced its merger with CK Hutchinson Holding Limited in 2021 (CNBC Indonesia, 2021).

Research Objective

This study aims to analyze the condition of Indosat's financial performance before, during, and post-pandemic. The analysis for financial performance will use the DuPont methodology for the period of the year 2017 – 2021. Hopefully, this study could provide a clear picture of the financial performance of the Indosat during the period.

2. LITERATUR REVIEW

The DuPont Methodology

The DuPont Methodology was first introduced in 1914 by Donaldson Brown, an employee of the DuPont Corporation, an American multinational company in the chemical industry. Listed on the New York Stock Exchange (NYSE) with a market capitalization of 30.49 billion USD as of December 2023. This methodology is simple to understand, even for people with a limited background in economics to conclude what metrics need to be emphasized to improve a company's financial performance (Mandyam M, et al., 2014). This methodology uses both income statements and balance sheet reports as a comparison to evaluate the financial performance of a company. Bottom line, The DuPont methodology allows companies to

analyze potential improvements in financial performance by concretating on the variable that has the most influence on that performance (Melvin, J, et al., 2004).

Three-Step and Five-Step DuPont Analysis

The main models of the DuPont analysis are the basic three-step model and later amplified into the five-step model.

Figure-5: Three-Step DuPont Analysis

Return on Equity = Net Profit Margin x Total Asset Turn Over x Leverage

$$\frac{\text{Net Income}}{\text{Shareholder Equity}} = \frac{\text{Net Income}}{\text{Revenue}} \times \frac{\text{Revenue}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Shareholder Equity}}$$

Net profit margin (Net income divided by revenue) is useful in assessing the profitability of an organization (Herciu & Ogrean, 2011; Roucan-Kane, Wolfskill, Boehje, & Gray, 2013). It is also an important ratio as it indicates a company's efficiency and that of its management in controlling costs of sales and other expenses (Muchori, 2018). The assets turnover ratio is useful in assessing how efficiently the company uses its resources (assets) in producing sales (Needles, Powers, & Crosson, 2010; Sur, Mitra, & Maji, 2014). It shows how many dollars of revenues are earned by \$1 of assets, and the higher the better as it implies that the company is productively utilizing its resources. The financial leverage ratio offers insight into the avenue through which the company's ROE was produced by disaggregating the return into three ratios: return on sales, assets turnover, and financial leverage (Godwin and Alderman, 2010).

DuPont developed a five-step model that provides a more detailed and unique way of driving Return on Equity. According to Henry et al., (2021), using DuPont analysis, a company's ROE can be expanded as a function of its tax rate, interest burden, operating profitability, efficiency, and leverage.

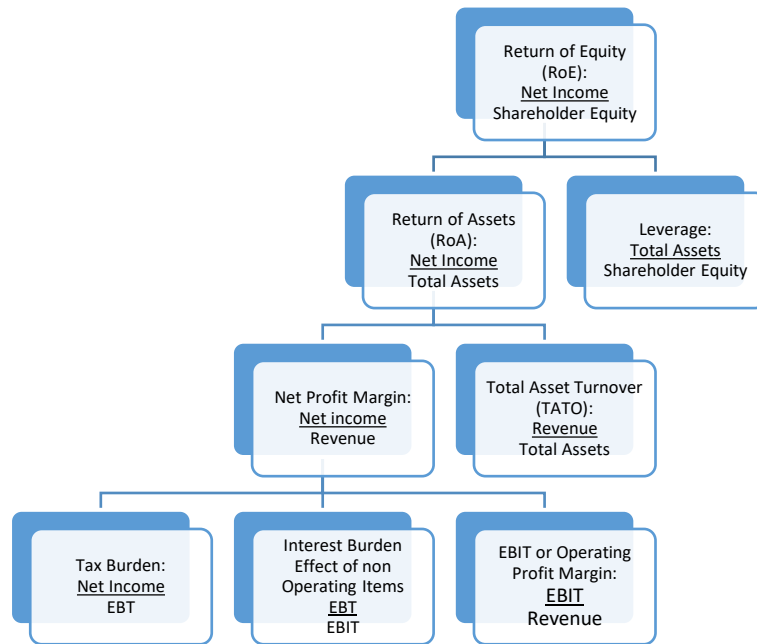


Figure-2: Five-Step DuPont Analysis

3. RESULT AND DISCUSSION

Return on Equity (ROE)

Calculating the Return on Equity of a company involves using the DuPont Analysis. Figure-6 shows the calculation process, which requires the Net Profit Margin, Total Asset Turnover, and Leverage of the company.

Table-4: Financial Ratio using the DuPont methodology

	2017	2018	2019	2020	2021
Net income	1,302	(2,085)	1,630	(630)	6,860
Earning after interest and tax	2,579	(3,452)	1,554	(569)	8,154
Total sales	29,926	23,139	26,117	27,925	31,388
Total assets	50,661	53,139	62,813	62,778	63,397
Equity	14,815	12,136	13,707	12,913	10,302
Net Profit Margin (NPM)	0.04	(0.09)	0.06	(0.02)	0.22
Total Asset Turn Over	0.59	0.44	0.42	0.44	0.50
Leverage	3.4	4.4	4.6	4.9	6.2
Return on Equity (ROE)	8.79%	(17.18%)	11.89%	(4.88%)	66.59%

Source: Indosat Annual Financial Report, 2017 - 2021

To provide a comprehensive overview of the company, the author also summarized its financial highlights from 2017 to 2021 in Figure-7.

Table-5: Indosat Financial Highlights, 2017 - 2021

	2017	2018	2019	2020	2021
Sales and revenue	29,926,098	23,139,551	26,117,533	27,925,661	31,388,311
Gross profit	2,462,502	2,020,167	2,174,612	1,888,978	2,167,680
EBIT	4,033	(465)	4,228	2,399	10,354

EBITDA	12,763	6,500	9,856	11,433	13,886
Income for the year	1,301,929	(2,085,059)	1,630,372	(630,160)	6,860,121
Attributable to:					
Equity holders of the parent entity	1,136	(2,404)	1,569	(717)	6,751
Non controlling interests	166	319	61	87	109
Comprehensive income for the year	1,198,432	1,861,134	1,608,605	(771,571)	6,924,683
Attributable to:					
Equity holders of the parent entity	1,135,783	(2,403,843)	1,568,991	(716,719)	6,750,873
Non controlling interests	166,146	318,784	61,381	86,559	109,248
Share outstanding (in mn)	5,434	5,434	5,434	5,434	5,434
Basic earnings per share attributable to equity Holders of the parent entity (IDR)	209	(442)	289	(132)	1,242
Current assets	9,479,271	7,906,525	12,444,795	9,594,951	11,499,439
Current liabilities	16,200,457	21,040,365	22,129,440	22,658,094	28,658,152
Net working capital	(6,721)	(13,134)	(9,685)	(13,063)	(17,159)

Source: Indosat Annual Financial Report, 2017 - 2021

CONCLUSION

Indosat's ROE during the pandemic was poor due to decreased earnings and net income. This was not aligned with the growth of Indonesia's Telecommunication Industry in the same period. During the pandemic, Indonesia's GDP was adversely affected, but the importance of the Internet has become even more critical to enable people to continue their activities online. Indosat officials attributed the decline in earnings and net income to weaker demand for internet services among corporate clients. One year after the pandemic, Indosat's financial performance rebounded, showing significant improvements in gross profit, earnings, and income. The data shows an increase in current assets due to Indosat's recent sale of its tower assets (Indosat Annual Report, 2021).

RECOMMENDATION

To have better ROE in the coming years, Indosat should unlock its market share outside Java and Southern Sumatra whereas the potential is still huge (Indosat only has a 9% market share outside Java, while 65% market share was covered by Telkomsel, YouGov. 2023.). However, Indosat has more market share of revenue in certain areas in Java. This could lead to rationalization of prices, providing an opportunity for Indosat to increase prices, which would benefit them more than their larger competitor. Additionally, outside of Java, with entry barriers easing, Indosat is predicted to gain market share in key regions of Indonesia. Indosat could also increase the company efficiencies through product initiatives.

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T.C.
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İş bu sertifika açık unvan ve adresi yazılı olan işyeri, 5846 sayılı Fikir ve Sanat Eserleri kanunu uyarınca yukarıda belirlenen alan/alanlara ilişkin faaliyet gösterir.

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30.07.2021 - 30.07.2025

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