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Co-movements between Stock Markets and Exchange Rates: Empirical Evidence from the G20 Nations

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Abstract

This study investigates the relationship between stock markets and exchange rate markets in the short and long run for G20 countries by analyzing weekly stock market returns and exchange rates from January 2008 to March 2023. This study uses the CD test for testing cross-sectional dependence in all the panel series, and unit root tests are employed to verify the stationarity properties of variables. Based on the above results, the panel ARDL model and PMG estimator are used to establish the long-run and short-run cointegrating relation between the stock and exchange rate markets. We have found a stable positive relationship between the stock markets and the exchange rate of G20 countries in the long run, but a negative association was found in the short run. These findings highlight the intricate dynamics between stock markets and exchange rates and the interconnectedness of G20 nations. The robust positive long-term correlation and the short-term negative association exhibit the differential impacts of macroeconomic variables over varying time horizons.

Keywords: Stock prices, Exchange rates, Panel data model, Portfolio diversifications, G20 Countries.

JEL Codes: E44, C23, F31

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1 Introduction

A vibrant and empowered international financial system has been one of the most positive impacts of globalization in the past few decades. Corporate foreign investments in securities, international trade, the functioning of central banks, and multilateral agreements between

government and private companies are linked to the exchange rates of currencies. Rapidly growing equity markets at the global level are motivated by the increased demand and supply of currencies. The variations in exchange rates have an impact on the equity markets of a country and its economy. The investors (including institutions, regulatory bodies, multinationals, and the like) in international business evaluate the performance of portfolio investments, assess net loss, and manage their assets based on volatility in exchange rates. The interdependence between stock markets and exchange rates has significantly increased across international financial markets, emphasizing the significance of market integration and exchange rates as essential prerequisites for policymakers, investors, and economists. This research explores these dynamics within the context of the G20 countries, a group representing the world's most significant and progressing economies. The critical interactions of stock markets and exchange rates across borders have intense repercussions for economic stability and investment strategies across nations and continents. These relationships are contemplated to assist in mitigating economy-specific systemic risks post-historical financial crisis.

The selection of G20 countries for this study is established on their extensive contribution to global economic activity and their varied economic structures. G20 comprises of both developed and emerging markets, providing a comprehensive perspective on global financial integration, economic policies and regulatory environments. Regardless of widespread researches done on market integration and exchange rates, majority of them are limited by region and specific crises. The present study has been thoroughly developed on the performance of equity markets and exchange rate markets of G20 countries. Section 2 provides a review of past researches on assessing the relationships between stock markets and exchange rates within various countries. Section 3 details the data and advanced panel data econometric techniques that are employed. Lastly, Section 4 and Section 5 discuss results and conclusion. This study seeks to provide valuable insights on the broader address on financial stability and integration through an empirical evidence and analytical findings to support effective economic policymaking.

2 Literature Review

This section presents a synthesis of the past researches related to this area. The selected studies provide diverse perspectives on co-integration and long-term dependencies, volatility and spill over effects, macroeconomic and international influences, co-movements and regional focus and market dynamics.

As far as the G20 countries are concerned, Co-movement and the effect of spill over among G20 stock markets have been investigated by (Chai et al., 2020) using a new method of independent component analysis and finds the existence of co-movements and the spill over effect in each group based on volatility. (Naeem et al., 2024) have examined the simultaneous return transmission mechanism across the G20 stock market returns (SMR) with a novel tool R^2 connectedness and found that stock markets in G20 markets have varying degrees of interconnectedness by the primary shocks transmitter of US. Looking at the research done in India on the same topic, (Agarwal et al., 2014) analysed the time series data and identifies Indian stock price movement is considerably affected by both the macroeconomic and the International factors. (Jacob et al., 2022) used the Johansen co-integration approach to test the possible long-term and short-term relationships that existed between the Indian equity market indexes and certain Asian and African nations. “They conclude that NSE Nifty and other key stock exchange indexes in Asian and African markets have a long-term relationship” (Jacob et al., 2022). Further, how Indian equity market returns are affected by the role of domestic and

foreign institutional investors is examined by (Mukherjee & Roy, 2016). The study reveals that Indian SMR have been significantly influenced by the institutional investors. And in one study of Pakistan's equity market with India, China, Japan, UK, USA, Taiwan, Malaysia, and Singapore equity markets by (Ali et al., 2011) found no significant co-movement in the selected markets.

When we consider literature on the existence of co-movement in stock markets in developed and developing countries, (Roy & Sarkar, 2013) investigated the impact of co-movement of stock returns on ten developed and emerging economies by a network approach and revealed strong harmonisation of co-movements in the stock returns in case of extreme financial crisis with the changing pattern of the international equity markets. (Mollah & Mobarek, 2016) have investigated the co-movement, crises, and efficiency in stock markets at the international level. They confirm the presence of interdependency and effect of integration between developed and emerging markets. By using alternative techniques to identify the co-movement among select developed and developing stock markets of the world with the daily returns data (Modi et al., 2010) have revealed the presence of the co-movement among selected global markets. (Wong et al., 2004) studied the issue of co-movement of stock prices in major developed countries along with developing countries in Asia and established the presence of co-movement between the developed and Asian emerging markets. Also they reported that interdependence has increased among developed and emerging markets. By employing DCC–GARCH model on weekly industry return data (C. C. Lee et al., 2017) examined the extent of the vibrant correlations between the industry returns of BRICS countries and the impact of special events related to BRICS. The result shows the significant increase of co-movement in industrial returns and the BRICS events have negative impact on volatility. (Chadha & Saxena, 2014) analysed the existence of long-term relationship between the indices of Indian and New York Stock Exchange by employing Granger Wald Causality and found long-term association between NSE and NYSE. As many Indian companies have listed their shares in the American equity markets, (Subha & Nambi, 2010) examined the extent of co-integration between the major Indian stock exchanges with the largest stock markets of America through Engle Granger Co-integration on the data and find no evidence for long-term dependencies between the Indian and American stock markets. (Dasgupta, 2014) studied the short and long-run vigorous linkages of Indian equity market with BRICS by the method of Granger's co-integration tests and found that the Indian stock market has strong impact on Brazilian and Russian stock markets.

By employing the nonlinear autoregressive distributed lags (NARDL) approach to study the long –run connection of stock prices and exchange rates of ASEAN-5 countries (Siew-Pong et al., 2021) estimated that stock prices are influenced by significant positive long run effect of exchange rate appreciation however exchange rate depreciation has not affected the stock prices. (Gokmenoglu et al., 2021) employed the quantile-on-quantile approach to reassess the connection between exchange rate and SMR of select emerging countries and concluded that except some specific market condition, exchange rate changes had no impact on stock market performances. (H. T. Wong, 2022) employed Asymmetric autoregressive distributed lag (ARDL) approach to ascertain whether stock prices are affected by the real exchange rates and asymmetric real exchange rates in selected Asian and European stock markets. “He concluded that stock prices are significantly affected by real output and real interest rates” (H. T. Wong, 2022). Additionally, (Carlos et al., 2016) measured the correlation between exchange rate changes and stock returns in the Chinese financial market and found a positive effect of exchange rate changes on stock markets and the same turns adverse during financial

emergencies. Dynamic heterogeneous panel method was applied by (Y. M. Lee & Wang, 2015) to examine the association between stock prices and exchange rates. The result showed a negative correlation existed between stock market and the foreign exchange market in the short run and positive association was found in the long run. (Goncalves & Rodrigues, 2023) studied the association between stock prices and exchange rates in Brazil in long-run and short-run and found no long-run relationship between stock prices and exchange rates. Manufacturing, service sectors share price movements and growth trend were compared with NIFTY data by (Prasad & Nair, 2021) to conclude that the manufacturing sector had higher growth rate and higher risk when compared to service sector. (Saji, 2022) studied financial integration of five Asian equity markets by using Granger causality test on daily stock index data and revealed short term integration of stock markets with significant differences.

With this backdrop, this study aims at analysing the interconnectedness between the stock markets and the exchange rate markets of G20 countries in the long run and the short run using panel data econometric techniques. As the above paragraphs unveil, the empirical literature on the selected area is limited, and thus this study enriches the literature in this respect. To the best of our knowledge, this is apparently the first study that examines the complex dynamics between the stock markets and exchange rate markets with reference to G20 countries.

3 Research Method

3.1. Data

The secondary data of SMR has been sourced from Yahoo Finance, wsj.com and data pertaining to exchange rates has been sourced from Bank of International Settlements website. Some of the missing values were completed from exchangerate.com and remaining by average values. The study period is January 2008 to March 2023 as G20's first summit was held in 2008 and the level of activity amongst this group of nations increased considerably post the summit. Weekly data for 16 indices has been downloaded for the same. As Italy, Germany, France and European Union have common currency and exchange rate data, we have used EURO STOXX 50 index data as a single proxy for indices of these three countries and EU.

The descriptive statistics of exchange rates, stock prices, exchange rate returns (ERR) and SMR for the pooled panel and for all 16 countries are presented in Table 1. As shown in the table, the average returns, and average standard deviation for stock markets are higher than the average returns, and average standard deviation for exchange rate markets. Further, Table 1 shows that while Argentina has the maximum mean in their SMR and ERR, China has the lowest mean in both the returns during the sample period. It may be seen from the table that for SMR, while Argentina depicts maximum standard deviation, the lowest standard deviation is shown in Australia during the sample period. On the other hand, for exchange rate markets, while the maximum standard deviation is shown in Russia while Saudi Arabia depicts the least standard deviation.

Table 1: Descriptive Statistics

Country	Statistics	LSP (log(stock price))	ler (log(exchange rate))	spr (stock price returns)	err (exchange rate returns)
All countries	Mean	8.546919	2.466777	0.000924	0.0010772
	Std. Dev.	1.767686	2.793815	0.034519	0.0157316
	Min	2.657459	-1.309333	-0.395174	-0.217082

	Max	12.45926	9.698728	0.3542423	0.2478976
Argentina	Mean	9.3007	2.649338	0.005988	0.0052675
	Std. Dev.	1.416566	1.274412	0.0558608	0.0163946
	Min	6.733164	1.10194	-0.395174	-0.0448484
	Max	12.45926	5.335083	0.2305937	0.2281792
Australia	Mean	8.59896	0.208875	0.0001627	0.0003452
	Std. Dev.	0.1833292	0.1501881	0.0233797	0.0147268
	Min	8.053728	-0.0943106	-0.1701632	-0.0598184
	Max	8.939699	0.5247285	0.0911379	0.1325467
Brazil	Mean	11.14253	1.068649	0.0006499	0.0013505
	Std. Dev.	0.3157765	0.4155252	0.0384156	0.01878
	Min	10.28994	0.4382549	-0.2926216	-0.0545591
	Max	11.78124	1.766442	0.2619324	0.1475354
Canada	Mean	9.575669	0.1656725	0.0004896	0.0003994
	Std. Dev.	0.2004167	0.1193566	0.0263251	0.0110694
	Min	8.931539	-0.0512933	-0.1829691	-0.0661398
	Max	10.00268	0.3646432	0.1494522	0.0639488
EU	Mean	8.048401	-0.2042942	8.10E-06	0.0003802
	Std. Dev.	0.1695256	0.1083536	0.031149	0.0119057
	Min	7.501071	-0.4620355	-0.1886363	-0.0680535
	Max	8.386216	0.0295588	0.1209955	0.0434851
India	Mean	10.18417	4.102534	0.0013181	0.0009282
	Std. Dev.	0.4634121	0.1949423	0.0284953	0.0086556
	Min	9.027117	3.667911	-0.1738071	-0.043184
	Max	11.0488	4.416428	0.1317091	0.0410986
Mexico	Mean	10.60106	2.762448	0.0008171	0.0006416
	Std. Dev.	0.2224981	0.2230955	0.0283756	0.0148184
	Min	9.734538	2.301584	-0.2075071	-0.0672407
	Max	10.93868	3.199081	0.1991234	0.1228116
South Africa	Mean	3.648588	2.427717	0.0002111	0.0012173
	Std. Dev.	0.2020204	0.3000682	0.0474186	0.0190112
	Min	2.657459	1.894617	-0.2737353	-0.0642915
	Max	4.018363	2.942332	0.2769301	0.1110086
UK	Mean	8.753	-0.3744884	0.0002341	0.0005819
	Std. Dev.	0.1537329	0.1236295	0.0255093	0.0130441
	Min	8.17256	-0.7133499	-0.1468325	-0.0377404
	Max	8.988983	-0.0833816	0.1426497	0.0833816
South Korea	Mean	7.622336	7.044572	0.0003576	0.0004133
	Std. Dev.	0.203169	0.0732422	0.0271881	0.0130771
	Min	6.844549	6.843856	-0.2292881	-0.0611258
	Max	8.102538	7.351024	0.1703191	0.105073

China	Mean	7.958325	1.885695	-0.0006193	-0.0000711
	Std. Dev.	0.1925718	0.0454866	0.0347052	0.0040448
	Min	7.449946	1.800058	-0.2184677	-0.0190761
	Max	8.612122	1.986503	0.1196675	0.0230602
Indonesia	Mean	8.404648	9.386166	0.0011735	0.0005908
	Std. Dev.	0.3958665	0.195904	0.0275664	0.0182993
	Min	7.044277	8.89028	-0.2329721	-0.2075739
	Max	8.887744	9.698728	0.1091471	0.2052975
Japan	Mean	9.686664	4.636739	0.0008131	0.0002323
	Std. Dev.	0.401658	0.1443702	0.0312523	0.0109212
	Min	8.878093	4.329548	-0.2788439	-0.0479956
	Max	10.32548	5.002469	0.1581707	0.04812
Russia	Mean	7.519204	3.839595	0.0004149	0.0014439
	Std. Dev.	0.3734415	0.3998566	0.041716	0.0313254
	Min	6.241484	3.144583	-0.3173938	-0.217082
	Max	8.357451	4.867457	0.3542423	0.2478976
Saudi Arabia	Mean	8.962111	-1.309333	-0.0000636	0
	Std. Dev.	0.2242653	0	0.0304476	0
	Min	8.326069	-1.309333	-0.2086258	0
	Max	9.52762	-1.309333	0.1376209	0
Turkey	Mean	6.744339	1.178556	0.0028298	0.0035141
	Std. Dev.	0.5679078	0.7603788	0.0371664	0.0195788
	Min	5.392081	0.1397619	-0.1927304	-0.1125274
	Max	8.614167	2.950735	0.1575789	0.1842102

Source: Authors' own estimation

3.2. Graphical Analysis

The trend in the logarithm of stock prices and exchange rates (vis-a-vis USD) of 16 countries is shown in Figure 1 (a-p). It may be seen from the Figure that Argentina, Australia, India, Japan, Turkey, Mexico, and Russia these two markets seem to be strongly positively correlated throughout the sample period. For Brazil, Canada, the EU, the UK, and South Korea, the two markets show both positive and negative correlations during different time periods in the sample. However, for Saudi Arabia, Indonesia, South Africa, and Turkey, graphs do not show a clear relationship between the two markets. To confirm the presence of a long-run and short-run association between stock markets and exchange rate markets of G20 countries, we utilize panel data estimation techniques that can incorporate heterogeneity between countries.

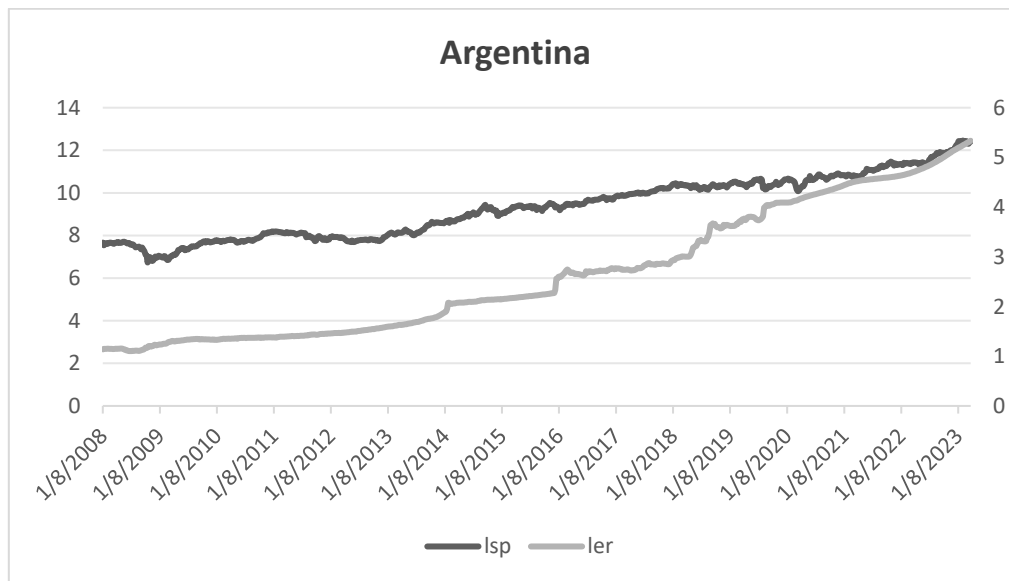


Figure 1 (a): Trends in logarithm of stock prices and exchange rates for Argentina

Source: Authors' own elaboration

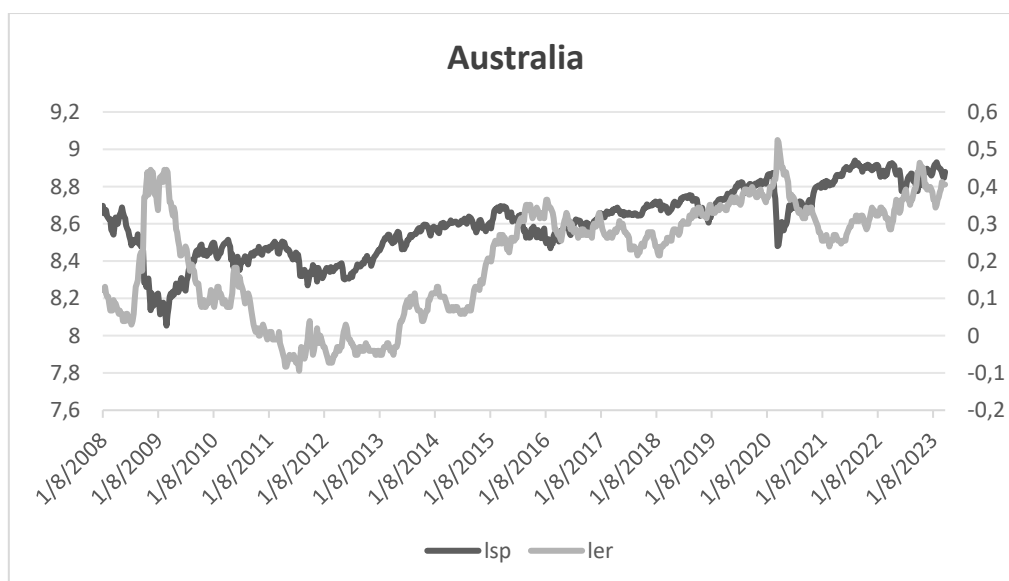


Figure 1 (b): Trends in logarithm of stock prices and exchange rates for Australia

Source: Authors' own elaboration

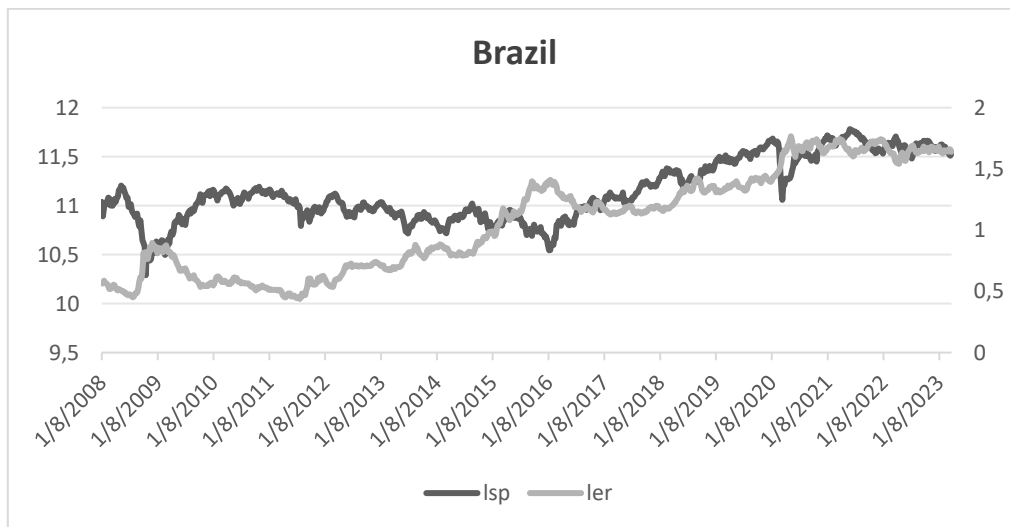


Figure 1 (c): Trends in logarithm of stock prices and exchange rates for Brazil

Source: Authors' own elaboration

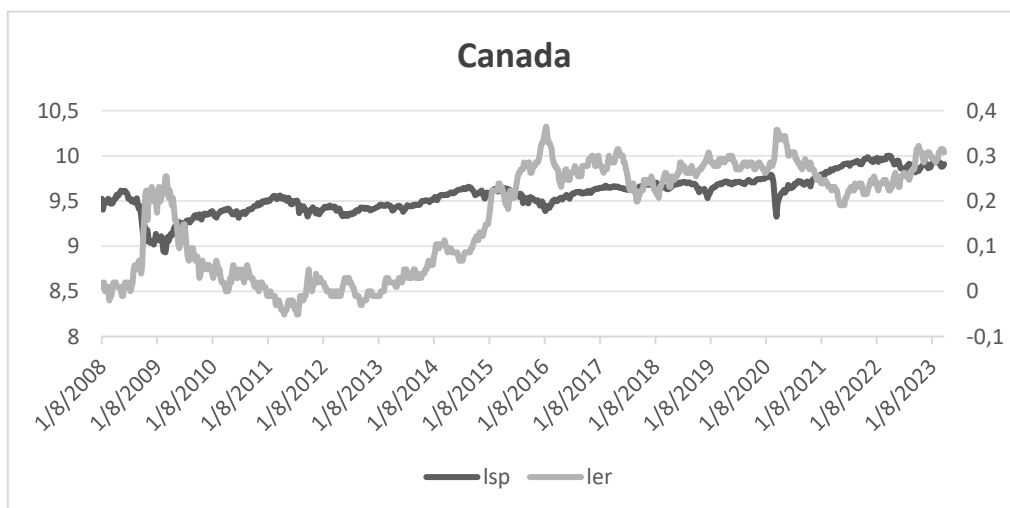


Figure 1 (d): Trends in logarithm of stock prices and exchange rates for Canada

Source: Authors' own elaboration

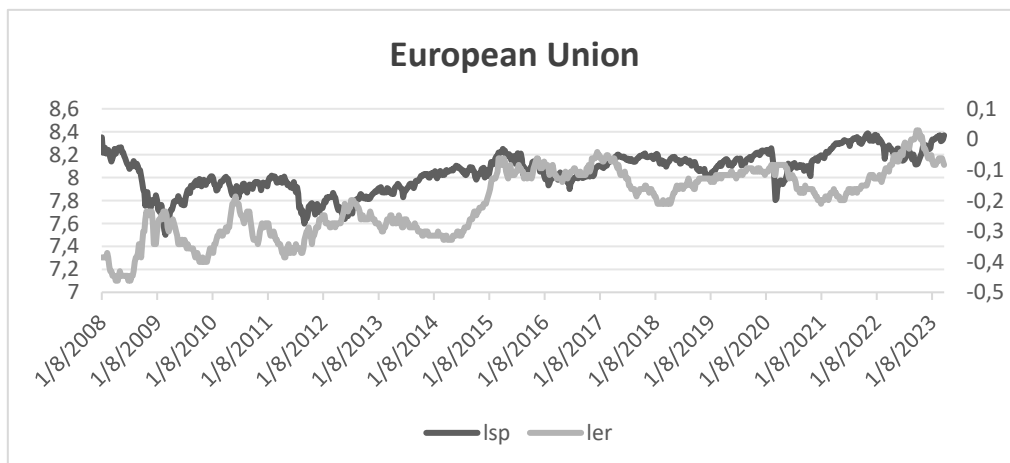


Figure 1 (e): Trends in logarithm of stock prices and exchange rates for European Union

Source: Authors' own elaboration

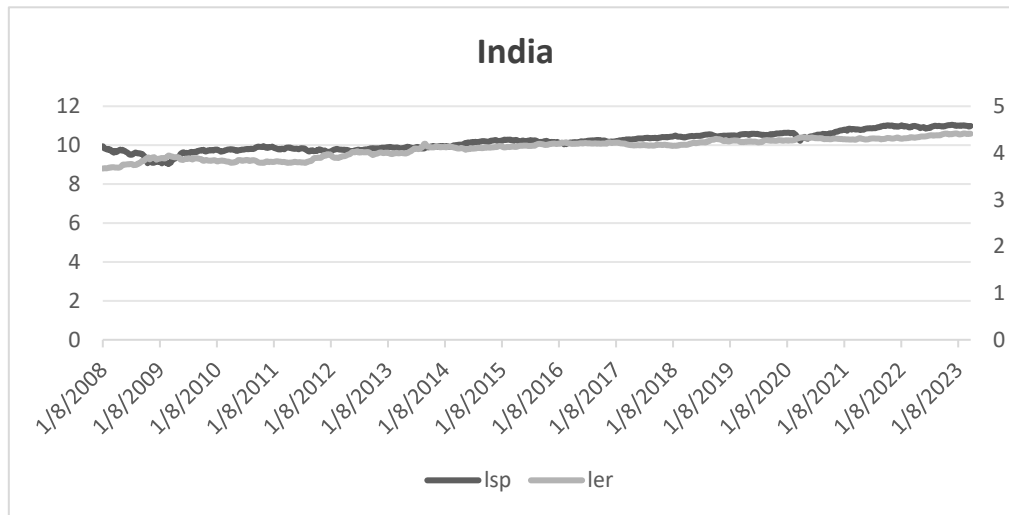


Figure 1 (f): Trends in logarithm of stock prices and exchange rates for India

Source: Authors' own elaboration

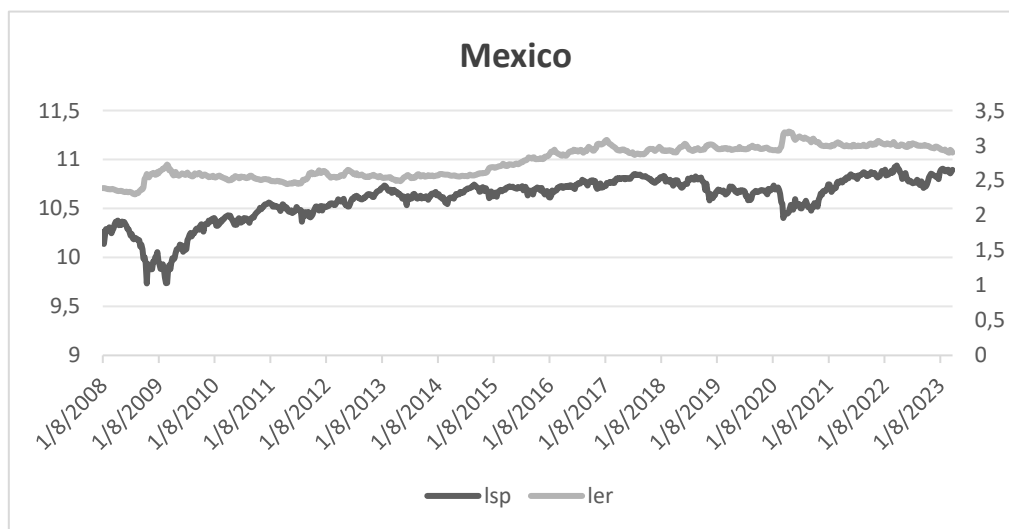


Figure 1 (g): Trends in logarithm of stock prices and exchange rates for Mexico

Source: Authors' own elaboration

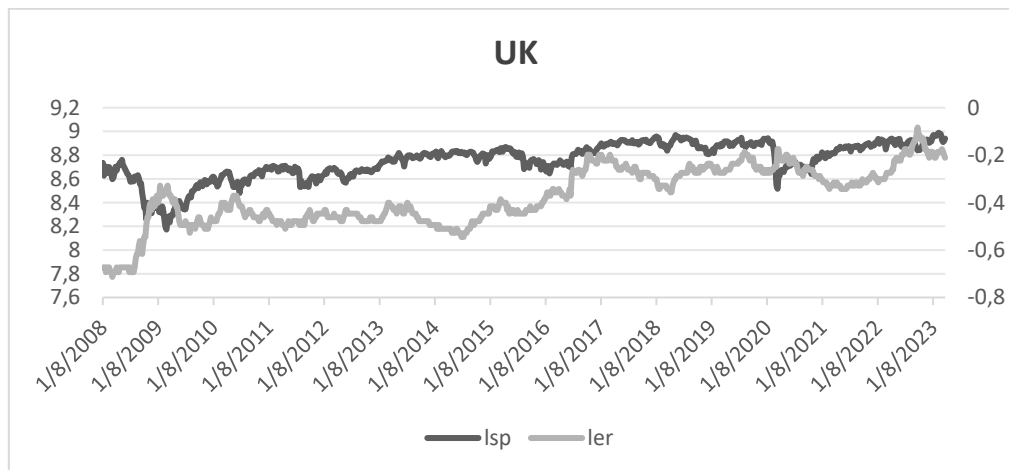


Figure 1 (h): Trends in logarithm of stock prices and exchange rates for UK
Source: Authors' own elaboration

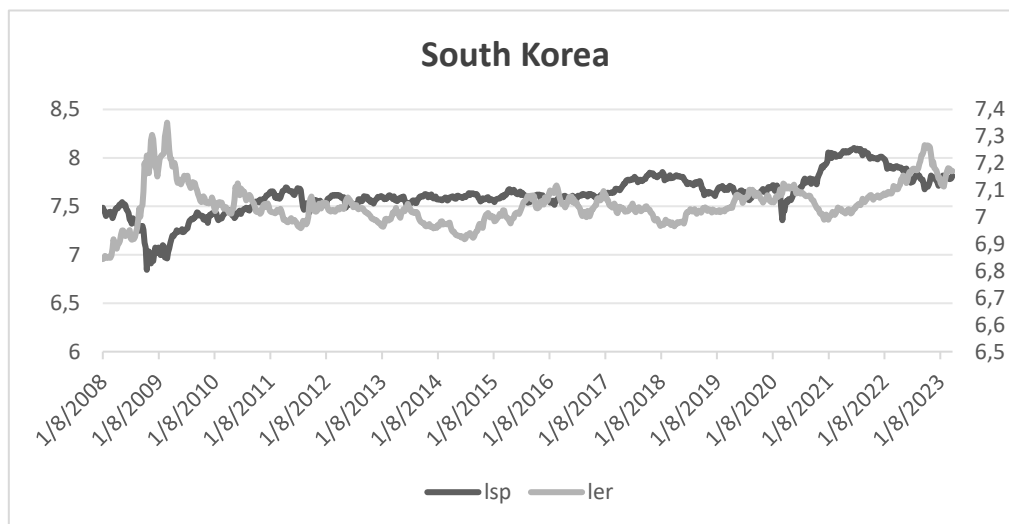


Figure 1 (i): Trends in logarithm of stock prices and exchange rates for South Korea
Source: Authors' own elaboration

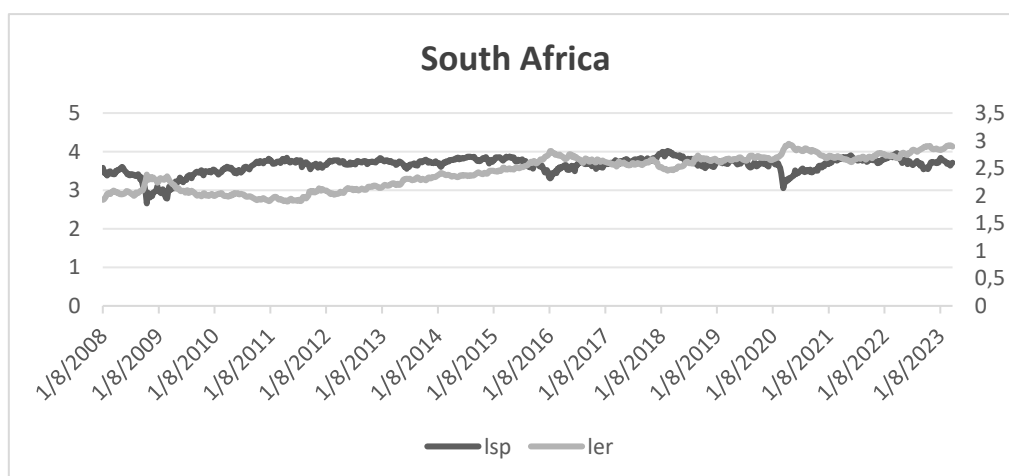


Figure 1 (j): Trends in logarithm of stock prices and exchange rates for South Africa

Source: Authors' own elaboration

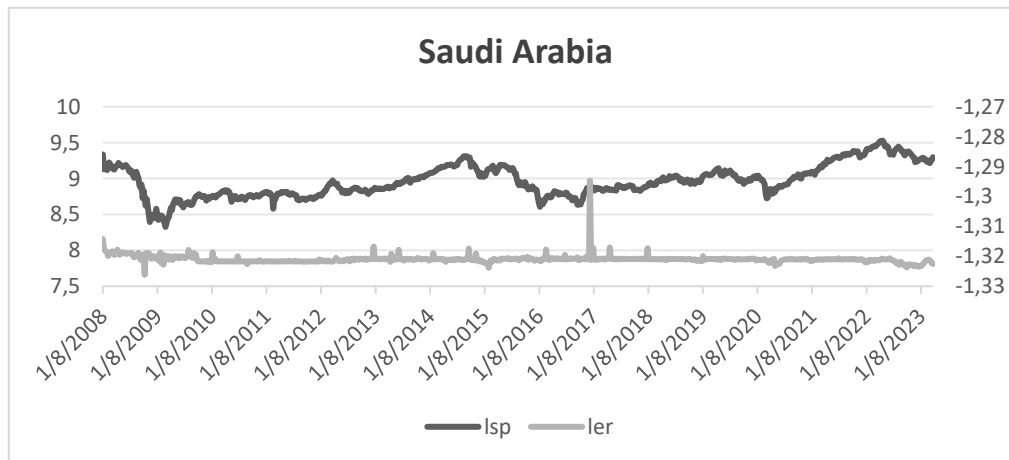


Figure 1 (k): Trends in logarithm of stock prices and exchange rates for Saudi Arabia

Source: Authors' own elaboration

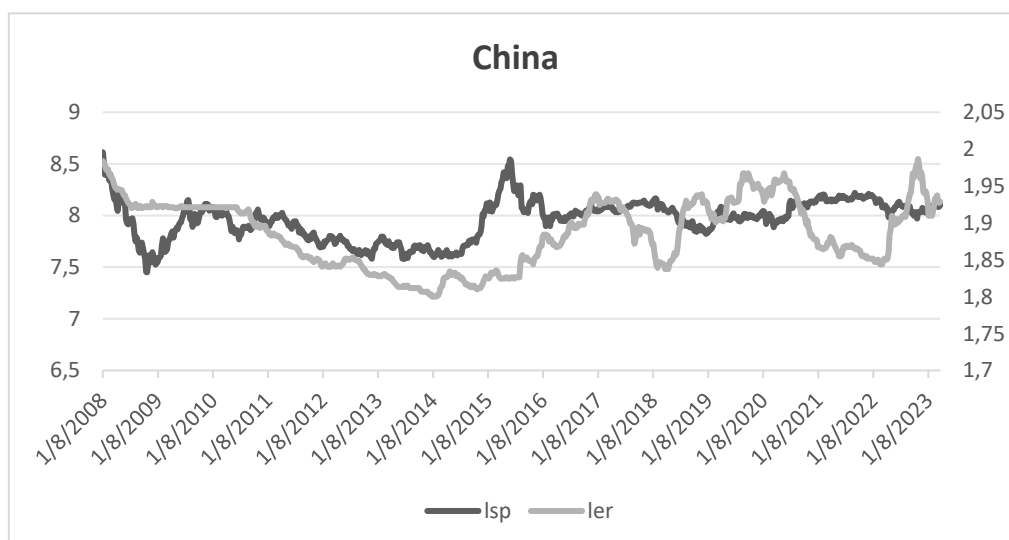


Figure 1 (l): Trends in logarithm of stock prices and exchange rates for China

Source: Authors' own elaboration

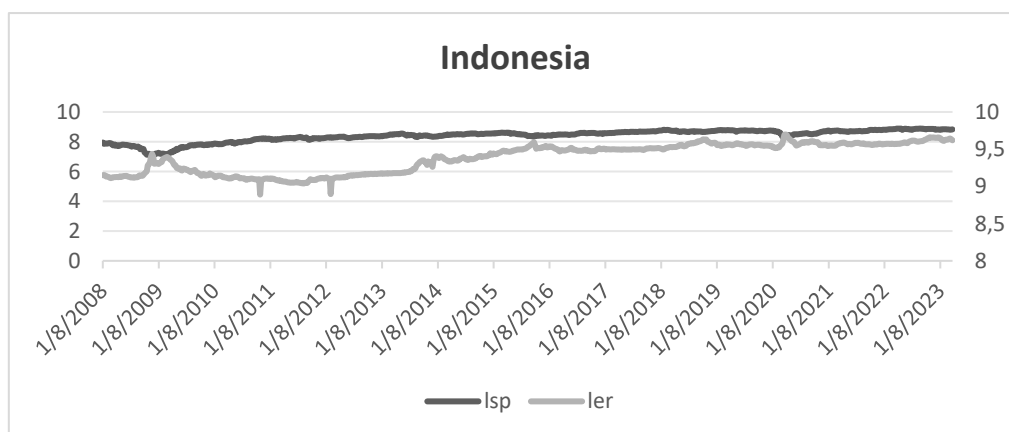


Figure 1 (m): Trends in logarithm of stock prices and exchange rates for Indonesia

Published by:

Source: Authors' own elaboration

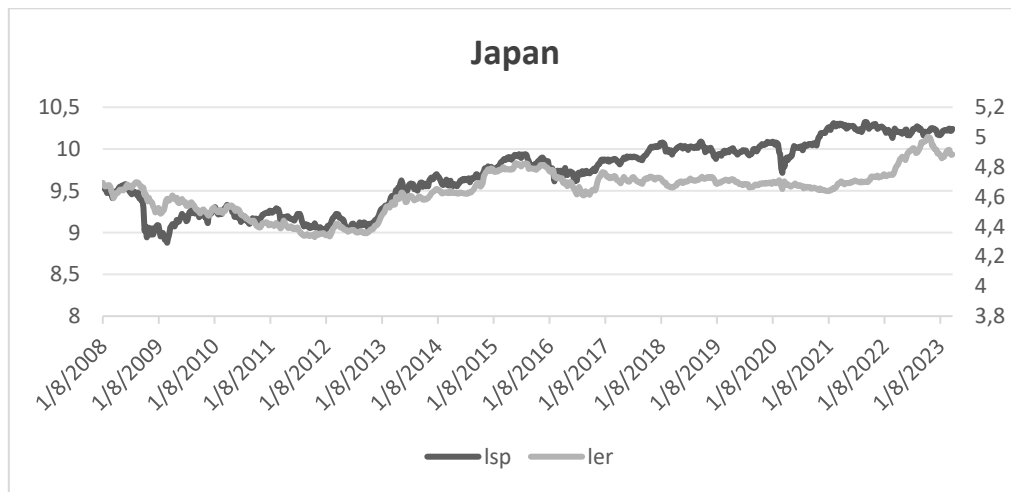


Figure 1 (n): Trends in logarithm of stock prices and exchange rates for Japan

Source: Authors' own elaboration

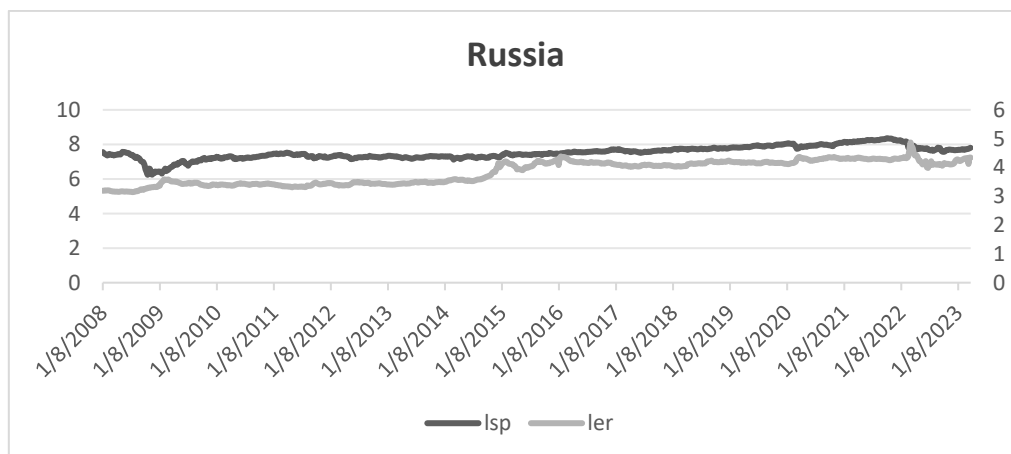


Figure 1 (o): Trends in logarithm of stock prices and exchange rates for Russia

Source: Authors' own elaboration

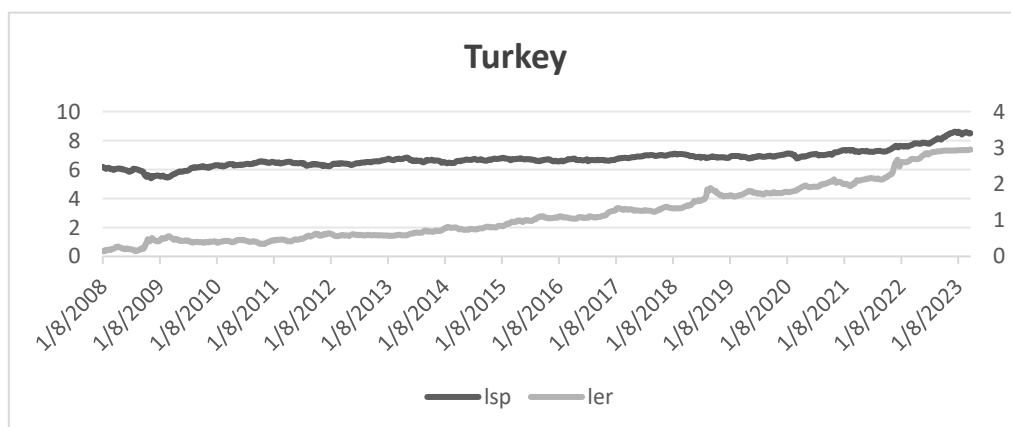


Figure 1 (p): Trends in logarithm of stock prices and exchange rates for Turkey

Published by:

Source: Authors' own elaboration

3.3. Econometric Methodology

An important element of panel data econometrics estimation is the examination of the cross sectional dependence (CSD) in the variables (Hsiao, 2014). So . Another vital component of macro panel data analysis is the examination of the stationarity properties of variables (Baltagi & Kao, 2000). For this purpose, in the second step, we estimate (Westerlund, 2007) unit root tests that are robust to the presence of CSD in panel data. Based on the results of earlier two steps, this study utilizes second generation panel cointegration test, viz. (Westerlund, 2007) test to confirm the presence of cointegrating relationship between the stock markets and exchange rate markets of G20 countries. This test uses error correction model and yields four statistics that are robust to the presence of CSD in the panel data. The last step involves estimation of the ARDL(1,1) model, i.e. estimation of long run and short run cointegrating relation between the stock markets and exchange rate markets of G20 countries, using pooled mean group (PMG) estimator developed by Pesaran et al. (1999). We use mean group (MG) estimator and dynamic fixed effects (DFE) estimator to check the robustness of our results.

3.4. Empirical model

This study follows (Pesaran et al., 1999) to construct the empirical model. The base model, i.e. ARDL(1,1) model between the stock price of country i ($i=1,2,\dots,N$) at time period t ($t = 1, 2, \dots, T$) is written as follows:

$$lsp_{it} = \alpha_{0,i} + \alpha_{1,i}lsp_{it-1} + \alpha_{2,i}ler_{it} + \alpha_{3,i}ler_{i,t-1} + \epsilon_{it} \quad (1)$$

where lsp is the log of stock price, ler is the log of exchange rate, the long run elasticities are given by α_1 , α_2 and α_3 , and ϵ_{it} is the white noise error term. The corresponding short run model between the stock prices and exchange rate as illustrated in Lee and Wang (2015) is given as follows:

$$\Delta lsp_{i,t} = \phi_i(lsp_{i,t-1} - \theta_{1i}ler_{it}) - \alpha_{3i}\Delta ler_{it} + \alpha_{0,i} + \epsilon_{it} \quad (2)$$

where $\Delta lsp_{i,t}$ is the stock market return, Δler_{it} is the exchange rate return, $\phi_i = - (1 - \alpha_{1,i})$ is the error correction coefficient. If there is cointegration between the stock prices and exchange rate, ϕ_i is negative and significant. $\theta_{1i} = \frac{\alpha_{2,i} + \alpha_{3,i}}{1 - \alpha_{1,i}}$ is the long run coefficient and $-\alpha_{3i}$ signifies the existence of short run relationship between the stock market and the exchange rate market. The signs of θ_{1i} and $-\alpha_{3i}$ are ambiguous. According to the flow oriented model (Dornbusch et al., 1980), stock prices can move in same or opposite direction in response to the changes in exchange rate. Further, (Y. M. Lee & Wang, 2015) advocates that a positive and significant θ_{1i} rationalizes the traditional approach whereas a negative and significant θ_{1i} supports the portfolio approach.

(Pesaran et al., 1999) suggests two different estimators to estimate equation (2), viz. PMG estimator and MG estimator. These estimators are consistent when T and N are large. In PMG estimator, while the coefficients θ_{1i} are constrained to be equal, the short run coefficients ϕ_i are allowed to differ across all cross sections. In the MG estimator, the coefficients are

calculated from the unweighted average of the unconstrained, fully heterogenous model. Another related estimator is dynamic fixed effects (DFE), where all estimators except the intercepts are constrained to be the same across all panels. We also conduct the Hausman test to test the presence of cross-sectional heterogeneity. Failure to reject the null hypothesis in this test indicates the superiority of the PMG estimator over the MG estimator.

4. Result and Discussion

The preliminary tests of cross-sectional dependence and unit roots are shown in Table 2. We find that the null hypothesis of cross-sectional independence is rejected for the stock prices and exchange rate series (at both levels and the first difference). Given the presence of cross-sectional dependence in the data, we tested for the presence of unit roots in the data using second generation unit root tests, viz., (Breitung & S. Das., 2005; Hadri, 2000). Table 2 shows the presence (absence) of a unit root in stock price and exchange rate levels (first differences), i.e. both the series are I(1).

Table 2. Cross Sectional Dependence and Unit Root Test

Variable	sp (log(stock price))	ler (log(exchange rate))	spr (stock price returns)	err (exchange rate returns)
Pesaran CD test	226.629***	190.086***	115.009***	73.336***
Breitung Test	-0.3813	1.4667	-40.2607***	47.7739***
Hadri Test	433.0603***	616.3428***	-0.8607	0.0689

Source: Authors' own estimation

The next step is to test the presence of long run comovement between the stock prices and exchange rate of G20 countries. As our results show cross sectional dependence, we use second generation cointegration test, viz. (Westerlund, 2007) test. All the four statistics of this test given in Table 3 show that the null hypothesis of no cointegration is rejected at 1% level of significance. This implies existence of long run comovement between the stock prices and the exchange rates of G20 nations. The last step involves estimation of the long run cointegrating relation and the short run relationship between stock prices and exchange rate (i.e. equation (2)) using PMG, MG and DFE estimators. The results of all these estimators are given in Table 3.

Table 3. Westerlund Panel Cointegration Test

Statistic	Value	Z-value	p-value	Robust p-value
Gt	-3.08	-3.513	0.000	0.000
Ga	18.043	-3.548	0.000	0.010
Pt	-11.613	-3.617	0.000	0.010
Pa	-15.346	-4.184	0.000	0.010

Source: Authors' own estimation

The results of the ARDL(1,1) model using PMG estimator presented in Table 4 reveal that the coefficient of error correction is negative and significant at 1% significance level. This indicates existence of stable and converging long run relationship between the stock markets and exchange rate markets of G20 countries. The long run coefficient θ_{1i} is positive and significant, indicating that the stock markets and exchange rate markets of G20 nations are

positively correlated. This result can be explained using the flow-oriented model. According to this model, a depreciation (appreciation) of domestic currency vis-a-vis foreign currency causes an increase (decrease) in trade competitiveness, higher (lower) exports, and profits of an export-oriented firm, leading to an increase (decrease) in share prices.

Table 4. Estimation Results of Dynamic Panel Model

Dependent Variable: spr (Stock market returns)

Methods	PMG	MG	Hausman Test	DFE
Error Correction effect (Coefficient) φ_i	-.0130*** (0.0018)	-.0153*** (0.002)	H0: PMG H1: MG Chi-square Statistic	-.0105*** (0.0011)
Long-run effect (Coefficient) - θ_{1i}	1.0182*** (0.082)	0.9688*** (0.1572)	0.13 [0.7139]	1.2491*** (0.0776)
Short-run effect (Coefficient) - α_{3i}	-.2922** (0.1439)	-.2947** (0.1435)		-.2530*** (0.0193)
Constant	.0859*** (0.0174)	.0954*** (0.0199)		.0590*** (0.0076)
Country number	16	16	16	16
Observation	12720	12720	12720	12720

Notes: The parenthesis (.) is standard deviation; [.] is P-value; *** and **denotes significance at 1% level and 5% respectively.

Source: Author's own estimation

However, the coefficient, $-\alpha_{3i}$, is negative and significant at 1% significance level indicating the negative correlation between the exchange rate returns and equity market returns of G20 countries in the short run. Flow oriented theory illustrates this negative correlation between the equity market and the exchange rate market for a less export oriented firm. As per this theory, for a less export oriented firm, a depreciation (appreciation) of domestic currency vis-a-vis foreign currency causes higher (lower) cost of imports, lower (higher) expected cash flows payments and share prices. Further, (Y. M. Lee & Wang, 2015) advocates portfolio approach

for explaining this negative correlation between the two variables. According to the theory, “rising stock prices cause higher demand for a country’s assets and, consequently, higher demand for domestic currency, which leads to the appreciation of the domestic currency”. The MG and DFE estimation results shown in Table 4 provide similar conclusions regarding the short run and long run interconnectedness between the equity market and exchange rate markets of G20 countries. The results of the Hausman test presented in Table 4, show that the null hypothesis of homogeneity among the cross sections cannot be rejected and therefore PMG estimator is preferred over the MG estimator.

5. Conclusion

This article examines the dynamics of cointegrating relation between the stock markets and exchange rate markets of G20 countries. For this purpose, this study uses weekly panel data of 16 countries from January 2008 to March 2023 and panel ARDL (1,1) model. (Westerlund, 2007) cointegration test statistics suggests existence of long -run cointegrating relation between stock prices and exchange rates of G20 countries. Further, the empirical results of PMG estimator also extend support to positive and stable cointegration in the long-run for G20 countries which is consistent with the results of the traditional approach. On the other hand, these variables are negatively related in the short-term supporting the results of the portfolio approach. Thus, the connection between the stock markets and exchange rate markets of G20 economies can be explained through the long run and short run adjustments (Y. M. Lee & Wang, 2015).

These results are useful for stock market investors, hedgers and, the policy decisions of G20. The findings of this study indicate the complex dynamic relationship between stock markets and exchange rates, particularly in G20 nations. The robust positive long-term correlation and the short-term negative association exhibit the differential impacts of macroeconomic variables over varying time horizons. The long term association supports the success of G20 nations progressing together but short run results open ample diversification opportunities in the short term within these countries. This research offers valuable insights for investors and policymakers to devise informed and strategic economic interventions.

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Analysis of Banking Risk Effect on The Profitability of Islamic Commercial Banks in Indonesia

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Abstract

This research aims to analyze the effect of banking risk consisting of credit risk, liquidity risk and operational risk on banking profitability. Credit risk is proxied by Net Performing Finance (NPF), liquidity risk is proxied by Finance to Deposit Ratio (FDR), and operational risk is proxied by Operating Expenses and Operating Income (BOPO), while Net Returns measure profitability. The method used is panel data analysis with the Gretl application using data from Islamic Commercial Banks in Indonesia that meet specific criteria. The data observation period is from quarter 4 of 2013 to quarter 3 of 2023, so there are 200 observations. The research results show that credit risk and operational risk significantly negatively affected profitability, while liquidity risk had no effect. This research implies that Islamic banking should channel the funds that have been successfully collected to be distributed to debtors, especially those operating on an MSME scale so that the level of banking liquidity risk can be more stable and prospect to have an impact on increasing banking profitability.

Keywords: NPF, FDR, BOPO, Net Reward

JEL Codes: M10, M54, F31

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1. Introduction

In most countries, especially developing countries, banks play an important role in financing the economy and driving economic growth (Djebali & Zaghdoudi, 2020). However, the role of Islamic banking in Indonesia is still relatively small in the Indonesian economy when compared to conventional banking. Meanwhile, Islamic banking is mean to be superior compared to conventional banking operations, due to Islamic banking guarantees the implementation of justice values for economic actors, and definitely the fulfillment of sharia values (Munandar, 2020).

The recent data showed that the percentage of the market share of Islamic banking is 7.09%, while 92.91% is controlled by conventional banking (OJK, 2022). Is there a minimal role for Islamic banking in relation to the profitability of Islamic banking companies? Meanwhile, the bank's profitability capability has a significant impact on the growth and development of Islamic banking (Fatmawati & Hakim, 2020).

Banking profitability can be seen from the Net Interest Margin (Angraini & Prastiwi, 2020; Căpraru & Ihnatov, 2014; Cheng et al., 2020; Islam & Shohel Rana, 2019; Mbekomize & Mapharing, 2017), because the higher this ratio indicates the higher the banking profitability (Hidayat et al., 2021). NIM in conventional banking is called Net Reward in Islamic banking (Nurdiani et al., 2023). Net Balance is a ratio used to measure bank performance in generating profits (Surat Edaran Otoritas Jasa Keuangan Nomor 10/SEOJK.03/2014, 2014).

The following figure shows the level of profitability of Islamic Commercial Banks in Indonesia with the Net Return indicator.

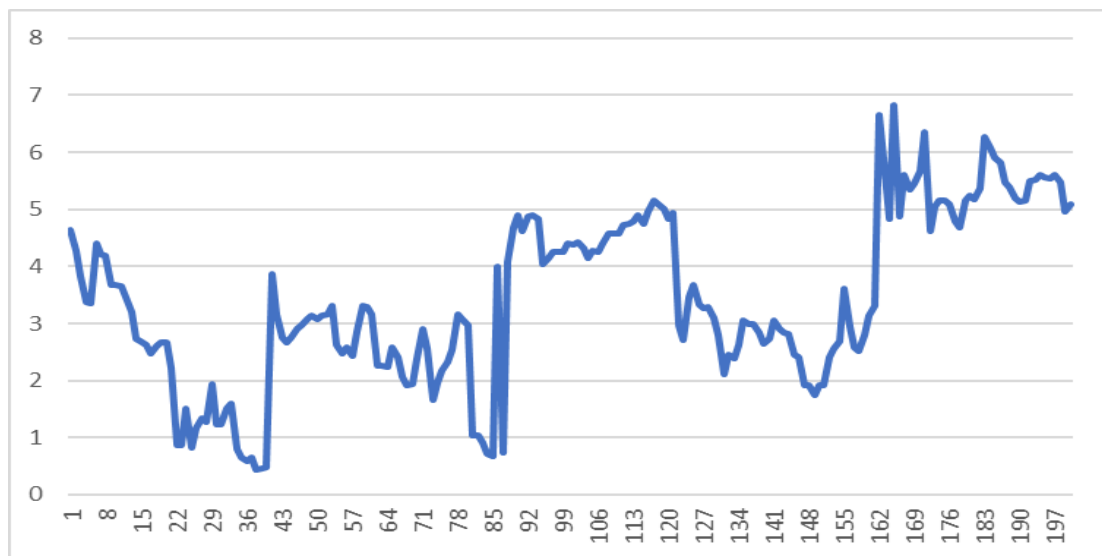


Figure 1. Quarterly Profitability of Islamic Commercial Banks in Indonesia
for the Period 2015 – 2023

The figure above shows the profitability of Islamic Commercial Banks in Indonesia in a decade, where several Islamic Commercial Banks depicted in the display are Quarterly Net Rewards data from Bank Muamalat, Bank Bukopin Syariah, Bank BCA Syariah, Bank Victoria Syariah and Bank BJB Syariah. In Figure 1, it can be seen that the Net Rewards of Islamic Commercial Banks fluctuate, which indicates an unstable Net Rewards level and tends to decline in recent years.

Profitability and risk is side by side and in line in the banking business (Gargouri & Boujelben, 2014). Banking profitability is generally influenced by the risks faced by banking sector companies. In banking companies there are several risks, including credit risk, liquidity risk (Hunjra et al., 2022) and operational risk (Sunaryo et al., 2021) which can affect banking profitability (Fahrul & Rusliati, 2016; My & Quoc, 2022; Roy & Bandopadhyay, 2022).

As in previous research, in this study credit risk is proxied by Non Performing Finance (NPF)

(Damanhur et al., 2018; Priyadi et al., 2021; Syamlan & Jannah, 2019). Credit risk can have a negative effect on the profitability of banking companies, this statement in accordance with previous research which proved that there was a negative and significant relationship between the credit ratio and profitability (Eko Muliansyah & Nurmala, 2023; Menicucci & Paolucci, 2016; Oluwaseyi Ebenezer et al., 2016; Purbaningsih & Fatimah, 2018; Rinofah et al., 2022). However, other studies proved that credit risk had no effect on banking profitability (Fahrul & Rusliati, 2016).

Liquidity risk is proxied by Finance to Deposit Ratio (FDR) (Sutrisno & Panuntun, 2023; Syamlan & Jannah, 2019). Prior research results proved that liquidity risk had an impact on banking profitability (Eko Muliansyah & Nurmala, 2023; Saleh & Abu Afifa, 2020). However, there is inconsistency in the research results, where other research results prove that liquidity risk did not affect the profitability of banking companies (Krisna Aji & Suria Manda, 2021; Pracoyo & Imani, 2018; Syarif Alamsyah et al., 2022).

The results of prior research show that there was a positive and significant relationship between operational risk and banking profitability (Sunaryo et al., 2021). Meanwhile, the results of other studies proved that operational risk had a significant negative effect on profitability (Capriani & Dana, 2019; Sukma et al., 2019).

The purpose of this study is to analyze the effect of banking risk on profitability. Banking risk in this study consists of credit risk proxied by Non Performing Financing (NPF), liquidity risk proxied by Financing to Deposit Ratio (FDR) and operational risk proxied by Operating Expenses Operating Income (BOPO). There had been many studies that analyzed the relationship or influence of the above banking risks on profitability, but the use of Islamic banking profitability indicators using Net Rewards has almost never been done.

2. Literature Review

2.1 Islamic Banking

Islamic banks or in Indonesia called sharia banks are financial institutions that function to facilitate economic mechanisms in the real sector through business activities (investment, buying and selling, or others) based on sharia principles, namely agreement rules based on Islamic law between banks and other parties for the storage of funds and/or financing of business activities, or financing of business activities, or activities that are stated to be in accordance with sharia values that are macro and micro in nature (Ascarya, 2013).

Islamic Bank is an intermediary institution and financial service provider that works based on Islamic ethics and value systems, especially those that are free from interest (riba), free from non-productive speculative activities such as gambling (maysir), free from unclear and doubtful things (gharar), based on the principle of justice, and only finances halal business activities. Islamic Bank is often equated with interest-free bank. Interest-free bank is a narrower concept than Islamic bank, when a number of its instruments or operations are interest-free. Islamic Bank, in addition to avoiding interest, also actively participates in achieving the goals and objectives of Islamic economics that are oriented towards social welfare (Rivai & Arifin, 2010).

According to Law Number 10 of 1998 concerning Banking, it is explained that Banking is everything related to banks, including institutions, business activities, and methods and processes in carrying out its business activities. While a Bank is a business entity that collects funds from the public in the form of savings and distributes them to the public in the form of credit and/or other forms in order to improve the standard of living of the people.

According to Law Number 21 of 2008 concerning Islamic Banking, an Islamic Bank is a bank that carries out business activities based on sharia principles, or Islamic legal principles regulated in the fatwa of the Indonesian Ulema Council such as the principles of justice and balance ('adl wa tawazun), welfare (maslahah), universalism (alamiyah), and does not contain gharar, maysir, usury, zalim and forbidden objects.

2.2 Banking Profitability

Profitability is a company's ability to generate profits during a certain period (Yunita, 2016). Profitability, also known as the rentability ratio, is used to measure the level of business efficiency and profitability achieved by the bank itself (Kasmir, 2014: 327), or bank profitability is a ratio used to measure a bank's ability to generate profits from its normal business activities (Hery, 2015: 226).

Company profitability can be known from Net Interest Margin (Angraini & Prastiwi, 2020; Căpraru & Ihnatov, 2014; Cheng et al., 2020; Islam & Shohel Rana, 2019; Mbekomize & Mapharing, 2017), because the higher this ratio indicates the higher the banking profitability (Hidayat et al., 2021). NIM in conventional banking is called Net Reward in Islamic banking (Nurdiani et al., 2023).

NI or Net Rewards is a ratio used to understand the ability of a bank's productive assets to generate profits or returns by comparing operational income minus the average rewards and bonuses for productive assets (Awintasari & Maulida Nurhidayati, 2021).

According to the Circular Letter of the Financial Services Authority (OJK) Number 10/SEOJK.03/2014 Net Rewards are measured by comparing the Income from Fund Distribution After Profit Sharing minus rewards and bonuses with the Average Total Productive Assets. Income from fund distribution includes all income from fund distribution, while the return expense includes all profit sharing expenses, rewards, and bonuses from fund collection. The productive assets that are calculated are assets that generate profit sharing, rewards, and bonuses both on the balance sheet and on the TRA.

2.3. Banking Risk

In banking companies there are several risks, including credit risk (Abbas & Ali, 2022), liquidity risk (Hunjra et al., 2022) and operational risks (Sunaryo et al., 2021) which can affect banking profitability (Fahrul & Rusliati, 2016; Roy & Bandopadhyay, 2022). Maintaining the level of banking risks such as credit risk and liquidity risk is very important for the stability of banking companies (Djebali & Zaghdoudi, 2020).

2.4. Credit Risk

Credit risk arises from the possibility of default by the debtor—that is, the promised cash flows on the underlying securities held by the bank may not be paid in full (How et al., 2005). Credit risk is proxied by Non Performing Finance (NPF) (Damanhur et al., 2018; Priyadi et al., 2021; Syamlan & Jannah, 2019).

Non Performing Finance (NPF) is one of the performance assessment instruments of a sharia bank which is an interpretation of the assessment of productive assets, especially in the assessment of problematic financing (Popita, 2013). Non Performing Financing (NPF) is a ratio that compares total problem loans to total loans distributed in percentage form. (Rosidah, 2018), in this study, credit in conventional banks is equated with financing in Islamic banks. NPF is a ratio used to measure the level of efficiency of a bank's ability to run its operations. The higher

this ratio, the worse the level of efficiency of Islamic banks (Sitompul & Nasution, 2019).

In this study, NPF is divided into two types, namely Gross NPF and Net NPF. According to Bank Indonesia Regulation Number 6/10/PBI/2004, Financing that falls into the special attention, substandard, doubtful and problematic categories is called gross NPF, while net NPF is financing that falls into the substandard, doubtful and problematic categories.

2.5. Liquidity Risk

Liquidity risk is the risk resulting from the bank's inability to meet maturing obligations from cash flow funding sources and/or from high-quality liquid assets that can be pledged, without disrupting the Bank's activities and financial condition (Peraturan Otoritas Jasa Keuangan Nomor 65 /POJK.03/2016 Tentang Penerapan Manajemen Risiko Bagi Bank Umum Syariah Dan Unit Usaha Syariah, 2016). Liquidity risk is the risk that arises due to the bank's inability to fulfill its obligations when they fall due (Ghenimi et al., 2021).

Banks are highly vulnerable to liquidity risk (Arif & Nauman Anees, 2012; Saleh & Abu Afifa, 2020). High liquidity in banking companies will increase the company's profitability (Rahman et al., 2015), while banking liquidity risk will have a negative impact on the company's profitability level (Abdelaziz et al., 2022).

Liquidity risk is proxied by Finance to Deposit Ratio (FDR) (Sutrisno & Panuntun, 2023; Syamlan & Jannah, 2019). FDR is a ratio used to measure a bank's ability to pay its short-term debts and repay its depositors (Sihotang, 2021), and fulfill credit requests submitted by the public in a timely manner (Pravasanti, 2018). FDR is a ratio to measure the amount of financing provided compared to the amount of funds received by the bank (Pudyastuti, 2018).

2.6. Operational Risk

Operational Risk is the risk resulting from inadequacy and/or non-functioning of internal processes, human error, system failure, and/or external events that affect the Bank's operations (Peraturan Otoritas Jasa Keuangan Nomor 18 /POJK.03/2016 Tentang Penerapan Manajemen Risiko Bagi Bank Umum, 2016). Banking operational efficiency is indicated by operational risk in the proxy with BOPO (Budianto & Dewi, 2023; Eko Muliansyah & Nurmala, 2023; Siregar & Pujiono, 2021). BOPO is a ratio used to measure the level of efficiency and ability of a bank to carry out its operational activities (Fadhilah & Suprayogi, 2019).

2.7. The Relationship between Variables and Research Hypothesis

Credit risk arises from the possibility of default by the debtor as indicated by the NPF ratio. The NPF ratio shows the percentage of problematic financing when compared to the total financing distributed by the bank. Previous research shows that NPF has a negative effect on banking profitability (Eko Muliansyah & Nurmala, 2023; Menicucci & Paolucci, 2016; Oluwaseyi Ebenezer et al., 2016; Purbaningsih & Fatimah, 2018; Rinofah et al., 2022). This means that the higher the NPF ratio will indicate the greater the risk of non-performing loans faced by the bank, which will have a negative impact on the bank's profitability level. Meanwhile, the profitability of Islamic banking can be measured by the NI ratio. (Surat Edaran Otoritas Jasa Keuangan Nomor 10/SEOJK.03/2014, 2014). Based on this, the following hypothesis is constructed:

H_{1 a} : NPF Gross have negative impact on NI

H_{1 b} : NPF Net have negative impact on NI

Liquidity risk shows the ratio used to measure a bank's ability to pay its short-term debts and repay its depositors. Liquidity risk in Islamic banking is measured by FDR. The FDR ratio shows the amount of financing distributed from the total third-party funds that have been collected. By distributing financing to the community, it is expected to obtain a return in the form of profit that has been targeted by the bank. Previous research shows that liquidity risk has an effect on banking profitability (Eko Muliansyah & Nurmala, 2023; Saleh & Abu Afifa, 2020). Based on this, the following hypothesis is constructed:

H₂ : FDR have negative impact on NI

Operational risk is a ratio used to measure the level of efficiency and ability of a bank in carrying out its operational activities. Operational risk is measured by BOPO. BOPO is the ratio between operational costs and operational income obtained by the bank. Previous research has shown that operational risk has a significant negative effect on profitability (Capriani & Dana, 2019; Sukma et al., 2019). This means that the higher the BOPO ratio, the lower the banking profitability because the operational costs incurred are getting higher. Based on this, the following hypothesis is constructed:

H₃ : BOPO have a negative impact on NI

3. Research Method

3.1 Research Design

This research is quantitative research, with the object of research being the financial performance ratio of Islamic Commercial Banks registered with the Financial Services Authority (OJK). The method used in determining the sample is the purposive sampling method, where the specified criteria are Islamic Commercial Banks that publish quarterly financial reports in a decade so that the sampling period is calculated from the 4th quarter of 2013 to the latest data, namely the 3rd quarter of 2023. Based on these criteria, five Islamic Commercial Banks were selected, namely Bank Muamalat. Bank Bukopin Syariah, Bank BCA Syariah, Bank Victoria Syariah and Bank BJB Syariah. Thus, there are 200-panel data analyzed using the Gretl application

3.2 Panel Data Estimation Model

The first step in conducting panel data analysis is to determine the most appropriate estimation model, namely the Common Effect Model, Fixed Effect Model, and Random Effect Model. To find out the appropriate estimation model, the Chow test, the Lagrange multiplier test, and the Hausman test must be carried out.

The Chow test is conducted to determine the most appropriate model between the common effect model and the fixed effect model. The significant value $\alpha = 5\%$, if the value of $p < 5\%$ then the null hypothesis will be rejected and the decision fixed effect is the best model to use (Gujarati & Porter, 2012).

The Breusch-pagan test is a test used to compare the common effect model with the random effect model. The significant value $\alpha = 5\%$ if the value of $p < 5\%$, then the null hypothesis will be rejected and the random effect is the best model to use (Gujarati & Porter, 2012).

The Hausman test compares fixed effect and random effect models to determine the best model to use as a regression model on panel data. The significant value $\alpha = 5\%$ if the value of $p < 5\%$ then the null hypothesis will be rejected and fixed effect is the best model to use (Gujarati & Porter, 2012).

3.3 Research Variables Operationalization

Banking profitability is measured by Net Rewards. NI or Net Rewards is a ratio used to understand the ability of a bank's productive assets to generate profits or gains by comparing operating income minus the average rewards and bonuses of productive assets (Awintasari & Maulida Nurhidayati, 2021). NI can be measured using the following formula:

$$NI = \frac{\text{Income from Fund Distribution After Profit Sharing} - (\text{Rewards and Bonuses})}{\text{Average Productive Assets}}$$

(Source: (Surat Edaran Otoritas Jasa Keuangan Nomor 10/SEOJK.03/2014, 2014)

The NI criteria based on OJK Regulation Number 8/POJK.03/2014 are: $NI \geq 10\%$ = “very healthy”; $8\% \leq NI < 10\%$ = “healthy”; $6\% \leq NI < 8\%$ = “quite healthy”; $4\% \leq NI < 6\%$ = “less healthy”; $NI < 4\%$ = “not healthy”.

Credit risk is measured by Non Performing Finance (NPF). Non Performing Financing (NPF) is a ratio that compares total problem loans to total loans distributed in percentage form (Rosidah, 2018). NPF can be measured using the following formula:

$$NPF \text{ Gross} = \frac{\text{The amount of bad financing}}{\text{Total Financing}} \quad (\text{Source: OJK, 2023a})$$

$$NPF \text{ Net} = \frac{\text{The amount of bad financing} - \text{CKPN for the amount of bad financing}}{\text{Total Financing}}$$

(Source: OJK, 2023a)

Kriteria NPF based on SEBI No. 13/ 24/ DPNP/2011 are: $NPF < 2\%$ = “very healthy”; $2\% \leq NPF < 5\%$ = “healthy”; $5\% \leq NPF < 8\%$ = “quite healthy”; $8\% \leq NPF < 12\%$ = “less healthy”; $NPF \geq 12\%$ = “not healthy”.

Liquidity risk is measured by FDR, where this ratio measures the amount of financing provided compared to the amount of funds received by the bank. The FDR formula is as follows:

$$FDR = \frac{\text{Total Financing to Non-Bank Third Parties}}{\text{Total Third Party Funds}} \quad (\text{Source: OJK, 2023a})$$

FDR Criteria based on Bank Indonesia Circular Letter No.6/ 23/ DPNP 2004 are: $FDR \leq 75\%$ = “very healthy”; $75\% < FDR \leq 85\%$ = “healthy”; $85\% < FDR \leq 100\%$ = “quite healthy”; $100\% < FDR \leq 120\%$ = “less healthy”; $FDR > 120\%$ = “not healthy”.

Operational risk is measured by BOPO. BOPO is a ratio used to measure the level of efficiency and ability of a bank in carrying out its operational activities. The BOPO formula is as follows:

$$BOPO = \frac{\text{Total Operating Expenses}}{\text{Total Operating Income}} \quad (\text{Source: OJK, 2023a})$$

BOPO criteria based on OJK Regulation Number 8/POJK.03/2014 are: $BOPO \leq 94\%$ = “very healthy”; $94\% < BOPO \leq 95\%$ = “healthy”; $95\% < BOPO \leq 96\%$ = “quite healthy”; $96\% < BOPO \leq 97\%$ = “less healthy”; $BOPO > 97\%$ = “not healthy”.

4. Result and Discussions

4.1 Descriptive Statistic

Table 1. Statistics Data

Variable	Mean	Median	S.D.	Min	Max
NPFGross	4,80	4,35	4,15	0,100	22,3
NPFNet	2,68	3,00	1,89	0,000	13,5
FDR	88,8	89,8	19,5	38,3	197
BOPO	97,0	96,4	13,3	71,2	180
NI	3,43	3,17	1,48	0,440	6,83

Source: Gretl application, 2024

The table above shows that the Gross NPF is 4.8% on average, indicating that almost 5% of the total financing is problematic or bad financing. This figure still shows that the bank is in the "healthy" category in overcoming problematic financing. However, the maximum Gross NPF figure reached 22.3%, which means that there was a period when banking faced problematic financing of more than one-fifth of the total financing.

On average, the FDR of Islamic Commercial Banks in Indonesia in the last decade was 88.8%, indicating that the liquidity risk faced by the bank was "quite healthy". The minimum FDR figure is 38.3%, showing that only 38.3% of financing disbursement was carried out by the bank compared to the total third-party funds that were successfully collected. This means that there was a period when banking had an unhealthy performance and the liquidity risk faced was very high.

BOPO is at 97%, indicating that Islamic General Banks' operational risk is quite large and in the "unhealthy" category. This figure shows that the operational costs incurred are 97% of the operational income obtained.

On average, the Net Return of Islamic Commercial Banks studied in one decade is 3.43, where this figure shows that the performance index of Islamic Commercial Banks in terms of profitability (NI) is in the "unhealthy" category because it is below 4%. However, the maximum NI value with a level of 6.83% shows that there is a period in certain Islamic Commercial Banks that are able to achieve a level of company profit between 6% - 8% with a "healthy" category.

4.2 Panel Data Estimation Model Selection Results

Based on the results of the Chow test, the value of $p = 5.1078e-26 > 0.05$ was obtained, so it was decided that the common effect model is better to use than the fixed effect model. The Breusch-pagan test is a test used to compare the common effect model with the random effect model. Which results show a value of $p = 3.06509e-140 > 0.05$, therefore it was decided that the common effect model is better to use than the random effect model. The results of the Hausman test showed a value of $p = 0.415242 > 0.05$. Therefore, it was decided that the random

effect model is better to use than the fixed effect model. Based on various test results to determine the best model, it was decided that the best model for processing panel data in this study was the common effect model.

4.3 Diagnostic Test

Based on the panel data estimation model performed, the best model used in this study is the common effect model, so that diagnostic tests are needed, each consisting of a normality test, a heteroscedasticity test, and a multicollinearity test.

The normality test uses Kolmogorov-Smirnov. Data is normally distributed if the probability or significance number is greater than 0.05 or more than 5%. The results of the normality test show a value of $p = 0.517902 > 0.05$ so it can be concluded that the data in this study are normally distributed.

The heteroscedasticity test uses the White Test. If the significance level is greater than 5% (> 0.05) then it can be concluded that there is no heteroscedasticity. The results of the White Test show a value of $p = 4.65918e-11 > 0.05$ so it can be concluded that there is no heteroscedasticity.

Multicollinearity test with Variance Inflation Factor (VIF), if the VIF value > 10 then multicollinearity occurs. Meanwhile, the results of the multicollinearity test show that the VIF values of all variables are less than 10, so it is concluded that there is no multicollinearity.

4.4 Hypothesis Test Results

The following table shows the results of the hypothesis test:

Table 2. Hypothesis Test Results

<i>Independent Variable</i>	<i>coefficient</i>	<i>t-ratio</i>	<i>p-value</i>	<i>Decision</i>
<i>NPF Gross</i>	<i>0,143796</i>	<i>4,418</i>	<i>1,65e-05</i>	<i>No effect</i>
<i>NPF Net</i>	<i>-0,261876</i>	<i>-3,826</i>	<i>0,0002</i>	<i>Significant negative impact</i>
<i>FDR</i>	<i>0,0220138</i>	<i>4,300</i>	<i>2,70e-05</i>	<i>No effect</i>
<i>BOPO</i>	<i>-0,0285928</i>	<i>-3,294</i>	<i>0,0012</i>	<i>Significant negative impact</i>

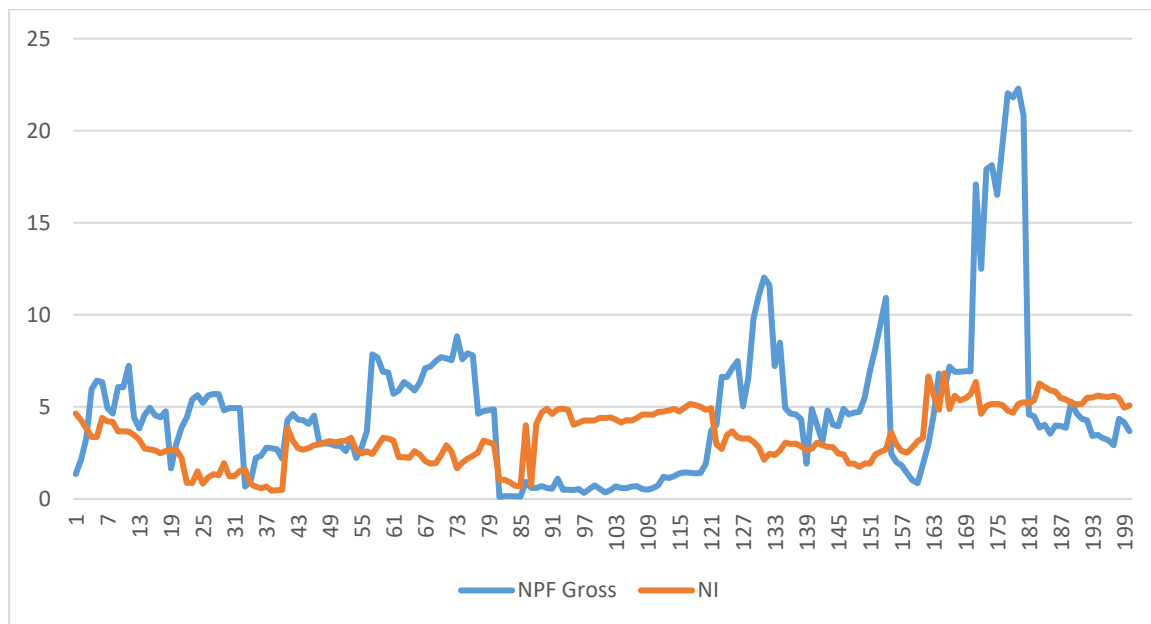
Source: Gretl App, processed data results (2024)

The R square value of the panel data regression model of 0.187566 shows that 18.75% of the dependent variables can be explained by the independent variables, while 81.25% is explained by other variables not examined in this research.

4.5 Discussion

The study's results indicate that credit risk as measured by Gross NPF does not affect profitability as measured by Net Reward. Gross NPF shows the total non-performing financing disbursed by the bank consisting of the financing included in the special attention category, substandard, doubtful, and problematic. In this study, Gross NPF. Gross NPF should affect NI because the higher Gross NPF indicates that the risk of non-performing financing faced by banks will be greater, which will cause the level of banking profitability to be smaller. This is because non-performing financing indicates that the debtor is unable to return the financing disbursed by the bank so the bank cannot obtain the expected profit from the distribution of the financing. The relationship between Gross NPF and Net Reward can be seen in the following

graph:



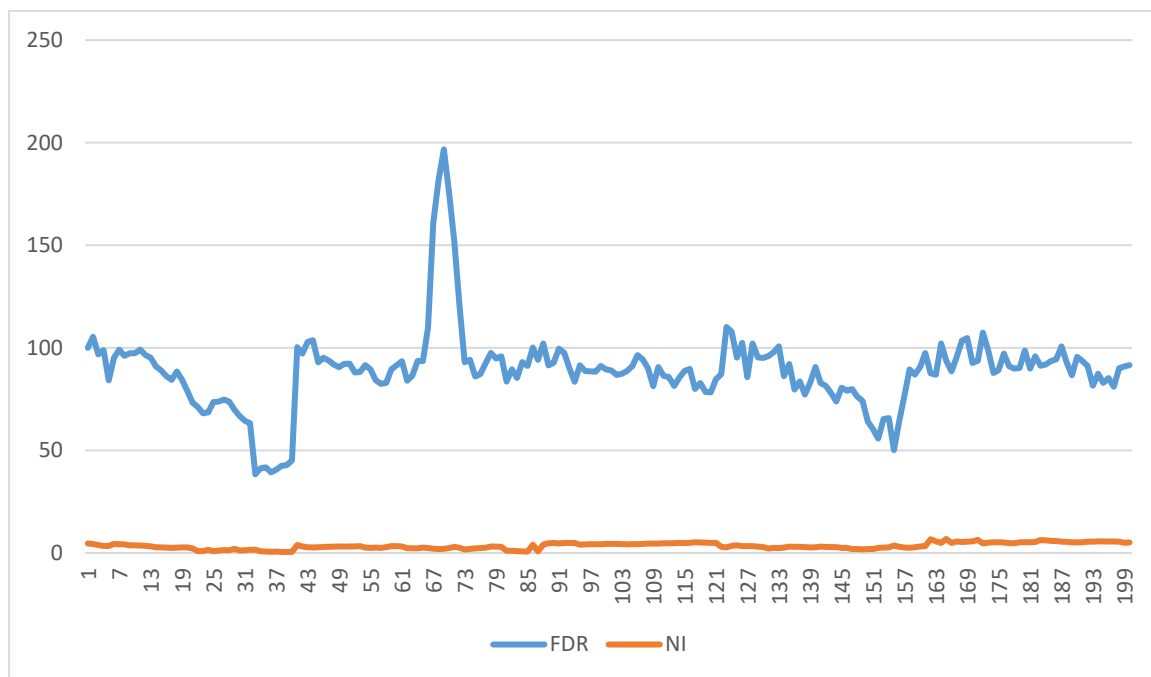
Graphic 2.

NPF Gross and Net Return of Islamic Commercial Banks Q4 2013 to Q3 2023

The graph above shows that gross NPF is more volatile with an increase in credit risk, which tends to increase, while when there is an increase in gross NPF, net rewards do not immediately increase. This means that the increase in Gross NPF in banking is not in line with the level of Net Rewards in banking. This illustrates that there is no relationship between Gross NPF and Net Rewards.

The results of the study indicate that Net NPF has a negative and significant effect on Net Rewards. This indicates that an increase in credit risk as measured by Net NPF will cause a decrease in banking profitability. The results of this study support the results of previous studies which prove that NPF has a negative effect on banking profitability (Eko et al., 2023; Menicucci & Paolucci, 2016; Oluwaseyi Ebenezer et al., 2016; Purbaningsih & Fatimah, 2018; Rinofah et al., 2022).

The results of the study indicate that liquidity risk as measured by FDR does not affect profitability as measured by Net Rewards. Banking liquidity shows the bank's ability to channel third-party funds that have been collected to be distributed in the form of financing. By distributing these funds to debtors, it is expected that the bank will make a profit. However, the results of the study indicate that there is no influence between FDR and Net Rewards. The relationship between FDR and Net Rewards can be seen from the following graph:



Graphic 3.

FDR and Net Return of Islamic Commercial Banks Q4 2013 to Q3 2023

The figure above shows that FDR in Islamic Commercial Banks is more volatile. An increase in FDR does not necessarily decrease or increase Net Rewards. Likewise, a decrease in FDR is not followed by an increase or decrease in Net Rewards. This shows that liquidity risk fluctuations in banking do not affect Net Rewards.

The study results show that operational risk as measured by BOPO significantly negatively affects profitability as measured by Net Rewards. BOPO shows the operational costs banks incur in obtaining operational income. The greater the proportion of operational income obtained with a low cost level, the greater the bank efficiency and the greater the ability to obtain profit. A high BOPO ratio indicates high banking operational risk, with greater operational costs. This means that if the operational risk is high, the level of profitability will be low, where the study results prove this. The results of this study are in line with previous studies that prove that operational risk has a significant negative effect on profitability (Capriani & Dana, 2019; Sukma et al., 2019).

5. Conclusion

The study's results prove that credit risk and operational risk significantly affect the profitability of Islamic Commercial Banks in Indonesia in the period from the 4th quarter of 2013 to the 3rd quarter of 2023. Meanwhile, liquidity risk does not show any effect on profitability. This is because the increase in liquidity risk as measured by FDR does not necessarily reduce banking profitability. The implication of this study is that Islamic banking should channel funds that have been successfully collected to be distributed to debtors, especially those operating on the MSME scale so that the level of banking liquidity risk can be more stable and can have an impact on increasing banking profitability.

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The Influence of Job Characteristics and Job Satisfaction on Employee Performance in Plantation Companies

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Abstract

This research, employing a unique quantitative method, seeks to ascertain the influence of job characteristics and job satisfaction on employee performance in plantation companies. The data was collected through a comprehensive questionnaire distribution process. The sampling technique used was saturated sampling, ensuring the inclusion of all population members as samples. The data analysis techniques included reliability test, normality test, multicollinearity test, heteroscedasticity test, multiple linear regression test, coefficient of determination test, hypothesis test (t-test), and simultaneous test (F test). The results of this research underscore the positive and significant effect of job characteristics and job satisfaction on employee job performance.

Keywords: Discipline, Employee Motivation performance

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1. Introduction

Human resources (HR) in company operations are an important factor in achieving company goals and require effective management. Employee job satisfaction is a key aspect related to HR and influences their behavior towards the company (Wibowo & Priyono, 2022).

(Indrianingsih, A., & Yunianto, 2022) Revealing the existence of someone's job satisfaction is very important in the organizational environment because it has a relationship with employee behavior toward the company. One of the links that influences job satisfaction is the job itself because the job is a bridge between employees and the company. An employee's job satisfaction can be seen from how they are responsible for their work, (Kristiyanti, D., & Rijanti, 2022) (Rijanti, (Rijanti et al., 2020) reveals that each job has different characteristics and certain types of jobs must be completed on time because they depend on other jobs, meaning that employees have the freedom to complete their work so that they can create their own satisfaction. This

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often happens when the concept is discussed together because someone is satisfied at work as there are motivating factors and conditions.

Job satisfaction can also be interpreted as a collection of employee's feelings about the work they do, whether they are happy or not, as an output of employee interaction with the environment, employees are needed who are in accordance with their competence in the organization and must be able to carry out the tasks that the organization has determined. Every organization will always try to improve the performance of its employees, with the hope that what the organization's goals will be achieved even though each organization has its own work characteristics.

However, job satisfaction in organizations does not always increase, and the causal factors can vary, including inadequate incentives, work environment, and promotions (Dewi, 2019). Job characteristics that match employee abilities are key to increasing job satisfaction (Arizka, 2020).

Employee performance is defined as a concept of effort made to achieve an organizational goal by using potential or knowledge, as well as skills and abilities that are owned (Ltindag, 2015). If a company wants employees to provide good performance, then employees need to get job satisfaction so that they can improve employee behavior and performance will increase by organizational goals.

Employee performance in the plantation context can be defined as an evaluation of their contribution and effectiveness in carrying out various tasks related to the management, maintenance, and administration of the plantation.

Table 1. Data on the Number of Plantation Company Employees 2020-2023

DIVISION	Year			
	2023	2022	2021	2020
Staff	3.0	3.0	3.0	3.0
General	12.0	12.0	10.0	11.0
Month	9.0	9.0	8.0	6.0
Security	9.0	9.0	8.0	8.0
Maintenance	22.0	26.0	29.0	29.0
	80.0	89.0	89.0	85.0

Based on the results of observations at the Plantation Company, the Plantation Company experienced a decrease in the number of employees in 2023. The decrease in the number of employees was due to job dissatisfaction with the salary given by the company, as well as inadequate working conditions. The salary set by the company is one source of job satisfaction for employees; employees who work in the company basically have a series of needs that must be met. Employees generally expect a salary that is set fairly and adequately to meet their monthly needs (Sugiyono, 2020).

However, suppose the work characteristics given to employees are very high. In that case, the job satisfaction received by employees also decreases, so that job satisfaction depends on the characteristics of the work offered by the company. Good job satisfaction can be achieved as long as the tasks given are not too difficult for employees and they try their best to achieve good job satisfaction according to the company's expectations.

It is the same as Plantation Company, whose job characteristics are too big for employees

because the tasks given do not match the employee's skills. This reduces the job satisfaction of each employee who is there while working, because the characteristics of the work done every day are too big for the person's work capacity, so it becomes tiring. If the characteristics of the work (tasks) given to employees are not too difficult, job satisfaction will increase and can help the company achieve its main goals.

Companies must consider the characteristics of overworked work to manage quality human resources. This ensures that employees are harmonious in their work and can complete tasks well and properly. If the characteristics of the work exceed the limits of employee capabilities, then employee job satisfaction is not optimal. The company's tasks must also equip employees with the skills to carry out the tasks given to achieve maximum or effective results, as happened in the Plantation Company.

2. Literature Review

Job Characteristics

Job characteristics refer to identifying aspects of tasks in a job and how these aspects affect employee motivation, job satisfaction, and performance. This involves efforts to understand the nature of the job, such as the level of autonomy, information available, and the level of responsibility that employees have in carrying out their tasks (Purwanto & Soliha, 2017; Montori et al., 2019; Saweduling, 2013). In addition, job characteristics also include individual beliefs in their ability to complete tasks well, which can motivate employees and improve their performance (Putri & Wibawa, 2016).

Factors that influence job characteristics involve elements such as employees feeling that their work results can be assessed, having access to the necessary information, autonomy in making decisions, useful work experience, the ability to take responsibility, and understanding the results achieved (Puspita, 2020; Putri & Suhaeni, 2014). Each job has its own characteristics, but four common characteristics that can be found in most jobs are autonomy, job variety, task identity, and feedback (Panudju, 2003). These characteristics involve aspects such as freedom to plan and carry out tasks, variation in methods or skills required, understanding work procedures, and receiving feedback on employee performance.

Job satisfaction

Job satisfaction is an individual's feelings towards their work, including pleasant and unpleasant experiences in work and their hopes for the future. A pleasant job provides satisfaction, while dissatisfaction arises when the job does not match the individual's preferences (Bahri & Nisa, 2017). It can also be explained as a feeling of pleasure in carrying out work and viewing work positively (Hendro Tamali, 2019). Job satisfaction is the result of an individual's interaction with their work environment, involving aspects such as type of work, salary, communication with superiors and coworkers, and physical conditions in the workplace (Saragih & Simarmata, 2018; Parasara & Surya, 2016). The level of job satisfaction also reflects the individual's general attitude towards their work, with a high level of satisfaction characterizing a positive attitude towards work (Dhermawan et al., 2012; Bismala & Arianty, 2017).

Factors that influence job satisfaction involve an individual's attitude towards work, level of involvement in the organization, and commitment to the organization (Solong, 2021). In addition, factors such as the work itself, salary, promotion opportunities, supervision, and relationships with coworkers also play an important role in shaping job satisfaction (Bahri,

2018). These factors can be related to psychological, social, physical, and financial aspects that influence an individual's feelings of job satisfaction (Arda, 2017).

Job satisfaction indicators include several aspects such as salary, promotion, supervision, relationships with coworkers, and working conditions. Salaries that are considered fair by employees can increase job satisfaction, as well as promotion opportunities (Sariningtyas, 2016). Effective supervision and good relationships with coworkers also contribute to job satisfaction (Bismala & Arianty, 2017). In addition, good working conditions can create an environment that supports individual job satisfaction (Parasara & Surya, 2016).

Employee performance

Employee performance refers to the level of success of an individual in carrying out his/her duties during a certain period, compared to previously established standards, targets, or criteria. This includes aspects of the quality and quantity of work performed by employees, as well as the extent to which employees fulfill their responsibilities towards the work mandated by their superiors or leaders (Sinambela, 2021).

Ability and motivation are two main factors that influence employee performance. Ability involves factors such as the level of intelligence (IQ), knowledge, and skills possessed by employees to carry out their work well. On the other hand, motivation is formed from the mental attitude and work attitude of employees which can influence the extent to which they are willing and able to achieve maximum work performance. Environmental factors, such as physical conditions, equipment, training, and organizational support, can also influence employee performance, although their influence is not direct.

3. Research Method

This research was conducted at a Plantation Company located in Teluk Tenggara Village, Kumbang District. The research variables are divided into two categories, namely independent variables and dependent variables. Independent variables include Job Characteristics (X1) and Job Satisfaction (X2), while the dependent variable is employee performance (Y). Job characteristics refer to the aspects of tasks within a job and how these aspects influence employee motivation, job satisfaction, and performance. In this study, job characteristics were measured through various dimensions such as autonomy in managing time and tasks, task variety, task identity, and feedback. These characteristics assess the extent to which employees have the freedom to plan and execute tasks, whether the job provides variation in methods or skills, and the satisfaction derived from completing meaningful tasks. The questionnaire included items related to job characteristics, such as whether the tasks offer new challenges, freedom in decision-making, and satisfaction with meaningful achievements.

Job satisfaction is defined as an individual's positive or negative feelings towards the work they perform. Factors measured include salary, promotion opportunities, supervision, and relationships with coworkers. These indicators reflect the degree to which employees feel satisfied with their working conditions, opportunities for advancement, and interpersonal relationships in the workplace. In this study, the questionnaire focused on these aspects to assess the overall job satisfaction of employees in the plantation company. Employee performance refers to the quality and quantity of work produced by employees and the extent to which they meet the responsibilities assigned by their supervisors. Performance involves the ability of employees to achieve daily work targets and contribute to the company's goals. The questionnaire evaluated employees' perceptions of their ability to complete tasks and fulfill

responsibilities at work.

The data used in this study consists of qualitative data and quantitative data. Qualitative data were obtained through interviews with company executives and employees as well as information from other parties about the problem being investigated. Quantitative data were obtained from questionnaires distributed to respondents. Data sources consist of primary data and secondary data. Primary data were obtained through interviews, observations, and distributing questionnaires to Plantation Company employees. Secondary data are data that have been processed or compiled by other parties, such as documents, articles, and scientific frameworks that support the research.

Data collection techniques include library research, field studies that include interviews, observations, and documentation, and the use of questionnaires with a Likert scale. The population of this study was 80 employees of the Plantation Company, and the research sample used a saturated sampling technique, which means that all members of the population were used as samples. Instrument testing includes validity testing and reliability testing of the questionnaire used in the study.

The data analysis method used is multiple linear regression to analyze the effect of job characteristics and job satisfaction on employee performance. In addition, classical assumption tests are also carried out, including normality tests, multicollinearity tests, and heteroscedasticity tests. Data analysis will show how much job characteristics and job satisfaction affect employee performance using the coefficient of determination (R^2). Hypothesis tests include partial hypothesis tests (t-test) and simultaneous hypothesis tests (F-test) to determine the significance of the influence of independent variables on dependent variables. Operational definitions and measurement of variables have been explained in this study, including indicators used for job characteristics, job satisfaction, and employee performance..

4. Results and Discussion

4.1. Characteristic respondent

The results of this study include the influence of job characteristics and job satisfaction on employee performance in Plantation Companies. Of the 80 respondents who participated in this study, most were male (53%) and the rest were female (48%). In the analysis of job characteristics, the majority of respondents agreed that their work was in accordance with their abilities (82.7%), provided autonomy in managing time and how to complete tasks (72.8%), and involved new challenges that allowed them to continue learning (69.1%). Likewise, variability in job tasks was considered to make work more interesting (67.9%) and provide clear meaning and purpose (59.3%) for respondents.

Based on the results of the job satisfaction analysis, most respondents felt that their salary reflected their contribution and performance at work (65.4%), were satisfied with the amount of salary they received (61.7%), and felt that promotions in the company rewarded their achievements (67.9%). In addition, the majority of respondents felt that they had good communication with their superiors or supervisors (74.1%) and that supervision at work helped them stay focused and productive (65.9%)..

In terms of employee performance, most respondents agreed that they always try to deliver high-quality work (69.1%), understand the importance of quality in their work (61.7%), and always try to achieve the set quantity targets (75.3%). In addition, they feel they understand

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the tasks they have to complete (72.8%) and their responsibilities at work (63%).

4.2. Testing of Instrument

Reliability testing is done to find out whether the questions asked by researchers to respondents are reliable or not. Reliability testing can be seen if the reliability value is >0.60 where 0.60 is the standardization of the reliability value. The results of the reliability test can be seen in the following table.

Table 2 Reliability Test Results

Variabel	Cronbach's Alpha Value	Information
Job Characteristics	0,992	Reliable
Job satisfaction	0,843	Reliable

Source: Questionnaire data processed

4.3. Regression Result

Based on Table 2, the Cronbach Alpha value for the job characteristics variable is 0.992, and the job satisfaction variable is 0.843. Both variables are reliable because the Cronbach Alpha is greater than 0.6.

Table 3. Normality Test Results

Job Characteristics			Job satisfaction	Employee performance
N		80	80	80
Normal Parameters ^{a,b}	Mean	32.0125	36.9500	22.3000
	Std. Deviation	9.07981	9.87889	5.69566
Most Extreme Differences	Absolute	.193	.167	.170
	Positive	.193	.159	.150
	Negative	-.192	-.167	-.170
Test Statistic		.193	.167	.170
Asymp. Sig. (2-tailed)		.200 ^c	.200 ^c	.200 ^c

Source: Questionnaire data processed

Based on Table 3 above, the results show that the normality test is known to have a significance value of $0.200 > 0.05$, so it can be concluded that the residual value is normal.

Table 4. Multicollinearity Test Results

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance VIF
1	(Constant)	.849	.399		2.129	.036	
	Job Characteristics	.289	.072	.461	2.027	.039	.223 4.396
	Job satisfaction	.831	.066	.441	12.602	.024	.223 4.396

Source: Questionnaire data processed

Based on Table 4 above, it can be seen that the Tolerance Person Organization Fit value is $0.223 > 0.01$ and the VIF Person Organization Fit value is $4.396 < 10.00$, which means that there is no multicollinearity.

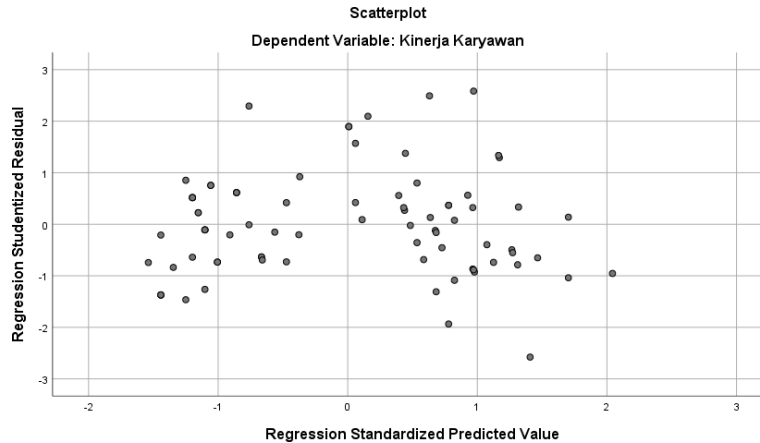


Figure 1. Heteroscedasticity Test

Based on Figure 1, it shows that the points or patterns are spread randomly and do not form a pattern, either above or below the number 0 on the Y axis. This means that there is no heteroscedasticity in the regression model. It can be concluded that this research instrument needs to meet the assumption of heteroscedasticity.

Table 5. Multiple Linear Regression Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.849	.399		2.129	.036
	Job Characteristics	.289	.072	.461	2.027	.039
	Job satisfaction	.831	.066	.441	12.602	.024

Source: Questionnaire data processed

Based on Table 5 shows that job characteristics have a relationship to employee performance with a p-value of 0.039 (< 0.05), which states that the H1 hypothesis is accepted. The job satisfaction variable has a relationship to employee performance with a p value of 0.024 (< 0.05) which states that the H2 hypothesis is accepted.

Table 6. Results of Determination Coefficient Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988 ^a	.977	.976	.87876

Source: Questionnaire data processed

The results in Table 6 show that the adjusted R² is 0.976. This indicates that the job characteristics and job satisfaction variables can only explain 97.6% of the variation in employee performance variables.

Table 7. Partial Test Results (t-Test)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.849	.399		2.129	.036
Job Characteristics	.289	.072	.461	2.027	.039
Job satisfaction	.831	.066	.441	12.602	.024

Source: Questionnaire data processed

1. $H_a \neq 0$, meaning Characteristics (X1) influence employee performance (Y) with a p value of 0.039.
2. $H_o \neq 0$, meaning job satisfaction (X2) influences employee performance (Y) with a p value of 0.024.

Table 8. Simultaneous Test Results (F Test)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.339	2	.8909	.4861	.033 ^b
	Residual	59.461	77	.1772		
	Total	62.800	79			

Source: Questionnaire data processed

Table 8 shows that the F count is 0.4861 with a significance level of less than 0.05, which is 0.002. So the regression model contains interactions between job characteristics and job satisfaction variables together, which are able to prove that there is an influence on employee performance. Based on the results obtained in the hypothesis test, namely $H_a: \beta_1 \neq \beta_2 \neq 0$, which means that the influence of job characteristics and job satisfaction is able to prove that there is an influence on employee performance.

4.4. Discussion

Relationship between Job Characteristics and Employee Performance

The results of this study indicate that job characteristics (X1) have an influence on employee performance (Y), with a p-value of 0.039. The results of this study are in line with research conducted by (Kevin et al., E., 2023) with the research title The Influence of Job Characteristics, Employee Job Satisfaction, and Organizational Culture on Organizational Commitment, showing that job characteristics have a significant effect on organizational commitment, meaning that if the job characteristics possessed by each employee run according to the employee's wishes, the performance produced by the employee is good.

According to (Purwanto & Soliha, 2017) job characteristics are an effort to identify the characteristics of the tasks of the job, how these characteristics are combined to form different jobs and their relationship to motivation, job satisfaction and employee performance. Characteristics are supported by several factors such as feelings of meaning, responsibility and knowledge employees possess. According to (Montori, et.al., 2019) job enrichment programs

try to design jobs in a way that helps job holders satisfy their needs and growth, recognition and responsibility. Job enrichment adds sources of satisfaction to the job, increasing responsibility, autonomy and work vertically (vertical job loading).

In the results section, the job characteristics that most significantly contributed to employee performance were autonomy and task variety. Based on the analysis, it was found that employees who had greater freedom in managing their tasks, particularly in terms of time management and methods of task completion, demonstrated significantly higher performance levels. This autonomy provided employees with the opportunity to work more creatively and take ownership of their results. This means that if employees have job characteristics that match the knowledge they have, a sense of responsibility and meaningful feelings, then the employee's performance will also increase.

Relationship between Job Satisfaction and Employee Performance

The results of this study indicate that job satisfaction (X2) influences Employee Performance (Y) with a p-value of 0.024. These results are in line with research conducted by Putri & Suhaeni (2023) entitled The Influence of Job Characteristics on Employee Job Satisfaction at CV Fruity Indonesia, which states that employee job satisfaction has a positive and significant influence on employee performance.

Employees feel satisfied when employees feel unburdened by the existing work and supporting external factors. According to (Saraguh, et., al., 2018) job satisfaction is a person's feeling towards their work. This means that the concept of job satisfaction is the result of human interaction with their work environment. From the limitations of job satisfaction, organizations must be able to identify and try what is expected from the results of their work.

5. Conclusion

Based on the results of the study on the Influence of Job Characteristics and Job Satisfaction on Employee Performance in Plantation Companies, several conclusions can be drawn. First, job characteristics have a positive influence on employee performance. This indicates that the better the job characteristics, the higher the employee performance. Job characteristics, such as appropriate placement and a supportive work environment, play an important role in determining how much a person can succeed in their job. Second, job satisfaction also has a positive effect on employee performance. This finding shows that the higher the level of job satisfaction, the greater the positive influence on employee performance. Therefore, improving employee job satisfaction can be an important strategy in improving their performance.

In addition to these conclusions, this study also shows that job characteristics and job satisfaction positively influence employee performance. This shows that these two factors support each other and play an important role in creating optimal performance. Therefore, companies need to pay attention to both job characteristics and employee job satisfaction as part of a strategy to improve their performance.

As a suggestion, companies are expected to pay more attention to job characteristics that include communication between coworkers, appropriate job placement, and providing space for employee creativity and innovation. In addition, increasing employee satisfaction can be

achieved through providing appropriate incentives and rewards. This study can also be a reference for further research in exploring other factors influencing employee performance and applying statistical methods and other influence tests.

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Effects of Board Characteristics on Financial Sustainability of Quoted Nigerian Banks

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Abstract:

Using Agency theory to examine the relationship between board characteristics and corporate governance financial sustainability.

Board size, diversity, and independence are autonomous, but financial leverage is controlled. This study examined how board features impact Nigerian banks' financial sustainability. Stata statistical tool was used to assess how board independence, diversity, and size impact financial sustainability in a convenience sample of thirteen Nigerian banks operating on the Nigerian stock exchange from 2014 to 2020. Financial leverage-controlled board characteristics.

Independent board members statistically increased long-term financial sustainability. A company's long-term financial viability may improve with a board with fewer outside demands and conflicts. Financial sustainability requires independent boards of directors. Board size did not affect financial sustainability or gender diversity. Despite their potential benefits, such as broader viewpoints and improved decision-making, board diversity and size did not significantly influence the financial sustainability of the stated Nigerian banks. Diverse boards improve decision-making and widen viewpoints. Financial leverage as a control variable influences corporate viability. Due to financial risks and volatility, high financial leverage may hurt banks' long-term existence. These studies explain how corporate governance affects a company's long-term financial survival. An independent board of directors is necessary for a bank's long-term financial sustainability. The study concluded that board size and diversity may not guarantee long-term financial sustainability. Duality, organisational scale, and their interaction must be studied to understand board traits and financial sustainability.

Keywords: Board characteristics, Board independence, Board size, Board diversity, Board size, financial sustainability

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1. Introduction

Commercial Bank's ability to be financially sustainable and withstand all economic harsh conditions is influenced by certain factors such as regulatory framework, the board of directors' characteristics, and the operation of the macroeconomics indices (Abugri, 2023; Anarfo 2023). Commercial Bank's corporate board of directors plays a key role in today's modern corporate governance, and hence, understanding the relationship between board characteristics and financial sustainability is very important in the corporate world. Most of the scholarly debate centred on the dimensions of board characteristics and performance (Lukman, Ridloah, & Humaira, 2024; Le, Vu, Le, Nguyen, Luong, & Nguyen, 2024).

Some scholars indicate a significant negative relationship between board characteristics dimension of board financial expertise, concentration of ownership, and board size on earnings management and performance by the use of agency theory (Riyadh, Al-Shmam, & Ahmed, 2024). While others show mixed relationship that exists between issues such as board independence, the duality of Chief Executive Officer (CEO), board size, and gender diversity. (Shiyyab, Alzoubi, & Almajaly, 2024)

This study's primary aim is on the part that the board characteristics plays in ensuring that Nigerian banks will be able to maintain profitable operations and maintain sustainability. The characteristics composition and operational procedures of a financial institution's board are all aspects that make up the board (Saidat, Al-Gharaibeh, Marashdeh, & Suwayyid, 2024). According to the findings (Aifuwa & Embele, 2019), the Bank's board's ability to guide, direct, and keep an eye on management to ensure operations are smooth might significantly impact the bank's ability to sustain its operations. The make-up of a bank's board of directors is a significant issue that its effect on financial sustainability have not been properly studied. one major part that may have an effect on a bank's ability to sustain its finance, is the mark of independence that is appreciated by its board of director which the academic cycle has not given it enough attention.

In addition, the degree of independence that a commercial bank's board of directors preserves is one of the factors that may influence the bank's ability to sustain its financial sustainability. Directors who are really independent of the bank and its management are in the greatest position to provide an objective judgement of the organization's performance since they are not beholden to any party. When there are a greater number of independent directors on the board of a bank, both the risk of there being a financial crisis and the performance of the bank are enhanced. According to what Cindasombatcharoen, Chatjuthamard, and Jiraporn (2023) have indicated. Another element that may play a role in determining a financial institution's capacity to thrive over the long run is the composition of its board of directors. Some study (Anabolic, Casu, Kalotychou, & Sarkisyan, 2020) suggests that the diversity of a bank's board of directors may have a role in the institution's ability to sustain its financial stability. Diversity on the board, whether in terms of gender, race, or experience, may assist the bank in better comprehending the requirements of its clients as well as the communities it serves. If the bank did this, there is a chance that it might improve the goods it offers and develop stronger ties with the people who do business with it. The size of a bank's board of directors is another factor that could influence the institution's ability to maintain its financial stability. There is no one size that is optimal for a board, although studies have shown that boards that are smaller tend to function better in terms of both supervision and decision-making. It is essential to achieve a

balance between having a board that is sufficiently large and having adequate representation from a sufficient range of various backgrounds and points of view. Onumah, Asare, and Aboagye-Otchere were born in 2023. It is essential to achieve a balance between having a board that is sufficiently large and having adequate representation from a sufficient range of various backgrounds and points of view.

There have been a number of studies (Al-Qatanani, & Siam, 2021; Salehi, & Zimon, 2021; Nguyen, & Thanh, 2021; Pereira, & Filipe, 2022) that have investigated the link between board qualifications and business development and financial success. Furthermore, writers (Maimako, Latiff, and Yusoff, 2021; Nkuri, Latiff, and Yusoff, 2021) have examined how the ownership structure of a firm influences the long-term financial viability of the organisation.

However, limited studies have been conducted on the probable correlation between the board's qualifications and the company's long-term financial health.

Another aspect that is motivating this is the obligation to scientifically address the shortcoming of this study. As a result, one of the objectives of this investigation is to close the knowledge gap about the connection. In addition, the data collected from Nigerian banks have, for the most part, been disregarded by academics in the past. There is not a lot of information available on the anticipated outcomes of this study.

The importance of researching board aspects has been highlighted by historical research trends (Endrikat, De Villiers, Guenther, and Guenther.2021).

Through investigating this connection, we are able to get knowledge on the ways in which the characteristics, practises, and compositions of boards have an effect on the economically viable status of banks in Nigeria. It sheds light on how successful practises of corporate governance in the banking sector actually are. It is possible to shed light on the manner in which particular board aspects impact the financial sustainability and long-term sustainability of Nigerian banks by analysing the link between board characteristics and financial sustainability. This may be accomplished by examining the relationship between board characteristics and financial sustainability.

In point of fact, banks have always been susceptible to failure as a direct result of rising levels of competition and rapid technological innovation. Depositors were negatively impacted by economic downturns and employment losses as a direct result of the breakdown of the going concern accounting principle. According to a review of previous research, Agency theory has established itself as the preeminent model for comprehending corporate governance (Mihail, Dumitrescu, Micu, & Lobda, 2022; Al-Matari, 2022). (Mihail, Dumitrescu, Micu, & Lobda, 2022; Al-Matari, 2022). It would appear that the board of directors and the CEO of the bank are in an agent-principal relationship with one another. This research is being carried out for a number of reasons, the primary one being to determine whether or not the board is successful in monitoring and managing the CEO, hence contributing to the improvement of the company's financial viability (Tran, 2022). When information is shared equally, however, there is a greater potential for information asymmetry to develop, which is an essential component of the agency problem. As a direct consequence of this, the principle is able to exert direct control over the agent. Kasbar, Tsitsianis, Triantafylli, & Haslam, 2023).

2 Literature Review

2.1 Financial Sustainability

Financial sustainability is measured by bank's ability to cover not only its operating cost but also ability to generate more profit to expand its growth. The authors (Jaafar, Latiff, Daud, & Osman, 2023) say that. In terms of withstanding financial risk without reliance on government bailout is term (Sanchez-Roger, Oliver-Alfonso, & Sanchís-Pedregosa, 2018). The issue of long-term financial soundness has lately assumed on a larger level of relevance because to the destruction that co-vid 19 has wreaked on the global financial system. In the United States of America, for instance, recent failures at the Silver Gate and Silicon Valley banks were met by swift and unexpected collapses. Despite the impact of commercial banks on the global (Gross domestic product (GDP), job creation, the study of board characteristics and financial sustainability has been a subject of few studies (Liang, Xu, & Jiraporn, 2013; De Zwart, 2022; Purwati, Rafidah, Chollisni, Soeswoyo, & Sari 2022). In the area of financial intermediation, banks have helped boost economies, and this is especially true in Nigeria (Atiku, Kaisara, Kaupa, & Villet, 2022; Subramanian, & Kumar Kattumannil, 2022).

In this study the following are the board characteristics are employed for the study: board size, board variety, and board independence, all of which were proposed by Song, Kang, and TaoNie, (2022; Viola, Aryanto, Marsetio, and Yuliati, 2023).

2.2 Board Characteristics

According to Disli, Yilmaz, and Mohamed (2022), the characteristics of a board may be broken down into three categories: its composition, its structure, and the individual characteristics of its members. The characteristics of the board that is responsible for the oversight of banks may have a significant impact on the efficiency and success of the banking industry as a whole. There are a great number of elements that have an effect on financial institutions, including:

2.2.1 Level of Independence of the Board.

It refers to the degree to which a company's board of directors is free from excessive influence from management or other external influences, allowing them to make unbiased, objective decisions that are in the best interests of the company and its stakeholders. (Fuzy, Halim, & Julizaerma, 2016)

Excellent corporate governance and the honest and ethical operation of a corporation require a board of directors that is itself independent. Boards that are not impartial are less effective in supervising management, spotting risks and opportunities, and holding CEOs to account. Fuzy, Halim, and Julizaerma (2016).

Rashid (2018) argues that boards can only be called independent if they are made up of directors who have no conflicts of interest with the company or its management. They must not work for the bank's most important investors, suppliers, or customers, nor act as a spokesman for any of these groups.

The degree of independence of a board of directors is sometimes measured by the number of independent directors it has. One common indicator of a board's impartiality is the existence of a chairman or lead director who is also impartial and can foster productive debate among board members. Despite the lack of a universally accepted definition of "independence," several nations and regulatory agencies have established guidelines for good business management. Specific guidelines for the impartiality and make-up of boards of directors are included in these norms and standards. A company's size, organisational structure, and overarching corporate goals should all be considered when deciding how much autonomy the board of directors should have. Hu, Lin, and Tosun (2022).

2.2.2 Level of Diversity on the Board

The concept of diversity on the board refers to the belief that boards of directors should include individuals who come from a broad variety of different backgrounds, experiences, and points of view in order to guarantee that decisions are made with a more comprehensive picture in mind (Islam, French, & Ali, 2022). Examples of diversity may be found in terms of skin tone, ethnicity, gender, age, socioeconomic background, and level of experience, to name a few. Research has shown that organisations with boards that are more diverse have better decision-making abilities, higher levels of creativity, and stronger financial results. (Issa et al. 2022; Zaid et al. 2022; Amin et al. 2022; Ali et al. 2022; Ntim et al. This is done for the purpose of ensuring that the board of directors is comprised of members who are representative of all relevant groups, such as consumers, workers, and shareholders.

In spite of the numerous studies that have demonstrated the positive effects of diversity, many boards still do not have a diverse membership. The inability to realise the need for a diverse workforce, the presence of unconscious biases throughout the recruiting process, and the lack of skilled applicants hailing from underrepresented groups are all potential contributors to this phenomenon. Lee, Thong, and the year 2023 are all mentioned here.

A rising number of businesses are adopting policies to enhance the diversity of their boards of directors in order to tackle this problem. These policies include setting diversity objectives, broadening the pools of candidates that they evaluate, and giving diversity and inclusion training to their employees. This is backed up by a number of different sources, including Al-Sartawi, Sanad, Shiwakoti, and 2022. It is possible for companies to improve their ability to make decisions and cultivate a culture that is more accepting and equitable in the workplace if they give diversity on their boards a higher priority.

2.2.3 Size of the Directors

The term "concept size" is often used when discussing issues of corporate governance because it describes an individual's ability to acquire and process large amounts of complex information (Githaiga & Caroline Bonareri, 2022). Board size has also been identified as one of the mechanism in reducing agency problem between shareholders of banks and the managers (Belkhir, 2009).

Trends in the industry, financial performance, meeting regulatory requirements, effective risk management, and well-thought-out strategic planning are all examples of potential contributing factors.

Belkhir, M. (2009). Board structure, ownership structure and firm performance: evidence from banking. *Applied financial economics*, 19(19), 1581-1593.

In theory, a board with members from a wide range of backgrounds and expertise can help to compensate for the inevitable differences in concept size among its members by pooling their knowledge and expertise. Boards with a small number of members may be more susceptible to bias or insufficient information in volatile banking sectors or during financial crises (Nuswantara, Fachruzzaman, Prameswari, Suyanto, Rusdiyanto, & Hendrati, 2023). This is what scientists Nuswantara, Fachruzzaman, Prameswari, Suyanto, and Hendrati have found.

It is important to remember that the number of directors on the board of Nigerian banks may vary in size depending on the specific experience and expertise of each individual director. This is something you should remember. In addition, there are processes in place at the Central

Bank of Nigeria to guarantee that bank boards are made up of qualified individuals who can properly monitor operations and manage risks. Olohunlana, Odeleye, and Isola (2023) note that the procedures in place ensure that bank boards are made up of individuals with the appropriate expertise and credentials to effectively oversee the organization's operations and risk management.

Optimal board size is one factor among many that may affect how well an organization's leadership performs, so it's important to think about it when evaluating boards.

2.3 Agency Theory And Stewardship Theory

In current years, there has been a rise in academic attention in the connection between board characteristics and a bank's ability to remain financially sustainable over the years. It has been concluded that agency theory is the most effective theoretical framework for gaining a grasp of the link. By keeping ownership and control distinct, it will be possible to minimise any potential theoretical costs. Before delegating responsibilities to an agent, the principle should first strive to increase firm value, as recommended by Jensen and Meckling (1976). This will help assure the continued financial health of the business. An agent, also known as a manager, is a third party that acts on behalf of the principle but whose responsibilities are distinct from those of the principal. The agent may also be referred to as the manager. The relationship between the principal, which in this case is represented by the directors, and the manager, who stands for financial sustainability, serves as the foundation for this line of inquiry. Due to the absence of a unified conceptual framework, previous studies that used agency theory produced results that were incongruent with one another (Andoh, Abugri, & Anarfo, 2023; Shafeeq Nimr Al-Maliki, Salehi, & Kardan, 2023) (Andoh, Abugri, & Anarfo, 2023). The reliance placed on board members with financial expertise is the fundamental factor that underlies the inconsistent findings. The stewardship hypothesis, which was developed with the intention of preserving financial assets, is likewise disregarded (Davis, Schoorman, and Donaldson, 1997). This demonstrates how important it is to make use of alternative theoretical frameworks like stewardship theory. The act of storing assets, such as money, in a secure location and managing them effectively is an example of good stewardship. Businesses, corporations, and financial institutions all have the opportunity to demonstrate good stewardship by vigilantly monitoring and managing their assets for the benefit of future generations of their respective communities.

The capabilities of a company's board of directors have the potential to have a significant impact on the organization's ability to maintain its profitability over time. It is more likely that decisions that favour long-term financial sustainability will be made by a board that is comprised of persons who not only have a variety of skills and expertise but who are also dedicated to the ideals of stewardship.

When it comes to issues such as investment strategies, risk management, and financial reporting, to name just a few, having financial experts on the board can be extremely helpful. When making decisions, a board that is responsible may prioritise the long-term financial stability of the company over the short-term gains of the company and attempt to strike a balance between the needs of shareholders, employees, and customers.

It is essential for a company's long-term financial sustainability to earn the trust and confidence of its stakeholders, and this may be accomplished by a board that is transparent and accountable in the way it makes decisions. By providing stakeholders with regular updates on the organization's financial performance, risks, and opportunities, a board of directors may help

ensure that stakeholders have the information they require in order to make informed choices regarding the organisation.

In a nutshell, there is a great deal of nuance and complexity in the interplay between the characteristics of the board and its ability to remain financially viable over the long term. However, banks in Nigeria can take steps to help ensure that they are well-positioned for long-term financial sustainability if they prioritise stewardship principles and make it a point to ensure that their boards of directors are comprised of individuals who have a variety of experiences and skills.

2.4 Empirical Review

Research in corporate governance has revealed empirical evidence linking an independent board of directors to long-term financial viability. Financial sustainability refers to an organisation's capacity to maintain its current level of success and prosperity over an extended period of time. When referring to the number of members of a company's board of directors who are not associated in any way with the company's management, the phrase board independence is typically used.

The independence of the board is an essential component of good corporate governance because it helps ensure that directors are looking out for the interests of shareholders. There has been a sizeable increase in the amount of research conducted into the connection between unfettered board authority and strong financial performance. The findings of empirical research that has been conducted to investigate this link have produced conflicting outcomes. Shan (2019) conducted research that analysed the independence of boards of directors at 9,302 Australian firms and compared it to the companies' levels of financial performance. As a result of the finding that a positive relationship exists between financial performance and board independence, it may be deduced that companies with more independent boards fare better financially. In some studies, independent boards of directors have been found to be associated favourably with better financial results. Several studies, including Tobin's Q, Return on Asset (ROA), Rashid's (2018), and Pucheta-Martinez and Gallego-Ivarez's (2020), found that organisations with more independent boards had a higher corporate value. Both Kaur and Vij (2017) and Rashid (2018) came to the same conclusion: the independence of the board was positively associated with ROA and ROE. Hillman and Dalziel (2003) conducted a study investigating the financial performance of 137 different US companies when the boards of those companies were more or less independent. As a result of the finding that a positive relationship exists between financial performance and board independence, it may be deduced that companies with more independent boards fare better financially.

In a similar vein, Lin and Chen (2015) investigated 356 Taiwanese businesses to see whether or not there was a link between independent board of directors and successful financial performance. As a result of the finding that a positive relationship exists between financial performance and board independence, it may be deduced that companies with more independent boards fare better financially.

However, other study has demonstrated that there is no correlation between the independence of boards of directors and financial outcomes. Sobhan (2021) conducted research to determine whether or not there was a relevant link between the independence of a board of directors and the performance of a firm as measured by ROA and ROE. In Palaniappan (2017)'s study, which also used Tobin's Q, it was shown that there was no association between board independence and the value of the company.

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Furthermore, according to the findings of certain studies, there appears to be a negative association between the independence of boards of directors and financial success. In Silpachai (2023), one piece of study proved that there is an inverse relationship between the independence of the board and the performance of the firm (as measured by ROA and ROE). They argued that the independent directors' lack of engagement in firm-specific activities and access to information about such activities might be the cause of the negative association.

In conclusion, there is a lack of consensus among the available evidence about whether or not an objective board of directors is beneficial to a company's bottom line. Some studies have identified a link that is positive, while others have found no association at all or even a correlation that is negative. As a result, the relevance of this connection may shift depending on factors such as the operational setting of the bank, the composition of the board, and the metrics of financial viability that are used. As a result, there is not enough evidence to make a conclusive judgement on the effect that an independent board of directors has on a company's financial success; additional research is required. Therefore, we hypothesised that

Ho: There is no significant relationship between Board independence and financial sustainability

Board diversity has been a topic of interest in the corporate world for many years. A diverse board can bring a range of perspectives, experiences, and skills to decision-making, which may lead to better outcomes for the company. One area of interest has been the relationship between board diversity and financial sustainability.

Several studies have been conducted to examine this relationship. A study by Adams and Ferreira (2009) found that companies with more diverse boards had better financial performance. Specifically, they found that companies with a higher percentage of women on their boards had higher return on assets (ROA) and return on equity (ROE) than those with fewer women on their boards. Similarly, a study by Carter et al. (2010) found that companies with more diverse boards had higher ROA and lower debt ratios than those with less diverse boards.

Other studies have focused on the relationship between board diversity and corporate social responsibility (CSR). A study by Kim and Park (2017) found that board diversity was positively related to CSR performance, suggesting that a diverse board may be more likely to consider social and environmental factors in decision-making.

However, not all studies have found a positive relationship between board diversity and financial sustainability. A study by Shin and Zhao (2018) found that board gender diversity was negatively related to firm performance in Chinese firms. They suggest that this may be due to cultural differences in China, where traditional gender roles may influence the effectiveness of female board members.

Overall, the empirical evidence on the relationship between board diversity and financial sustainability is mixed. While some studies have found a positive relationship, others have found no relationship or even a negative relationship. It is important to note that the nature of the relationship may depend on various factors, such as the type of diversity (e.g., gender, ethnicity), the industry, and the cultural context. Therefore, it is important for companies to consider their unique circumstances when making decisions about board diversity.

Ho: There is no significant relationship between Board diversity and financial sustainability

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The empirical research conducted on the connection between board size and the financial viability of a company has shown results that are contradictory to one another. On the other hand, several studies have revealed either no association at all or even a negative correlation between the size of a board and a company's capacity to remain financially viable over the long term.

In certain studies (Mishra & Kapil, 2018; Pucheta-Martinez & Gallego-Alvarez, 2020), it was discovered that the size of a company's board of directors has a positive correlation with the value of the company as determined by Tobin's Q. According to the findings of the study, businesses with larger boards of directors possessed superior corporate governance and monitoring, which in turn led to increased performance and longer-term financial viability.

Gwaison, & Maimako, (2021) found a positive association between the number of board members and a company's level of financial performance. Return on assets (ROA) and return on equity (ROE) are two metrics that may be used to evaluate a business's profitability. According to the findings, boards that have a greater number of members are better able to incorporate a variety of points of view and areas of expertise, which in turn leads to more sensible decisions and greater financial security over the long term.

However, research that contradicts itself has not been successful in finding a correlation between the size of the board and long-term profitability. According to the findings of study carried out by Boachie (2023), board size did not have a meaningful impact on either the financial performance or the shareholder value of a company. A study that was conducted in 1999 by Dalton and colleagues found that there was no association between the size of a company's board of directors and either the profitability of the firm or its market value.

In spite of this, there is research that shows larger boards are not always associated with greater financial stability. For instance, study carried out by Waris and Haji Din (2023) discovered that a greater ROA and ROE were not connected with larger boards. According to the findings of the study, boards that had a greater number of members were less able to make decisions and effectively exercise monitoring, which led to a decline in financial performance.

The overall correlation between the size of a board and a company's ability to remain financially viable over the long term is, at best, unclear. While some studies have identified a correlation between larger board size and improved corporate governance and financial sustainability, others have found either no association at all or even a negative correlation between the two factors. Businesses should carefully evaluate the appropriate number of board members and the manner in which they should be distributed across the organisation in order to achieve the greatest possible amount of profit.

Ho: There is no significant relationship between Board size and financial sustainability

2.5. Method

The study adopts a longitudinal study because it involves repeated observation of the same subjects or variables (Board independence, Diversity of Board, Size of directors, financial leverage and financial sustainability) over 7 years.

Table 1 Measurement of variables

Variables	Proxies	Abbreviation	formula	Author
Financial sustainability	Price earnings ratio	PER	Share price/ Earnings	Kremen, Shkolnyk,

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Board independence	Percentage of independent directors	of BD	Semenog & Kremen, (2019). Shafeeq Nimr Al-Maliki, Salehi, & Kardan, (2023).
Diversity of Board	Percentage of women directors	of WD	Abdeljawad, & Masri, (2020).
Size of directors	Number of directors on board	SD	Abdeljawad, & Masri, (2020).
Control variable			
Financial leverage	Percentage of total liability to total asset	FS	Shafeeq Nimr Al-Maliki, Salehi, & Kardan, (2023).

2.6. Model

The independent variables of this study include board independence, diversity of board and size of directors. More so, firm leverage is used as control variable. The dependent variable of financial sustainability was proxied by PER. Based on our hypotheses, we adapted the model of Abdeljawad & Masri, (2020). The linear model is estimated as follows:

$$PER_{it} = \beta_0 + \beta_1(ID)_{it} + \beta_2(WD)_{it} + \beta_3(SD)_{it} + \beta_4(FL)_{it} + e_{it}$$

Where: PER is the dependent variable financial sustainability, β_0 = Regression coefficient, β_1 = independence, β_2 =women directors β_3 =size of directors β_4 = financial leverage, e = error term

3. Research Methodology

The study aims to seek the effect of board characteristics on financial sustainability of listed commercial banks from 2014 to 2022. The thirteen listed commercial banks on the Nigeria stock exchange. The study adopts a census study of all the 13 banks. The data were sourced from the Thomson Reuters database, the Nigeria stock exchange fact book, various website of the banks and <http://www.AfricanFinancials.com>.

This study used panel data for analysis of the result. The study uses descriptive, correlation, both the Fixed Effect model and the Random Effect model are used in the analysis. Hausman test was performed to confirm the appropriateness of either the Fixed Effect model or the Random Effect model. The Ordinary Least Squares (OLS) or Random Effect could obtain a more efficient estimation will be employed if all the independent variables were exogenous. Furthermore, the Breuch and pagan Lagrange Multiplier (LM) test was used to test whether the OLS or the Random Effect model was more appropriate for the analysis of data set.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std.Dev	kurtosis	Skewness	Min	Max
Per	104	1.327	1.402	0.000	0.000	-5.809	3.738
Bd	104	1.156	0.126	0.002	0.034	0.693	1.386

Wd	104	3.056	0.434	0.000	0.152	2.040	3.689
Sd	104	2.525	0.124	0.000	0.152	2.303	2.996
Fs	104	28.903	4.008	0.000	0.000	16.979	36.646

Source: STATA 15.0 Output

Table 1 shows the descriptive statistics for the relationship among the variables price earnings ratio (PER), board diversity (bd), board diversity (Wd) number of directors (Sd), and the control variable financial leverage (Fs) . The results indicate that the mean scores of the variables range between 1.156 and 28.903 The standard deviation ranges between 0.124 to 4.434. The standard deviations are bigger compared to their mean values respectively. This shows that the statistical mean provides a good fit of the observed data and are not normally distributed. To confirm this assertion, the results of kurtosis and skewness show the p value are less than 0.05 with the exception of wd and and Sd which skewness result are above 0.005. this indicate the normality of data. Although, the normality of data is considered as an optional assumption in OLS regression. (Daniels, & Minot, 2019).

Table 3. Variance Inflator Variance (multicollinearity)

Variable	VIF	1/VIF
Sd	1.09	0.917
Wd	1.08	0.930
Bd	1.07	0.931
Fs	1.01	0.988

Source: STATA 15.0 Output

The independent variables in this study were examined for multicollinearity. The result of multicollinearity is that the calculated regression coefficients of the interrelated independent variables have substantial sampling errors. To test for multicollinearity, the variance inflation factor (VIF) was used. The general guideline is that if VIF reaches 10, there is cause for concern regarding the prevalence of multicollinearity Kumari, Lavanya, Vidhya, Premila, & Lawrence, (2023). Table 3 displayed the multicollinearity result, which demonstrated that there is no multicollinearity among the independent variables.

Table 4 correlation Matrix

Variables	Per	Bd	Wd	Sd	Fs
Per	1.000				
Bd	-0.199	1.000			
Wd		0.188	1.000		
Sd		0.210	0.212	1.000	
Fs	-0.244				1.000

Source: STATA 15.0 Output

Take a look at table number 4. When we use the criterion proposed by Cohen (1988), we discover that there is a very tiny inverse correlation between Bd and per. Based on this, it appeared like Bd would advance while Per would retreat. A negative link between Bd and Per ratio suggests that investors may see companies with less board independence as riskier investments. This is evidenced by the fact that Bd is negatively correlated with Per ratio. They

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may be concerned that the company's future profit potential will be harmed as a result of insufficient board independence, which they believe will heighten the possibility of conflicts of interest, favouritism, and poor decision-making. Additionally, they may be concerned that the company's board of directors is not sufficiently independent. As a result, the price-to-earnings ratio might end up being lower than expected since investors are looking for a higher risk premium. This is supported by Vallascas, Mollah, and Keasey's (2017) research. In spite of this, Wd and Per have a constructive and somewhat connected relationship with one another. According to the positive correlation, the value of Wd decreases when there is an increase in the value of Per. This may indicate that those providing financial support favour gender parity. One theory that might help to explain this pleasant perception is the prevalent belief that boards that are more diverse, and in particular boards that include women directors, result in better decision making overall. Suppose investors regard this variation as a sign of improved corporate governance, more effective risk management, and the likelihood of increased future profitability. In that case, the price-to-earnings ratio might end up being higher as a result. To wit: (Sarhan, Ntim, & Al-Najjar, 2019).

Table 6. The results of pooled OLS, fixed Effect and Random Effect

Variable	Pooled coefficient	p-value	Fixed coefficient	p-value	Random coefficient	P-value	OLS with Hetro & Serial correlation
Bd	-2.249	0.044	-1.778	0.018	-1.460	0.046	
Wd	0.501	0.116	8.923	0.006	1.104	0.229	
Sd	-1.001	0.370	-0.640	0.642	-0.422	0.745	
Fs	-0.088	0.011	-0.109	0.000	-0.124	0.000	
Constant	7.443	0.015	-19.137	0.057	4.259	0.295	
R^2	0.121		0.0173		0.091		
N	104		104		104	104	
F	3.38	0.012	14.96	0.000	51.19	0.000	
Hausman Test	Chi2=6.24	0.182					
Breauch pegan	Chibar2=146.62	0.000					
LM test							
Multicollinearity (Vif)	-		1.06				-
Heteroskedasticity ($\chi^2 - stat$)			Chi2 =564.59	0.0000			-
Serial correlation			10.181				
F- stat				0.0078			-

Dependent variable: *Per_{it}*.

Source: STATA 15.0 Output

The results of the combined regression, random effect, and fixed effect models are summarised in Table 6. Because of the corrections for heteroscedasticity and autocorrelation, the estimated results may be relied upon. For the random effect model, the chi-square value is 6.24, but for the fixed effect model it is just 0.182. That the random effect model provides a more precise estimate than the fixed effect model is more evidence of this. The results of the Hausman specification test shown in Table 4 demonstrate this. Since the p-value for the Lagrangian

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Multiplier test was less than 0.05 (0.000), the random effect model is preferred over the pooled regression model. Both the random regression model and the pooled regression model contain the panel effect, as shown by this finding. The purpose of this study is to investigate and test the random effect as a direct outcome of this. The random effects analysis yielded a value of R^2 of 0.091 percent. This indicates that 9.1% of the variation in Price earnings ratio (Per) may be attributed to shifts in the independent variables of Board independence, Diversity of Board, Size of directors, and financial leverage.

Coefficient of board independence (bd) = -1.460299, $p = 0.046$. The Price earnings ratio (Per) of the banks studied between 2014 and 2021 improved as the boards were more autonomous. Banks' Price earnings ratios (Per) skyrocketed once board independence was implemented.

The Board Diversity (WD) coefficient has a p-value of 0.299, whereas the actual coefficient is 1.103641. The Price earnings ratio (Per) of the banks under examination between 2014 and 2021 was shown to be unaffected by the diversity of their boards of directors. Therefore, the increased board diversity has not had a noticeable impact on the price-earnings ratio of financial companies.

The results also show that a bank's price earnings ratio is negatively affected by the size of its board of directors, but long-term profitability is positively affected by the usage of financial leverage. The financial leverage (FS) of a firm is a measure of the extent to which it has borrowed money to fund its operations. An increase in the ratio implies that less of the company's equity is being used, while a decrease in the ratio suggests that more of the company's equity is being used. A rise in profits for the Nigerian bank is possible if it makes efficient use of financial leverage and earns a better rate of return on its assets than it pays in interest on its borrowed capital. If the bank were to become more profitable, the stock price would likely rise along with it, increasing the company's price relative to profits. Authors (Appiah, Gyimah, and Abdul-Razak 2020) put it this way.

4.2. Discussion of Results

Even though the premise of the study stated that a more diverse board would result in a higher price-to-earnings ratio for banks in Nigeria, the researchers found no evidence to support this theory. Furthermore, they found no indication that the size of boards had any influence on the ability of their institutions to maintain a healthy financial position. The findings of this investigation are in direct contrast to those obtained by Gomez and Bernet (2019) and Kaur and Vij (2017), who discovered that the presence of diverse individuals on boards favourably impacted ROA. They arrive to the conclusion that performance is considerably impacted by having diverse board members. This analysis also runs counter to the findings that Ujunwa (2012) uncovered. There is no correlation between the absence of diversity on the Board and the effectiveness of the organisation. On the other hand, results that were not statistically significant would suggest that diversity alone is not enough to drive performance improvements.

In addition, the study tested the concept that sound corporate governance has a substantial and beneficial impact on the performance of financial institutions like banks. In a similar vein, the findings indicate that the quality of the corporate governance at Nigerian deposit money institutions has a significant impact, for the better, on the return on equity. Ranti (2011) discovered that the corporate governance transparency index has a significant beneficial impact on bank financial performance, and these results are consistent with his findings. He also observed that the corporate governance transparency index is positively correlated with bank

profitability. In spite of the fact that this study hypothesised that board composition would have a significant and positive impact on bank performance, it did not find any such association. When Kajola (2008) investigated corporate governance and company performance at a number of Nigerian listed banks between the years 2000 and 2006, she discovered that there was no substantial link between board composition and business success. Sanda, Mikailu, and Garba (2005) highlight the fact that this is not always the case, despite the fact that some research, such as Weisbach (1988), Hermalin & Weisbach (1991), and Lee, Choi, & Kim (2012) are of the view that board composition schemes aid in the reduction of agency difficulties, other studies, such as Sanda, Mikailu, & Garba (2005), are of the opinion that board composition schemes help in the reduction of agency challenges. The link between audit committees and the performance of banks (ROA) is minimal but in a positive direction, which is consistent with the findings. This study indicates a positive association between the size of the audit committee and the success of the firm. However, other research, such as those conducted by Nurdin and Kasim (2017) and Yusuf, Bambale, and Abdullahi (2018), have demonstrated that there is no such link between the two variables. However, research conducted by Kajola (2008) and Hardwick, Adams, and Zou (2011) suggest that a larger audit committee does not necessarily contribute to better financial performance for a corporation. These researchers came to this conclusion based on data that contradict one another. It was also demonstrated that the risk committee had a connection with bank performance (ROA) that was slightly unfavourable. However, the findings of Tao and Hutchinson (2013), who discovered a positive connection between risk and the makeup of the risk and compensation committees, imply the reverse. Tao and Hutchinson observed a positive association between risk and the composition of the risk and compensation committees.

The study posited that Board diversity has a positive and significant effect on bank price per earnings ratio, however, the findings revealed that board size has no significant relationship with bank financial sustainability (PER) in Nigeria. This study contradicts the findings of Gomez, & Bernet, (2019); Kaur, M., & Vij, M. (2017) who claimed that board diversity has a positive and significant influence on return on assets. They conclude that board diversity has a major impact on performance. Similarly, this analysis contradicts the findings of Ujunwa, (2012) Conclude that Board diversity is not significant to performance. However, insignificant findings could suggest that diversity alone is not sufficient to drive performance improvements.

Furthermore, the study postulated a significant and positive impact of corporate governance on bank performance. Similarly, the findings indicate that corporate governance has a significant and positive impact on the ROA of Nigerian deposit money banks. This study is congruent with the findings of Ranti (2011), who discovered that the corporate governance transparency index has a positive significant effect on bank financial performance.

Likewise, this study concluded that the link between board composition and bank performance is insignificant, although the study hypothesised a significant and positive impact. This finding is consistent with the findings of Kajola (2008), who analysed corporate governance and firm performance at some Nigerian listed banks between 2000 and 2006 and discovered no significant association between board composition and firm performance. Despite the fact that some research, including Weisbach (1988), Hermalin & Weisbach (1991), Lee, Choi, and Kim (2012), as noted in Sanda, Mikailu, and Garba (2005), contend that board composition schemes aid in the reduction of agency difficulties.

Similarly, the findings show that, while audit committees have a positive impact on bank performance (ROA), the relationship is insignificant. Several research, like Nurdin and Kasim (2017) and Yusuf, Bambale, and Abdullahi (2018), show a positive association between audit committee size and firm performance, however their findings were not significant, which is inconsistent with this study. Nonetheless, other research, such as Kajola (2008) and Hardwick, Adams, and Zou (2011), indicate that there is no positive association between audit committee size and business performance.

Furthermore, the risk committee was discovered to have a negative but insignificant relationship with bank performance (ROA). This submission contradicts the conclusions of Tao and Hutchinson (2013), who concluded that the membership of the risk and compensation committees is positively related to risk, which is then related to business performance.

5. Conclusion

The purpose of this study was to determine the effect of Board characteristics dimension of Board independence, Board diversity and Board size on financial sustainability from 2014 to 2022.

According to the data, Board independence has a significant and positive effect on financial sustainability), while Board diversity and Board size have no effect on bank financial sustainability. To that end, the research recommends that bank regulators enshrine principles requiring financial organisations to establish functional board diversity that will make real contributions that will benefit the banks.

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Assessing the Role of Price and Service Quality in Influencing Customer Decisions at K24 Wahid Hasyim Pharmacy, Palembang

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Abstract

In the competitive business landscape, effective marketing strategies are crucial, especially in the resilient and growing pharmacy industry. This study examines how price and service quality affect consumer purchasing decisions at K24 Pharmacy on Jl. KH Wahid Hasyim Palembang. Given the Indonesian pharmacy sector's rapid growth, particularly during the COVID-19 pandemic, understanding consumer behavior is essential. Despite K24 Pharmacy's competitive advantages, it faces significant competition. The study aims to determine the impact of price and service quality on consumer decisions at K24 Pharmacy, offering strategic insights for improvement. Conducted from April to May 2024, this quantitative research surveyed 100 customers using a structured questionnaire. Data analysis involved descriptive statistics and multiple regression analysis using SPSS software to evaluate the influence of price and service quality on purchasing decisions. Findings reveal that service quality significantly affects purchasing decisions, while price does not have a statistically significant impact. The reliability test showed high internal consistency for both variables and normality and multicollinearity tests confirmed data suitability for regression analysis. Service quality, including reliability, responsiveness, assurance, empathy, and physical evidence, has a significant positive relationship with purchasing decisions. Conversely, price factors like affordability, quality alignment, and competitiveness did not significantly influence consumer choices. K24 Pharmacy should focus on enhancing service quality to boost consumer satisfaction and loyalty. While maintaining competitive pricing, the emphasis should be on improving service aspects, which more substantially impact purchasing decisions. In conclusion, the research underscores the critical role of service quality in consumer decision-making at K24 Pharmacy, providing strategic insights for sustaining and enhancing its market position.

Keywords: Price, Service Quality, Purchasing Decision, Improving Strategies.

JEL Codes: M. 10, J 54< K10

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1. Introduction

In the current era of very tight business competition, every business actor must pay special attention to the marketing strategies implemented in their company (Febrinasari et al., 2022). Increasing business competition forces organizations or companies to focus on increasing specific competencies and skills by improving the quality of human resources that are reliable in facing existing competition (Tran et al., 2020). To meet consumer needs and desires, companies must consider consumer behavior in the purchasing decision making process as a basis for formulating effective marketing strategies.

The pharmacy industry in Indonesia is experiencing very rapid growth. Initially, pharmacies could only be found in urban areas, but now they have reached districts, sub-districts and even sub-districts throughout Indonesia (Cahyadi et al., 2020.). The pharmacy business has proven to be able to survive amid the COVID-19 pandemic, even when many other business activities have closed down. People flocked to buy various medical supplies, including COVID-19 medicines and vitamins, which made the pharmacy business gain profitable momentum (Tran et al., 2020).

During the pandemic, prices of COVID-19 medicines and vitamins soared because demand far exceeded stock on the market (Kumar et al., 2024). This shows that the pharmacy business is very resilient in facing economic shocks and instability (Roring et al., 2024). The pharmacy business is able to survive and even grow amidst the global health crisis because the products sold are basic needs of society. Considering the economic instability caused by the pandemic, purchasing decisions are a crucial aspect of marketing that must be the company's main concern (Wibowo et al., 2023).

Companies need to review and consider marketing strategies for the products or services they will offer to understand consumer needs, wants and preferences. This in-depth understanding allows companies to influence consumers' purchasing decision-making processes. Price factors and service quality are two important aspects that can influence consumer purchasing decisions (De Sousa Saldanha et al., 2021). Determining the right price is crucial so that the product is affordable while being able to provide ideal profit margins and maintain the perception of quality in the eyes of consumers.

Apart from price, service quality plays a crucial role because it has a direct impact on the company's image (Salsyabila et al., 2024). High-quality service is an added value for the company and determines the level of consumer satisfaction (Leonard Parsaoran & Hartono, 2023). K24 Pharmacy on Jl. KH Wahid Hasyim Palembang faces stiff competition even though it has the slogan "Complete 24 hours" and serves on national holidays. This research will examine whether the price and quality of service at Apotek K24 Wahid Hasyim Palembang have a significant influence on consumer purchasing decisions. Based on findings from previous studies and the phenomena that occur, this research is entitled Assessing the Role of Price and Service Quality in Influencing Customer Decisions at K24 Wahid Hasyim Pharmacy, Palembang. The novelty of this research will be a solution for enhancing the pharmacy's existence.

2. Literature Review

2.1 Price

Prices have a dual role in business activities (Vierdwiyani & Syafarudin, 2020). For companies, price is a source of income obtained from consumers. Meanwhile, from a consumer perspective,

price is an expenditure or sacrifice that must be made to obtain the desired product or service to meet needs. According to Kotler and Armstrong (2018), price is the amount of money charged to consumers for a product or service, coupled with the benefits obtained from using the product or service (Chaerudin & Syafarudin, 2021). Meanwhile, Ahmed et al., (2023), defines price as an amount of money used as a medium of exchange to obtain a product or service. Thus, it can be concluded that price is the value used as a medium of exchange to obtain products or services, where consumers spend a certain amount of money to get the benefits of the product or service, while the company receives this amount of money as income.

2.2 Service Quality

Service Quality is an important indicator for companies to meet consumer expectations and desires. According to De et al., (2020), Service Quality is every action offered by a company that is basically intangible and does not result in any ownership but aims to fulfill consumer desires. Meanwhile, Sudirjo et al., (2023) defines Service Quality as a dynamic condition related to products, services, people, processes and the environment that meets or even exceeds consumer expectations.

2.3 Purchasing Decision

According to Ali et al., (2021), purchasing decisions are a process in which consumers identify problems, search for information related to a particular product or brand, and carefully evaluate each alternative to find a solution that meets their needs or problems. This entire process then guides consumers towards purchasing decisions which are considered as a solution to the problems they face (He et al., 2022).

3. Research Methodology

This research was conducted at the K-24 Wahid Hasyim Palembang Pharmacy which is domiciled in Palembang, precisely on Jl. KH Wahid Hasyim, 5 Ulu, Seberang Ulu I District, Palembang City, South Sumatra. The research was conducted from April 2024 to May 2024. This research uses a quantitative approach that tests the influence of price and customer satisfaction on purchasing decisions. The data analysis used in this research is quantitative analysis using descriptive statistics and inferential statistics through multiple regression analysis which begins with a classical assumption test first. The sample in this research was the K24 Wahid Hasyim Palembang pharmacy customers, totaling 96.04 people based on the results of the Lemeshow formula calculation and adding up to 100 people. The type of data used is primary data obtained from sources, survey results, directly from respondents (without intermediaries). Primary data was collected specifically by researchers to answer the questions in this research. The technique of multiple regression analysis is employed to evaluate the impact of two or more independent variables on the dependent variable. In this context, multiple regression models can be implemented using SPSS version 23 for Windows statistical software. In this research, price (X1) and service quality (X2) were identified as independent variables which are thought to have a significant influence on purchasing decisions (Y) at K24 Wahid Hasyim Pharmacy, Palembang. Price consists of four sub-variables: price affordability, price match with quality, price match with benefits, and price match with competitiveness. Service quality consists of five sub-variables: reliability, responsiveness, assurance, empathy, and physical evidence. Purchasing decisions as a dependent variable include product choice, brand choice, dealer choice, purchase time, purchase amount, and payment method.

As for various research that has been carried out previously and based on a framework of

thought, the author formulates the following hypothesis:

1. H1: It is suspected that price will partially influence the decision to purchase Apotek K24 Wahid Hasyim Palembang products. This hypothesis is based on the assumption that consumers tend to consider price factors when making purchasing decisions, including affordability, suitability for quality and benefits, and product price competitiveness.
2. H2: It is suspected that service quality will partially influence purchasing decisions for Apotek K24 Wahid Hasyim Palembang products. This hypothesis arises from the understanding that aspects such as reliability, responsiveness, guarantee, empathy, and physical evidence of pharmacy services can increase consumer satisfaction and loyalty, which ultimately influences purchasing decisions.
3. H3: It is suspected that service quality and price will jointly influence the decision to purchase Apotek K24 Wahid Hasyim Palembang products. This hypothesis emphasizes that the combination of competitive prices and good service quality will have a stronger influence on consumer purchasing decisions than if these variables were analyzed separately.

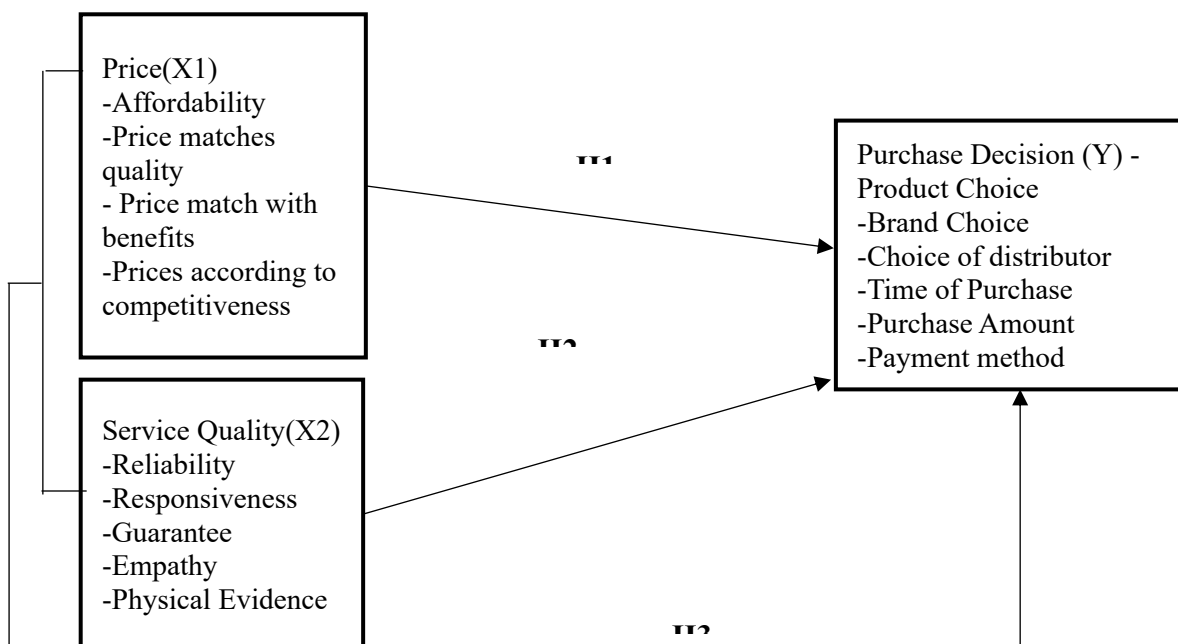


Figure 1. Research Framework
Sources: Author, 2024

4. Result and Discussion

4.1. Result

4.1.1. General information of respondents

The data represents a demographic and occupational breakdown of a specific population as represented in Table 1. In terms of gender distribution, females slightly outnumber males, comprising 51% and 49% respectively, contributing to a balanced gender representation within

the group. Regarding age distribution, the majority of individuals fall within the younger age brackets, with 50% aged between 18 to 25 years and 43% between 26 to 30 years. A smaller segment, constituting 7%, belongs to the age group older than 31 years, indicating a predominantly youthful demographic profile.

Occupationally, the population shows diversity with varying roles. Students represent 10% of the group, indicating a segment engaged in educational pursuits. Public servants constitute a significant portion at 25%, highlighting a notable presence in governmental or civic roles. Self-employed individuals comprise the largest group at 40%, demonstrating a strong entrepreneurial spirit within the community. Businessmen account for the remaining 25%, reflecting active involvement in commercial enterprises. This comprehensive breakdown underscores the studied population's demographic composition and occupational diversity, offering insights into their gender distribution, age demographics, and occupational profiles.

Table 1. General description of respondents

Variables	Unit	Percentage (%)
Gender	Male	49
	Female	51
Age	18-25 years	50
	26-30 years	43
	>31 years	7
Occupations	Student	10
	Public Servant	25
	Self-employed	40
	Businessman	25

Source: Results of field survey, (2024).

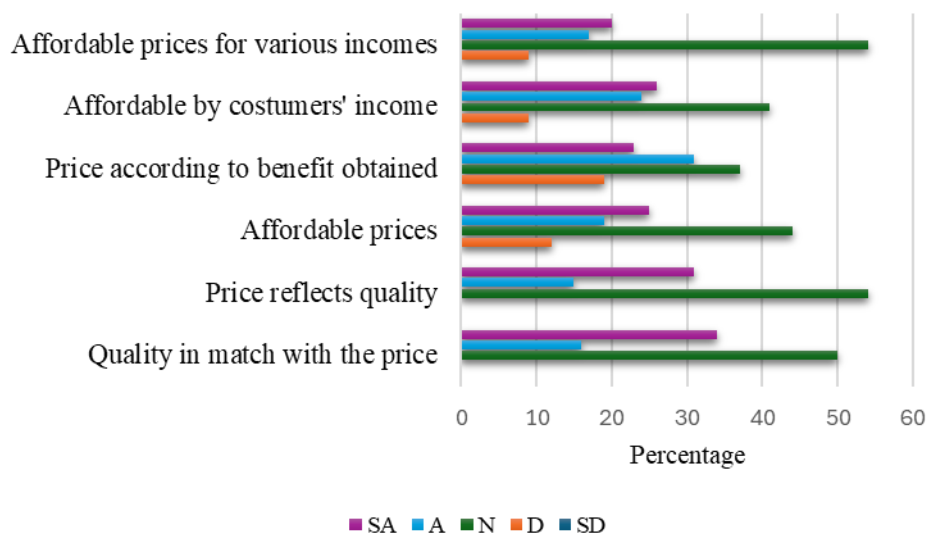
4.1.2. Descriptive analysis of Customers about Price, Services Quality, and Purchasing Decision

Figure 2 refers to the analysis reveals that a significant proportion of consumers perceive that the quality matches the price they pay, with 50% indicating agreement and a further 34% somewhat agreeing. This suggests a general satisfaction or acceptance among consumers regarding the perceived value they receive in relation to the cost of the product. Moreover, a substantial portion of respondents (54%) believe that the price of a product accurately reflects its quality, underscoring a prevalent consumer sentiment that pricing is a reliable indicator of the product's inherent value and attributes.

In terms of affordability, opinions vary slightly across different statements. For instance, 44% of respondents find prices generally affordable, while 25% strongly agree and 19% somewhat agree with this sentiment. This indicates a mixed perception among consumers about the accessibility of prices in relation to their purchasing power. Similarly, when considering the relationship between price and the benefits derived from a product, opinions are divided, with 37% agreeing and 31% somewhat agreeing that prices align with the benefits obtained. This suggests that while a significant portion acknowledges a fair correlation between price and

product benefits, others may have reservations or varied experiences in this regard.

Furthermore, affordability concerning consumers' income levels shows a positive perception, with 41% agreeing and 26% somewhat agreeing that prices are affordable based on their income. This highlights a general sense of affordability tailored to consumers' financial capacities. Overall, the data underscores diverse consumer perspectives on price variables, emphasizing perceptions of value, affordability, and the relationship between price and product quality. These insights are crucial for businesses aiming to understand and meet consumer expectations effectively in their pricing strategies and market positioning efforts.



Note: SA: Strongly Agree; A: Agree; N: Neutral; D: Disagree; SD: Strongly Disagree

Figure 2. Analysis Descriptive Price Variable

Sources: *Field Survey, (2024).*

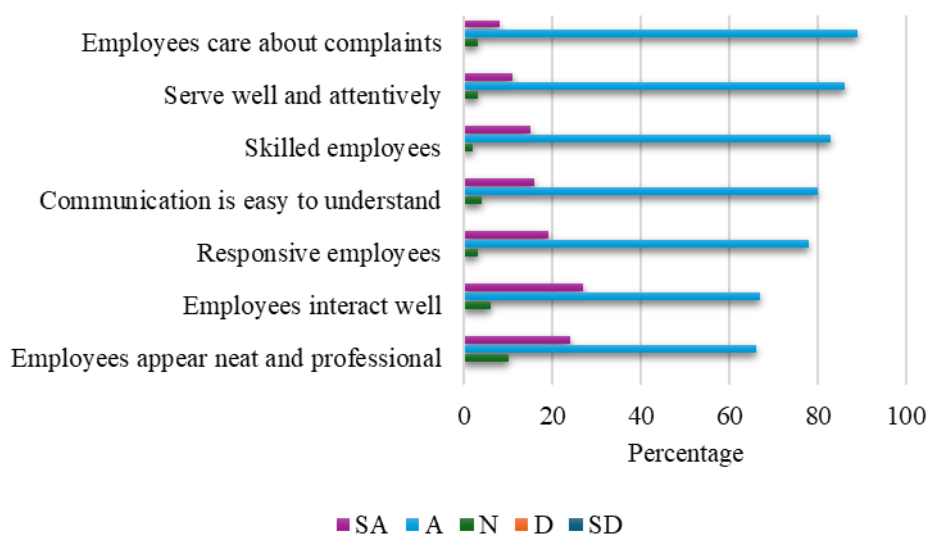
The data presented offers a detailed descriptive analysis of respondents' perceptions regarding various aspects of service quality. Each statement pertains to different facets of employee behavior and service delivery within the surveyed context. Firstly, concerning the appearance and professionalism of employees, a significant majority of respondents (66%) rated employees as demonstrating professionalism but noted room for improvement, with 24% indicating a neutral stance and 10% expressing dissatisfaction.

Secondly, in terms of interpersonal interactions, a majority (67%) perceived employees to interact effectively, though again, there were some respondents (27%) who felt interactions could be improved, and a smaller proportion (6%) indicated dissatisfaction. Thirdly, regarding responsiveness, the data shows a positive trend with 78% of respondents acknowledging employees' promptness in addressing concerns, while 19% remained neutral and 3% expressed dissatisfaction.

Fourthly, in terms of communication clarity, the majority (80%) found employee communication easy to understand, though 16% were neutral, and 4% felt improvements were necessary. Fifthly, regarding employee skills, an overwhelming majority (83%) recognized employees as skilled, with 15% remaining neutral, and only 2% expressing dissatisfaction.

Sixthly, concerning attentive and effective service delivery, a significant majority (86%) perceived employees as serving attentively, while 11% were neutral, and 3% expressed dissatisfaction. Lastly, regarding employees' responsiveness to complaints, the majority (89%) felt employees cared about complaints, with 8% remaining neutral, and 3% indicating dissatisfaction.

Overall, the data provides a nuanced understanding of how respondents perceive various dimensions of service quality within the organization. While the majority of responses are positive across most variables, there are notable areas where improvements could potentially enhance overall service delivery and customer satisfaction. This analysis underscores the importance of continuous improvement efforts in aligning service delivery with customer expectations and enhancing overall service quality.



Note: SA: Strongly Agree; A: Agree; N: Neutral; D: Disagree; SD: Strongly Disagree

Figure 3. Analysis Descriptive Service Quality Variable

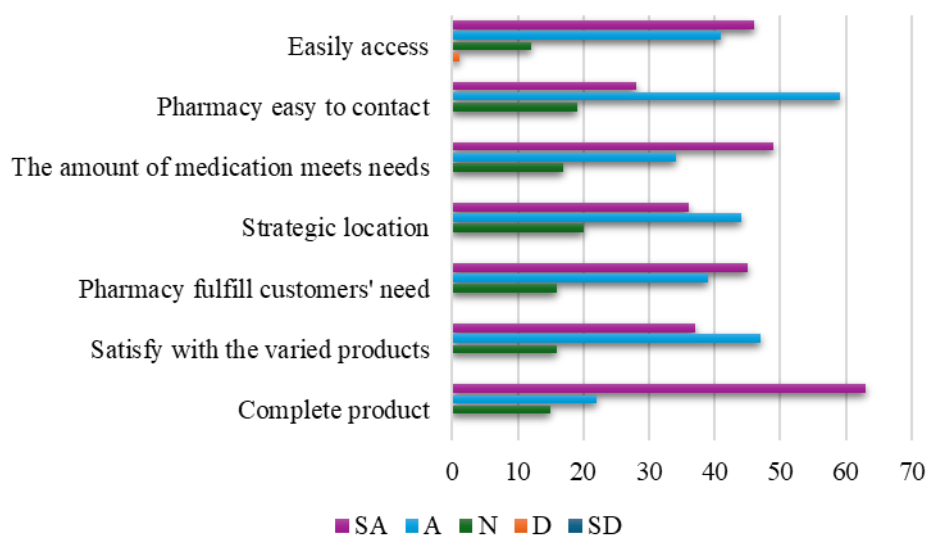
Sources: Field Survey, (2024)

Figure 3 explains about the data and presents a detailed descriptive analysis of respondents' perceptions across various purchasing decision variables related to pharmacy services. The findings reveal insights into how customers perceive and evaluate key aspects influencing their purchasing decisions. Firstly, when considering the completeness of products available, a majority of respondents (63%) expressed satisfaction, indicating a strong perception that the pharmacy offers a comprehensive range of products. Similarly, a significant portion of respondents (47%) indicated satisfaction with the variety of products available, suggesting that the diversity in product offerings meets their expectations.

In terms of customer satisfaction, perceptions regarding whether the pharmacy fulfills customer needs were positive, with 45% of respondents agreeing that their needs are adequately met. Moreover, the strategic location of the pharmacy was perceived favorably by 44% of respondents, highlighting the importance of convenience and accessibility in their decision-making process. Regarding specific service aspects, such as whether the amount of medication

meets their needs, a substantial proportion (49%) of respondents affirmed this, indicating a critical factor influencing their satisfaction. Additionally, ease of contact with the pharmacy was considered satisfactory by a majority (59%) of respondents, emphasizing the significance of effective communication channels.

Lastly, ease of access to the pharmacy location was perceived positively by 46% of respondents, underscoring the importance of convenience and accessibility in their overall satisfaction with pharmacy services. Overall, these findings provide a comprehensive overview of how respondents perceive and evaluate various factors influencing their purchasing decisions related to pharmacy services, highlighting areas of strength and potential areas for improvement.



Note: SA: Strongly Agree; A: Agree; N: Neutral; D: Disagree; SD: Strongly Disagree

Figure 4. Analysis Descriptive of Purchasing Decision Variable

Sources: Field Survey, (2024)

4.1.3. Reliability, Normality, Multi-Collinearity test

a. Reliability Test

The study's results are assessed using tests for multicollinearity, normalcy, and dependability. The reliability test findings, which assess data consistency using Cronbach's Alpha, are shown in Table 3. For reliability, a Cronbach's Alpha score of more than 0.7 is seen as appropriate. Firstly, reliability is evaluated using Cronbach's Alpha coefficient, which measures the internal consistency of the scales used in the study (Nasir & Sukmawati, 2023). For this research, the variables "Price" and "Service quality" demonstrate strong internal reliability, with Cronbach's Alpha coefficients of 0.946 and 0.911, respectively. These high values indicate that the items within each scale are highly correlated, suggesting reliable measurement constructs for both price and service quality aspects.

b. Normality and Multi-Collinearity Test

The data normality test in Table 2 aims to verify whether the sample used is normally distributed or not because a good regression model is a regression model that has a normal or close to-normal distribution so that hypothesis testing can be carried out (Nasir & Sukmawati, 2023). From the results of the normality test using the One-Sample Kolmogorov-Smirnov method, the significance result of the normality test was 0.156, where the result was greater than the significance level of 0.05, so it could be interpreted that the data normality test in this study was normally distributed.

Table 2. Normality Test Results

		Unstandardized Residual
N		100
Normal Parameters a,b	<u>Mean</u>	<u>.0000000</u>
	Std. Deviation	3.97385282
Most Extreme Differences	<u>Absolute</u>	<u>.112</u>
	<u>Positive</u>	<u>.112</u>
	Negative	-.097
Test Statistic		.112
Monte Carlo sig (2-tailed)	Sig	.156d

Sources: Data Processed

Multicollinearity diagnostics are essential to ensure that the independent variables in regression models are not highly correlated with each other, which can distort the estimation of coefficients and affect the interpretation of results (Nasir & Sukmawati, 2023). The data includes collinearity statistics such as tolerance and variance inflation factor (VIF). Tolerance values close to 1 and VIF values below 10 generally indicate acceptable levels of multicollinearity. In this case, both "Price" and "Service quality" exhibit tolerances of 0.969 and VIFs of 1.032, suggesting no significant issues with multicollinearity.

Regarding the qualitative aspects of the findings, it's critical to define the qualities observed in the data clearly. For instance, the finding that "Service quality" has a standardized coefficient (Beta) of 0.255 with a significance level (Sig.) of 0.012 indicates a moderately strong positive relationship with the dependent variable. This relationship suggests that as service quality increases, there is a corresponding positive impact on the dependent variable, though the effect size should also be considered in interpretation.

Table 3. Reliability, Normality, Multi-Collinearity test

Variables	Cronbach's Alpha	Mean	Collinearity Statistics	
			Tolerance	VIF
(Constant)				
Price	0,946	58.575	0,969	1,032
Service quality	0,911	16.117	0,969	1,032

Sources: Data Processed

To ensure transparency and coherence in the statements made, the data's dependability, normal distribution, and lack of multicollinearity are explicitly proven. The scatterplot results from the SPSS test show that the error is relatively constant with no apparent pattern in the variance, and the points spread above and below the zero line on the Y-axis, indicate no heteroscedasticity.

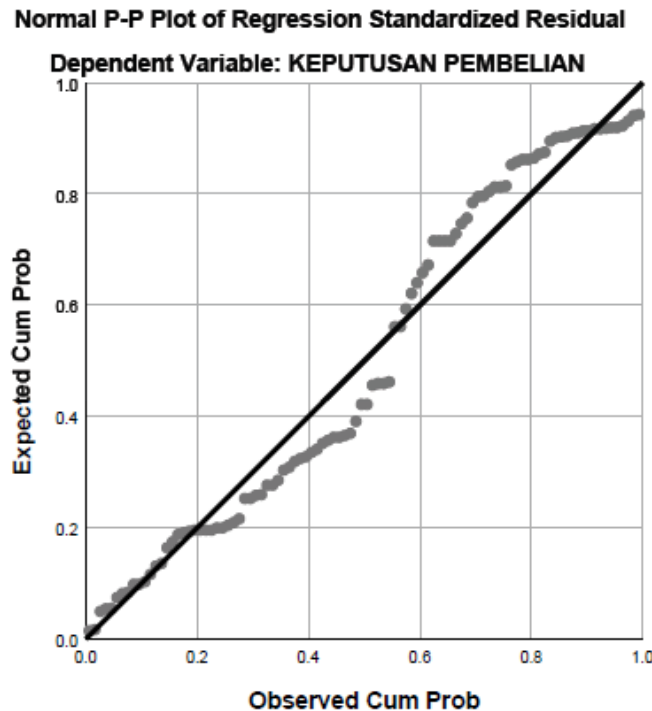


Figure 5. Graphic of Normal P-P Plot of Regression Standardized Residual

Sources: Data Processed

4.1.4. Regression Analysis

The regression analysis results presented in Table 4 here indicate a model that attempts to explain variation in a dependent variable using independent variables such as "Price" and "Service quality." The overall model fit, represented by the coefficient of determination (R^2), is 0.070, indicating that the independent variables in the model can account for about 7.0% of the variance in the dependent variable. The adjusted R^2 , which accounts for the number of predictors in the model, is 0.051, reflecting a slight adjustment to the model's explanatory power to better represent the population.

Table 4. Results of regression analysis among selected variables

Variable	R	R^2	Adjusted R^2	F	Standardized coefficients	t	Sig.
Constant	.264 ^a	0,070	0,051	3,634	β	3,634	0,000
Price					0,036	0,357	0,722
Service quality					0,255	2,567	0,012

Sources: Data Processed

The F-statistic of 3.634 with a corresponding significance (Sig.) of 0.000 indicates that the overall model is statistically significant at conventional levels, implying that the independent variables collectively contribute significantly to explaining the variation in the dependent variable.

Examining the standardized coefficients (β), which measure the strength and direction of the

relationship between each independent variable and the dependent variable after accounting for differences in their scales, "Price" exhibits a coefficient of 0.036 with a t-value of 0.357 and a non-significant p-value of 0.722. This suggests that "Price" does not have a statistically significant effect on the dependent variable in the model.

Conversely, "Service quality" demonstrates a more pronounced relationship, with a standardized coefficient of 0.255 and a corresponding t-value of 2.567. The significance level (Sig.) associated with "Service quality" is 0.012, indicating that it has a statistically significant impact on the dependent variable at the 0.05 significance level. This suggests that improvements in service quality are likely to correspond with higher values of the dependent variable, highlighting the importance of service quality in influencing the outcome of interest. This research results are in line with the research of Tran et al., (2020b)

In summary, while "Price" does not significantly influence the dependent variable in this regression model, "Service quality" emerges as a significant predictor. These findings underscore the nuanced relationships between variables and provide insights into factors that may impact the dependent variable, offering valuable implications for decision-making and further research in related fields.

4.2. Discussion

The regression analysis of purchasing decisions for K24 Wahid Hasyim Pharmacy Palembang products provides valuable insights into the influence of price and service quality, which are central to the study's hypotheses.

Hypothesis 1: Influence of Price on Purchasing Decisions

H1 posits that price will partially influence the decision to purchase K24 Wahid Hasyim Pharmacy Palembang products. This hypothesis is grounded in the assumption that consumers consider price factors such as affordability, suitability for quality and benefits, and product price competitiveness when making purchasing decisions. However, the regression analysis reveals that the variable "Price" exhibits a standardized coefficient (β) of 0.036 with a t-value of 0.357 and a non-significant p-value of 0.722. This result suggests that price does not have a statistically significant effect on the dependent variable in this model. Despite theoretical expectations, the empirical data does not support the hypothesis that price significantly influences purchasing decisions in this context. This finding could imply that other factors, such as brand loyalty or perceived value, might overshadow price considerations for K24 Wahid Hasyim Pharmacy Palembang customers.

Hypothesis 2: Influence of Service Quality on Purchasing Decisions

H2 suggests that service quality will partially influence purchasing decisions for K24 Wahid Hasyim Pharmacy Palembang products. This hypothesis is derived from the understanding that aspects such as reliability, responsiveness, guarantee, empathy, and physical evidence of pharmacy services can enhance consumer satisfaction and loyalty, ultimately affecting purchasing decisions. The regression results support this hypothesis, as "Service quality" demonstrates a standardized coefficient (β) of 0.255 with a corresponding t-value of 2.567 and a significant p-value of 0.012. This indicates a moderately strong positive relationship between service quality and the dependent variable, affirming that as service quality improves, so does the likelihood of purchasing decisions. This finding underscores the critical role of service quality in influencing consumer behavior, suggesting that customers prioritize the quality of service they receive over the price when deciding to purchase from K24 Wahid Hasyim

Pharmacy Palembang.

Hypothesis 3: Combined Influence of Price and Service Quality

H3 posits that service quality and price will jointly influence the decision to purchase Apotek K24 Wahid Hasyim Palembang products. This hypothesis emphasizes that the combination of competitive prices and good service quality will have a stronger influence on consumer purchasing decisions than if these variables were analyzed separately. The regression analysis reveals that while service quality significantly influences purchasing decisions, price does not. The overall model fit, represented by the coefficient of determination (R^2), is 0.070, indicating that only 7.0% of the variance in the dependent variable can be explained by the independent variables included in the model. The adjusted R^2 is 0.051, reflecting a slight adjustment to the model's explanatory power. The F-statistic of 3.634 with a significance level (Sig.) of 0.000 suggests that the model is statistically significant, implying that the independent variables collectively contribute significantly to explaining the variation in the dependent variable. However, the non-significant influence of price means that the joint effect of price and service quality is primarily driven by the latter.

5. Conclusion

In summary, the findings from the reliability, normality, and multicollinearity tests provide a solid foundation for interpreting the regression analysis results. The evidence suggests that while price may not significantly impact purchasing decisions, service quality plays a crucial role. The combined influence of price and service quality, though statistically significant, explains a modest portion of the variance in purchasing decisions, indicating the complexity of consumer behavior and the need for a broader perspective in future research. These insights have practical implications for pharmacy management, highlighting the importance of prioritizing service quality to enhance consumer satisfaction and loyalty.

Based on these findings, several actionable recommendations can be made:

1. **Focus on Service Quality:** Given that service quality significantly influences purchasing decisions, K24 Wahid Hasyim Pharmacy Palembang should invest in enhancing aspects of service quality such as reliability, responsiveness, guarantees, empathy, and physical evidence of services. This can be achieved through staff training, improving customer service protocols, and ensuring high standards of service delivery.
2. **Reevaluate Pricing Strategy:** Since price does not significantly impact purchasing decisions, the pharmacy might consider maintaining current pricing levels while emphasizing the value provided through superior service quality. This approach can help retain customers who prioritize service quality over price.
3. **Market Perceived Value:** Highlight the perceived value of the products and services offered, encompassing factors beyond price and service quality. This includes emphasizing the pharmacy's reputation, the quality of products, and any additional benefits such as loyalty programs or exclusive services.
4. **Comprehensive Customer Experience:** Focus on creating a holistic customer experience that integrates high service quality with other value-added elements. This includes ensuring a pleasant in-store experience, providing personalized services, and engaging customers through effective communication and follow-up.
5. **Continuous Improvement:** Implement mechanisms for continuous feedback and improvement in service quality. Regularly assess customer satisfaction and make data-driven adjustments to service protocols to meet and exceed customer expectations.

By prioritizing service quality and leveraging the perceived value of their offerings, K24 Wahid Hasyim Pharmacy Palembang can enhance customer satisfaction and loyalty, ultimately driving purchasing decisions and fostering long-term success.

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Determinants of Capital Structure in Energy Sector Companies Listed on the Indonesia Stock Exchange

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Abstract

Capital structure is the balance between long-term debt and company capital. The source of capital itself can be obtained from debt sources and shareholder capital. which is also owned by the investor so that through a combination of these sources of funds, namely through debt and company capital, it can increase company profits. This study aims to determine the effect of return on assets, growth opportunity, sales growth, and asset structure on capital structure in energy sector companies listed on the Indonesia Stock Exchange in 2021-2023. This research uses a descriptive method with a quantitative approach. The population observed in this study were all energy sector companies listed on the Indonesia Stock Exchange, totaling 87 companies. The sample selection method in this study was determined by the purpose sampling method. The number of samples taken in this study were 20 companies. The results showed that the variable return on assets has no significant effect on capital structure, growth opportunity has a significant negative effect on capital structure, sales growth has a significant positive effect on capital structure, and asset structure has no significant effect on capital structure. This research implies that it is expected to provide input as a consideration for investors in making investments. In addition, this research is expected to contribute and refer to further research.

Keywords: Capital Structure, return on assets, growth opportunity, sales growth, asset structure.

JEL Codes: G10 G11, G12

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1. Introduction

The era of globalization has brought intense competition in the business world. In order to be able to face global competition, companies are faced with making financial decisions, namely funding decisions and investment decisions. Funding decisions are very important for companies in facing competition (Deviani, 2018). Companies are required to be able to maintain the availability of funds in the company, to support the company's operational activities in order to develop the company, make investments, and to carry out other activities. Capital structure is an important aspect in funding decisions. Funding or capital structure of the

company if not managed optimally, it can cause financial difficulties for the company. (Yanto, 2023).

Each company determines the capital structure by taking into account various aspects on the basis of the owner's strategic plan for possible access to funds, the company's courage to bear risks, and analysis of costs and benefits obtained from each source of funds. Where the source of company funds comes from internal and external companies. Sources of funds originating from internal companies are paid-up share capital and retained earnings, while external sources of funds come from third party loans, namely creditors and investors. When the company's own capital cannot optimally meet its operational needs, the company can finance its investment with external funding through debt. (Kusna & Setijani, 2018). Pecking order theory explains that companies determine the hierarchy of sources of funds used. Where investment will be financed from the cheapest source of funds, namely internal sources of funds (retained earnings), then issuing new debt, to shares as the last source. (Putri, 2015).

Capital structure is a permanent expenditure of the company that reflects the ratio or balance between the company's long-term debt and the company's own capital in the form of retained earnings and issuance of shares. The company's capital can be sourced from internal or external sources. Funding sourced from internal companies comes from retained earnings and accumulated depreciation. External funding comes from the use of debt or issuance of shares. (Yanto, 2023). The definition of capital structure is the balance between the use of long-term loans and the use of own capital, which means how much own capital and how much long-term debt will be used so that it can be optimal. With an optimal capital structure, companies that have an optimal capital structure will produce an optimal rate of return so that not only the company will benefit, but shareholders will also benefit. (Kartika, 2019). Where the source of capital can be obtained from debt sources and also shareholder capital which is also owned by investors so that through a combination of these sources of funds, namely through debt and company capital, it can increase company profits.

The phenomenon that occurred was that in the sectoral index, energy sector stocks were the main ballast of the correction rate of the Composite Stock Price Index (CSPI). This sector recorded a decline of up to 1.24%. Some of the stocks that corrected from this sector such as PT Aneka Tambang Tbk (ANTM) which fell 2.82% to Rp 2,480 per share. Then, there is PT Adaro Energy Tbk (ADRO) which fell 2.28% to Rp 1,070 per share. In addition, PT Vale Indonesia Tbk (INCO) corrected 0.31% to Rp 3,240 per share. PT Medco Energi Internasional Tbk (MEDC) fell 2.47% to Rp 790 per share. And PT Bukit Asam (PTBA) also fell 2.36% to Rp 2,480 per share. The decline in the stock price index shows that investor interest in investing has decreased. Capital structure (capital structure) has a relationship with the company's share price, where one of the elements that form the share price is the investor's perception of the company's performance and capital structure is one of the elements that determine the good and bad performance of the company, where in this case the capital structure can be influenced by several factors. Energy sector companies are companies with a large scale of production or have large trading volumes and require large capital to develop their products so that it will affect the capital structure or funding of a company. (Nuridya, 2020).

Based on previous studies, there are several factors that can affect capital structure. These determinants include return on assets, sales growth and asset structure. However, there are differences in this study, namely the existence of growth opportunity variables.

Return on assets (ROA) is a ratio used to measure the efficiency of the company to generate

profits or profits for the company. Companies that have a high level of profit tend to use less external funds. (T. A. Aditya, 2023). Return on Assets is a ratio that shows the results on the number of assets used in the company. The higher the ROA value of a company, the better the company's ability to manage assets. (Rahmanita, 2022). Research conducted by (D. Aditya, 2023) and (Nastiti & Andayani, 2016) states that return on assets has a negative effect on capital structure. Meanwhile, research conducted by (Nuridya, 2020) states that return on assets has a positive effect on capital structure.

Growth Opportunity is a company that has the opportunity or opportunity to grow or achieve a growth rate or develop its company. Companies with high growth rates need more and in the future, especially external funds to meet their investment needs or to meet the need to finance their growth (Wijaya, 2015). The company's growth opportunity is a point of view to determine how far the company will grow in the future. The results of research conducted by (Hidayah, 2018) and (Adiwiguna, 2020) state that growth opportunity has a positive effect on capital structure. Meanwhile, research conducted by (Ni'mah, 2018) states that growth opportunity has no effect on capital structure.

Sales growth can be interpreted as an increase in the number of sales from year to year or period to period. Sales growth reflects the success of past period investments and can be used as a prediction of future company growth. (Hertina et al., 2022). Sales growth is the level of stability in the number of sales made by the company for each period of the financial year. Sales growth is an increase in terms of quantity, productivity of the company to sell its products from the previous year. The results of research conducted by (D. Aditya, 2023) show that sales growth has a positive effect on capital structure. While research conducted by (Ni'mah, 2018) and (Rahmawati, 2019) stated that sales growth has no effect on capital structure.

According to (Lubis & Arief, 2022) Asset structure is defined as the composition of the company's assets which is used to determine how much funds are in each asset component consisting of fixed assets and current assets. Asset structure is a comparison between the amount of fixed assets owned by the company and total assets. Companies that have larger fixed assets that can be used as collateral, the easier it is for companies to get funding from external parties. Because external parties usually consider collateral by a company in providing loan funds (debt). (Hidayah, 2018). The results of research conducted by (Hidayah, 2018) and (Utama, 2020) which state that asset structure has no effect on capital structure. However, it is not in line with research conducted by (D. Aditya, 2023) which states that assets structure has a positive effect on capital structure.

This study was conducted to determine the effect of return on assets, growth opportunity, sales growth, and asset structure on capital structure in energy sector companies listed on the Indonesia Stock Exchange in 2021-2023.

2. Literature Review

2.1 Theoretical Foundation

2.1.1 Trade-Off Theory

Trade Off Theory was first introduced by Modigliani and Miller in 1963; this theory explains how much corporate debt there is an assumption that the benefits of tax savings from the use of debt will be exchanged for problems caused by the use of debt, which causes the potential for bankruptcy. This Trade-Off Theory states that the optimal capital structure will maximize the stock price. Trade-off theory in capital structure is to balance the benefits and sacrifices that

arise as a result of the use of debt. According to (SHERLY & Abdul, 2019) Capital structure policy involves balancing (trade-off) risk and rate of return. According to Stiglitz (1969) trade-off theory states that companies that have an optimal level of debt will try to adjust the debt level towards the optimal point either when the company is at a debt level that is too high (overlevered) or too low (underlevered). Additional funds from external parties is an alternative that companies can choose by considering a number of factors, especially internal factors.

2.1.2 Pecking Order Theory

Pecking order theory states that companies prefer to use internal funding rather than external funding. This theory was first introduced by Donalson, 1961, but the naming of pecking order theory was done by (Myers & Majluf, 1984). Pecking order theory arises because of the information asymmetry between the internal company and external parties. Pecking Order theory suggests that companies use funding obtained from internal sources such as retained earnings rather than external funding unless the internal funding does not meet the company's growth, then the company is allowed to use funding from external companies (Hidayah, 2018) According to (Myers & Majluf, 1984) Companies prefer the use of funding from internal capital, namely funds derived from cash flow, retained earnings and depreciation. The order of use of funding sources with reference to pecking order theory is internal funds, debt, and equity. Internal funds are preferred over external funds because internal funds allow the company to not need to open itself up again from the spotlight of outside investors.

2.2 Research Variables

2.2.1 Capital Structure

Capital structure is part of the financial structure which can be interpreted as permanent spending that reflects the balance between long-term debt and equity (Naur, 2017). The capital structure aims to combine permanent sources of funds which will then be used by the company in a way that is expected to maximize company value. Capital structure has components consisting of internal sources and external sources (Ni'mah, 2018)). With this understanding, the capital structure can be measured using the Debt to Equity Ratio (DER). DER is the ratio of total debt to equity (Hidayah, 2018).

$$DER = \frac{\text{Total Debt}}{\text{Total Equity}}$$

2.2.2 Return On Assets

Return on assets (ROA) is a ratio used to measure the efficiency of the company to generate profits or profits for the company. Companies that have a high level of profit tend to use less external funds (T. A. Aditya, 2023). Return on Assets is a ratio that shows the results on the number of assets used in the company. The higher the ROA value of a company, the better the company's ability to manage assets (Rahmanita, 2022).

The formula for calculating ROA is:

$$ROA = \frac{\text{net profit after tax}}{\text{Total Assets}} \times 100\%$$

2.2.3 Growth Opportunity

The company's growth opportunity is a point of view to determine how far the company will grow in the future (Anggraini & Suprihhadi, 2022). Companies that have a high growth rate, may use greater debt than companies that have low growth. Companies with relatively high

growth rates will require large capital to support their operational activities (Kusna & Setijani, 2018). According to (Taylor et al., 2015), the measurement of this variable uses a ratio scale which can be formulated as follows:

$$GROWTH = \frac{Total\ Assets_{(t)} - Total\ Assets_{(t-1)}}{Total\ Assets_{(t-1)}}$$

2.2.4 Sales Growth

Sales growth is the ratio between the sales of the year in question minus the sales in the previous year then divided by the sales of the previous year (Harahap et al., 2023). According to (Rahmawati, 2019) companies with high growth rates are generally more dependent on capital from outside the company. In companies with low growth rates, the need for new capital is relatively small so that it can be met from retained earnings. Companies with high growth rates tend to use greater debt than companies with low growth. Mathematically, the formula is formulated as follows:

$$GROWTH = \frac{Sales_t - Sales_{t-1}}{Sales_{t-1}}$$

2.2.5 Assets Structure

Asset structure is defined as the composition of the company's assets which is used to determine how much funds are in each asset component consisting of fixed assets and current assets. Asset structure is the ratio between the amount of fixed assets owned by the company and total assets. The higher the asset structure, the better the assets owned by the company so that the capital structure decreases. Companies that have larger fixed assets that can be used as collateral make it easier for companies to get funding from external parties. Because external parties usually consider collateral by a company in providing loan funds (debt) (Hidayah, 2018). Thus the asset structure can be proxied by the ratio between fixed assets and total assets.

$$ASSET\ STRUCTURE = \frac{Fixed\ Assets}{Total\ Assets} \times 100\%$$

2.3 Hypothesis Building

2.3.1 The effect of return on assets on capital structure

According to Fahmi (2017) This ratio measures the effectiveness of overall management as indicated by the size of the level of profit obtained in relation to sales or investment. The better the return on assets ratio, the more it illustrates the high ability to obtain company profits. The higher the level of profit generated by the company, the lower the company's capital structure will be, because with a high level of profit the company is able to provide internal funds. This is supported by research (Nastiti & Andayani, 2016) which states that return on assets has a negative effect on capital structure.

H1: Return on assets has a negative effect on capital structure.

2.3.2 The Effect of growth opportunity on capital structure

Companies with high growth tend to require funding for business development so that they require external funds (debt) and ultimately increase the company's capital structure. In research (Hidayah, 2018) shows that company growth has a significant positive effect on changes in capital structure. While in research (Kusna & Setijani, 2018) stated that growth opportunity has no effect on capital structure.

H2: Growth opportunity has a negative effect on changes in capital structure.

2.3.3 The effect of sales growth on capital structure

Companies with high sales and profit growth rates tend to use debt as a source of external funds will be greater when compared to companies that have relatively low sales growth rates. Companies with high sales growth will be more willing to take external capital to improve company operations. With higher sales, it is expected that the company will be able to increase its production, for which additional capital is needed from outside the company (Ni'mah, 2018). Research (T. A. Aditya, 2023) shows that sales growth has a positive effect on capital structure.

H3= Sales Growth has a positive effect on Capital Structure

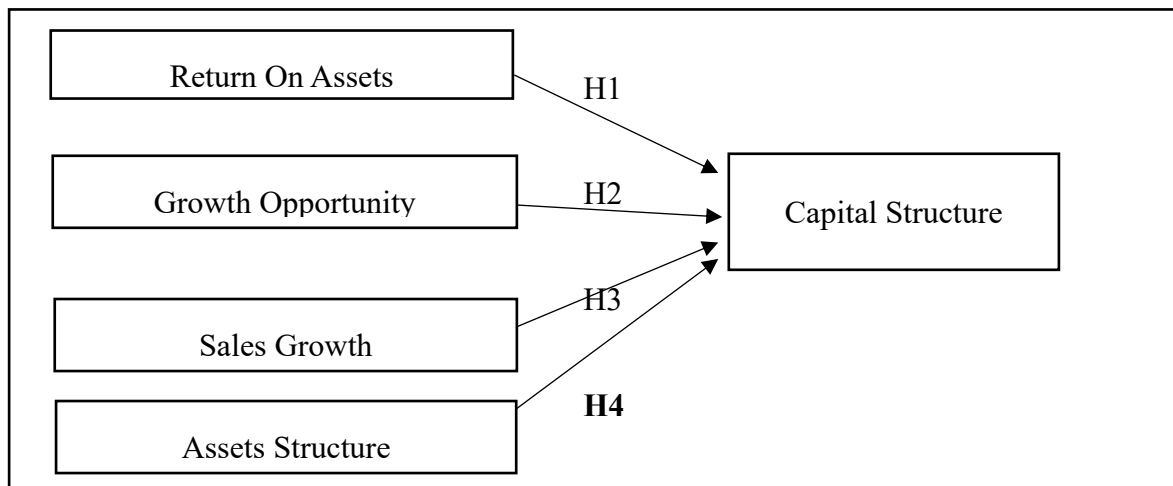
2.3.4 The effect of assets structure on capital structure

Asset structure is the ratio between the amount of fixed assets owned by the company and total assets. The higher the asset structure, the better the assets owned by the company so that the capital structure decreases. Companies with high asset structure in funding their operational activities can use capital from internal sources because the assets generated by the company increase (Lubis & Arief, 2022). The results of research conducted by (Hidayah, 2018) and (Utama, 2020) state that assets structure has no effect on capital structure. However, it is not in line with research conducted by (D. Aditya, 2023) which states that assets structure has a positive effect on capital structure.

H4: Asset structure negative affects capital structure

2.4 Thinking Framework

Based on the description above, the framework can be described as follows:



3. Research Method

3.1 Research Object

The object of this research is energy sector companies listed on the Indonesia Stock Exchange in 2021-2023.

3.2 Population and Sample

The population in this study are energy sector companies listed on the Indonesia Stock

Exchange in 2021-2023. The data used is taken from the Indonesia Stock Exchange (IDX). The population to be observed in this study are all energy sector companies listed on the Indonesia Stock Exchange, totaling 87 companies.

The sample selection method in this study was determined by the purpose sampling method which aims to obtain a sample that matches the specified criteria.

3.3 Type and Source of Data

The type of data used in this research is secondary data. Secondary data is data that has been generated by other parties. The data source used in this study comes from the financial statements of energy sector companies on the website www.idx.co.id.

4. Findings and Discussions

4.1 Descriptive Statistical Analysis Results

Table 1 Descriptive Statistical Analysis Results (Descriptive Statistics)

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Capital Structure	60	-1.99	15.05	1.4653	2.74281
Return On Assets	60	-41.06	59.26	10.7333	17.24708
Growth Opportunity	60	-.87	2.51	.1895	.54548
Sales Growth	60	-.82	7.63	.6190	1.50469
Assets Structure	60	.60	117.15	51.0997	27.43841
Valid N (listwise)	60				

Based on Table 1, the descriptive statistical test results of the return on assets variable have a minimum value of -41.06, while the maximum value is 59.26, an average value of 10.7333, and a standard deviation of 2.74281. Growth opportunity has a minimum value of -0.87, while the maximum value is 2.51, an average value of 0.1895, and a standard deviation of 0.54548. Sales growth has a minimum value of -0.82, while the maximum value is 7.63, an average value of 0.6190, and a standard deviation of 1.50469. Assets structure has a minimum value of 0.60, while the maximum value is 117.15, an average value of 51.0997, and a standard deviation of 27.43841. Capital structure has a minimum value of -1.99, while the maximum value of

4.2 Classical Assumption Test

4.2.1 Normality Test

Table 2 Kolmogorov-Smisnov (K-S) Test Results

			Unstandardized Residual
N			60
Normal Parameters ^{a,b}	Mean		.0000000
	Std. Deviation		.23071354
Most Extreme Differences	Absolute		.162
	Positive		.162
	Negative		-.125

Test Statistic			.162
Asymp. Sig. (2-tailed)			.000 ^c
Monte Carlo Sig. (2-tailed) Sig.			.080 ^d
	99% Confidence Interval	Lower Bound	.073
		Upper Bound	.087

To determine whether the residual data is normally distributed or not, the significance value is greater than $\alpha = 0.05$ (Ghozali, 2016). In accordance with the calculation table above, the significance value of 0.080 is greater than 0.05. So the conclusion is that the data is normally distributed.

4.2.2 Multicollinearity Test

Table 3 Multicollinearity Test (Coefficients^a)

odel	Collinearity Statistics	
	Tolerance	VIF
1. (Constant)		
Return On Assets	.991	1.009
Growth Opportunity	.547	1.829
Sales Growth	.549	1.822
Assets Structure	.996	1.004

Source: Data processed

Based on the multicollinearity test in table 4.3, the calculation results show that all variables have a tolerance value ≥ 0.1 and a VIF value ≤ 10 , so it can be concluded that the regression model in this study does not occur multicollinearity and the regression model is suitable for use.

4.2.3 Heteroscedasticity Test

Table 4 UJi Heteroscedasticity Glejser Test Method (Coefficients^a)

	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	.161	.024			6.828	.000
Return On Assets	.000	.000	-.061		-.462	.646
Growth Opportunity	.026	.021	.221		1.242	.219
Sales Growth	-.009	.015	-.112		-.628	.532
Assets Structure	-1.276-5	.000	-.114		-.867	.390

a. Dependent Variable: Abs_Res

In Table 4, it is known that the significance level of return on assets is $0.646 > 0.05$, the significance level of growth opportunity is $0.219 > 0.05$, then the significance level of sales growth is $0.532 > 0.05$, and the significance level of asset structure is $0.390 > 0.05$. so it can be concluded that there is no heteroscedasticity in the data tested.

4.2.4 Autocorrelation Test

To detect autocorrelation, a statistical test can be carried out through the run test. The run test

is used as part of non-parametric statistics and can also be used to test whether there is a high correlation between residuals. Autocorrelation arises because successive observations over time are related to each other. The regression model is said to have no autocorrelation if the significance value is more than 0.05.

Table 5 Autocorrelation Test Run Test

Runs Test	
	Unstandardized Residual
Test Value ^a	-.05757
Cases < Test Value	30
Cases >= Test Value	30
Total Cases	60
Number of Runs	28
Z	-.781
Asymp. Sig. (2-tailed)	.435

a. Median

It is known that the value of Asymp. Sig. (2-tailed) value of 0.435 which is greater than 0.05. Thus there is no autocorrelation problem in the data tested.

4.3 Multiple Linear Regression Analysis Results

Table 6 Multiple Linear Regression Analysis Results (Coefficients^a)

Coefficients ^a Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	1.599	.033			48.599	.000
	Return On Assets	.000	.001	-.015	-.662	.511	
	Growth Opportunity	-1.043	.029	-1.079	-36.253	.000	
	Sales Growth	.105	.021	.150	5.049	.000	
	Assets Structure	8.814-6	.000	.009	.429	.670	

a. Dependent Variable: Capital Structure

Based on table 6, the regression equation formed in this regression test is :

$$Y = 1,599 - 0,015 - 1,079 + 0,150 + 0,009 + E$$

4.4 Hypothesis Test Results

4.4.1 Determination Coefficient Test (R²)

The Coefficient of Determination (R²) aims to measure the degree of relationship between all independent variables taken into account together with the dependent variable (Y) and is always positive. The coefficient of determination is between 0 and 1. When R² is close to 0, the independent variable has little influence. The closer to 1, the greater the influence of the independent variable.

Based on table 7, which shows the display model summary, the Adjusted R Squared value is 0.971 or 97.1%. This means that changes that occur in the capital structure variable are explained by the variables of return on assets, growth opportunity, sales growth, and asset

structure. While the remaining 2.9% is explained by other variables that are not explained in this study or other factors outside the research model.

Table 7 Determination Test Results R^2 (Model Summary^b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.987 ^a	.973	.971	.23896

a. Predictors: (Constant), X4.1, X1.1, X3.1, X2.2

4.4.2 Simultaneous significance test (F Statistical Test)

Table 8 Simultaneous Significance Test Results / F Test (ANOVA^a)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	114.647	4	28.662	501.960	.000 ^b
	Residual	3.140	55	.057		
	Total	117.788	59			

a. Dependent Variable: Y11

b. Predictors: (Constant), X4.1, X1.1, X3.1, X2.2

Based on table 8 for the ANOVA or F test results above, the calculated F value = 501,960 with a significance value of $0.000 < 0.05$, which means significant, then the alternative hypothesis is accepted. This means that the variable return on assets (X1), growth opportunity (X2), sales growth (X3), and asset structure (X4) simultaneously affect the capital structure as the dependent variable (Y).

4.4.3 Partial Test (T Test)

Table 9 Partial Significance Test / T Test (Coefficients^a)

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	1.599	.033		48.599	.000
	Return On Assets	.000	.001	-.015	-.662	.511
	Growth Opportunity	-1.043	.029	-1.079	-36.253	.000
	Sales Growth	.105	.021	.150	5.049	.000
	Assets Structure	8.814	.000	.009	.429	.670

a. Dependent Variable: Capital Structure

Based on table 9, the relationship on assets variable has a significant value of $0.511 > 0.05$. Because the significance value is greater than 0.05, the conclusion is that the return on assets variable has no effect on capital structure. Growth Opportunity variable has a significance value of $0.000 < 0.05$. Because the significance value is smaller than 0.05, it is concluded that the variable growth opportunity unity affects the capital structure. Sales growth variable has a significance value of $0.000 < 0.05$. Because the significance value is smaller than 0.05, it is concluded that the sales growth variable affects the capital structure. The assets structure variable has a significance value of $0.670 > 0.05$. Because the significance value is greater than

0.05, it is concluded that the assets structure variable has no effect on capital structure.

4.5 Discussion

4.5.1 The effect of Return On Assets on Capital Structure

The results of testing the first hypothesis show that the first hypothesis is rejected. The test results show that the return on assets variable has no effect on capital structure with a significance level of $0.511 > 0.05$ and a regression coefficient of -0.015 . Therefore, based on this hypothesis, it is stated that return on assets has no significant effect on capital structure.

This ratio measures the overall effectiveness of management as indicated by the size of the level of profit earned in relation to sales or investment. Return On Assets is the ability of a company to generate profits from its assets. Companies that have a high level of profit tend to use less external funds. Return on assets is a ratio that shows the results on the number of assets used in the company. The better the return on assets ratio, the more it illustrates the high ability to obtain company profits. The higher the level of profit generated by the company, the lower the capital structure of the company will be, because with a high level of profit the company is able to provide internal funds. The higher return on assets of a company encourages management to use own funds or retained earnings to continue the company's operations, because it has low risk so that the company does not need debt.

This is in line with pecking order theory, which states that companies prefer to use internal funding rather than external funding. With a high rate of return, it is possible to finance most of the funding needs with internally generated funds. Companies using internal funds will have less risk than using external funds. Research conducted by (T. A. Aditya, 2023) and (Nastiti & Andayani, 2016) stated that return on assets has a negative effect on capital structure. Meanwhile, research conducted by (Ni'mah, 2018) and (Nuridya, 2020) stated that ROA has a positive effect on capital structure.

4.5.2 The effect of growth opportunity on Capital Structure

The results of testing the second hypothesis show that the second hypothesis is accepted. The test results show that the growth opportunity variable affects the capital structure with a significance level of $0.000 < 0.05$ and a regression coefficient of -1.079 with a negative sign. Therefore, based on this hypothesis, it is stated that growth opportunity has a significant negative effect on capital structure.

Growth opportunity is another important factor that affects firm value. The good condition of the company's financial turnover is characterized by a positive company growth opportunity. High company growth allows the company to expand its business. With a high growth opportunity value, the company is expected to be able to achieve and generate high profits in the future. High growth opportunity can be used as an analysis of the achievement of shareholder prosperity. Companies with high growth tend to use funding for business development so that they require external funds (debt) and ultimately increase the company's capital structure.

The results of this study support the trade off theory which explains that the optimal capital structure will maximize the stock price. Trade off theory in capital structure is to balance the benefits and sacrifices that arise as a result of the use of debt. trade-off theory states that companies that have an optimal level of debt will try to adjust the level of debt towards the optimal point either when the company is at a level of debt that is too high (overlevered) or too

low (underlevered). Additional funds from external parties are an alternative that companies can choose by considering a number of factors, especially internal company factors. The results of research conducted by (Hidayah, 2018) and (Adiwiguna, 2020) stated that growth opportunity has a positive effect on capital structure. Meanwhile, research conducted by (Ni'mah, 2018) stated that growth opportunity has no effect on capital structure.

4.5.3 The effect of sales growth on Capital Structure

The results of testing the third hypothesis show that the third hypothesis is accepted. The test results show that the sales growth variable affects the capital structure with a significance level of $0.000 < 0.05$ and a regression coefficient of 0.150 with a positive sign. Therefore, based on this hypothesis, it is stated that sales growth has a significant positive effect on capital structure.

Companies with high sales or growth rates are more likely to use greater debt than companies with low growth rates. The need for funds used by a company for sales growth is getting bigger or higher. Increased sales growth will encourage management to use or increase debt. The addition of this debt can be considered as an increase in investor confidence in spite of the consequences of increasing debt is an increase in risk for the company, but investors will believe that management is able to manage debt well.

This is in line with the trade off theory which states that the optimal capital structure will maximize the stock price. Trade off theory in capital structure is to balance the benefits and sacrifices arising from the use of debt. The relationship with trade off theory is that the higher the sales growth rate, the higher the capital structure. Increased sales growth will encourage management to use or increase debt. The addition of this debt can be seen as an increase in investor confidence in spite of the consequences of additional debt is an increase in risk for the company, but investors will believe that management is able to manage debt well. The results of this study are in line with research conducted by (T. A. Aditya, 2023) which shows that sales growth has a positive effect on capital structure. Meanwhile, research conducted by (Ni'mah, 2018) and (Rahmawati, 2019) stated that sales growth has no effect on capital structure.

4.5.4 The effect of assets structure on Capital Structure

The results of testing the fourth hypothesis show that the fourth hypothesis is rejected. The test results show that the asset structure variable has no effect on capital structure with a significance level of $0.670 > 0.05$ and a regression coefficient of 0.009. Therefore, based on this hypothesis, it is stated that assets have no significant effect on capital structure.

In this study, asset structure is not the main factor for companies to make decisions on the use of corporate debt. In this study, company management uses other factors to make decisions on the use of debt besides the asset structure. In addition, on average, companies use more internal sources of funds than use debt resources in meeting company needs. This also explains that from the creditor's side fixed assets cannot be used as collateral for the provision of debt to the company in this case as a debtor. This is the reason why in this study assets structure has no effect on capital structure.

This is in accordance with pecking order theory, which states that companies prefer to use internal funding rather than external funding. Companies prefer the use of funding from internal capital, namely funds derived from cash flow, retained earnings and depreciation. The order of use of funding sources with reference to the pecking order theory is internal funds, debt, and equity. Internal funds are preferred over external funds because internal funds allow the company to not need to open itself up again from the spotlight of outside investors. Companies

should be able to balance the benefits and costs of using debt. That way if a company has a large amount of fixed assets, it will be easier for the company to get capital from outside parties.

The results of this study are in line with research conducted by (Hidayah, 2018) and (Utama, 2020) which states that asset structure has no effect on capital structure. However, it is not in line with research conducted by (T. A. Aditya, 2023) which states that assets structure has a positive effect on capital structure.

5. Conclusion and Suggestions

5.1 Conclusion

Based on the results of the discussion regarding the effect of return on assets, growth opportunity, sales growth, and asset structure on capital structure in energy sector companies listed on the Indonesia Stock Exchange in 2021-2023. So the conclusion of the first hypothesis testing results shows that the return on assets variable has no significant effect on capital structure. This shows that the greater the level of return on assets, the smaller the capital structure. This is because if the company has a high level of return on assets, the company will use retained earnings and reduce debt. The second hypothesis testing result shows that the growth opportunity variable has a significant negative effect on capital structure. This shows that every time there is an increase in the growth opportunity of a company, the capital structure will increase. The third hypothesis testing result shows that sales growth variable has a significant positive effect on capital structure. This shows that companies with high sales or growth rate are more likely to use more debt than companies with low growth rate. The results of testing the fourth hypothesis show that the assets structure variable has no significant effect on capital structure. This shows that the assets structure is not the main factor for companies to make decisions on the use of corporate debt.

Suggestions

1. For Investors

For investors and creditors in investing in the company, they should consider all aspects of the company because it will relate to the company's ability to pay off its long-term debt. This needs to be considered because it involves the level of return expected by investors and the risk of bad credit that may be faced by creditors.

2. For the Company

Companies can use all the variables in this study as consideration in making decisions related to capital structure.

3. For Future Researchers

For future researchers who are interested in examining the variables that affect capital structure, it is recommended to increase the number of independent variables used so that it can be seen how the influence of other variables on capital structure and different sectors with a larger number of samples so that the research results have a wider scope.

Research Limitations

This study has several limitations that are expected to be refined in future studies. The limitations of this research include:

1. The scope of this research is limited, namely only using energy sector companies listed on the Indonesia Stock Exchange. This results in the possibility that the results of this study cannot be generalized to all types of companies.
2. This study only examines several factors that affect capital structure, namely return on assets, growth opportunity, sales growth, and asset structure.

3. The observation period chosen is only three years, namely 2021-2023, which is too short and limited to be able to describe the comparison of the company's capital structure.
4. The sample withdrawal in this study only uses 20 energy selector companies listed on the Indonesia Stock Exchange, so many energy selector companies still need to be included in this study.

Implications

The implication of this research is that it is essential to provide input as a consideration for investors in making investments. In addition, this research is expected to contribute and refer to further research that will take the title and topic of mellngelnai factors that affect capital structure.

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The Effect of Accounting Information System Quality, Service Quality and System Security on User Satisfaction of M-Banking Based Applications at Bank Sumsel Babel

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Abstract

This study aims to analyze the effect of accounting information system quality, service quality and system security on user satisfaction of m-banking-based applications at Bank Sumsel Babel. This research uses descriptive methods with a quantitative approach. The population in this study were customers who used mobile banking at Bank Sumsel Babel, with as many as 198,017 customers. The number of samples taken in this study was 400 respondents. The sampling technique was carried out using the Slovin technique, namely the random sampling method (random sampling technique). The type of data used in this study is primary data collected directly through the data collection process using the distribution of questionnaires using Google Forms. The results showed that the quality of accounting information systems, service quality, and system security had a positive and significant effect on user satisfaction of m-banking-based applications at Bank Sumsel Babel and simultaneously that the quality of accounting information systems, service quality and system security had a positive and significant effect on user satisfaction of m-banking-based applications at Bank Sumsel Babel.

Keywords: Accounting Information System Quality, Service Quality, System Security, User Satisfaction.

JEL Codes: M42, L86, O33

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1. Introduction

Banking has an important role in ensuring the stability of the national economy (Dalimunthe & Lubis, 2023). The vital role of banks in the economy is manifested as institutions that have

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the ability to influence a country's economic activity. Banks also function as intermediaries that can influence the circulation of money in the economy, making them the focus of monetary policy (Abdianti et al., 2023). Efforts made by banking institutions to better present their products and services to customers are by implementing the technology and information systems they use through electronic banking, one of which is m-banking. Mobile banking is a service that allows customers to conduct banking transactions through their cell phones or smartphones (Anggraeni & Muslim, 2023). Mobile banking is a facility provided by financial institutions in this digital era that aligns with the development of technology and communication. Mobile Banking offers various services, such as payments, fund transfers, access to transaction history, and others. (Husni et al., 2023).

Information technology and systems manage data and information by processing, storing, and manipulating it, to obtain relevant information. (Amazon et al., 2021). The application of information systems aims to support the company's daily operations, facilitate the decision-making process, and assist company managers in carrying out their obligations to external parties (Yohana, 2021). The success of mobile banking can be measured through the quality of service of the mobile banking application (Sagita, 2020). Service quality refers to the comparison between the services provided and those expected. In

the context of banking services, complaints from customers are an inevitable part. Banks need to effectively respond to these complaints so that customers feel satisfied with the bank's performance, as done by Bank Sumsel Babel (Solikin & Mutiara, 2023). However, the satisfaction of using M-Banking is also determined by the sense of security when accessing mobile banking. Banking companies continue to strive so that customers do not feel that the level of security is not as safe as they expect (Rizal & Munawir, 2017).

Many financial institutions have introduced individual mobile banking applications as part of their efforts to provide digital services to customers. PT Bank Sumsel Babel is one of the banks that offers such services. As a regional government-owned bank, Bank Sumsel Babel continuously innovates and improves to remain competitive with other banking institutions (Batin, 2019). Banking products from bank sumsel babel, including deposits, savings, current accounts, loans, credit cards, and BSB Cash. In addition, Bank Sumsel Babel also provides digital services such as SMS Banking, Phone Banking, and Mobile Banking (Mawardi & A.R., 2021)

The phenomenon underlying this research is based on a case written in a journal written by Solikin & Mutiara (2023). the existence of complaints submitted by Bank Sumsel Babel customers includes several things, such as the lack of the amount of money received, failure to transfer to another Bank account with a debited balance, no withdrawal of money but a debited account balance, a debited account balance without a transaction, failure to transfer through M-banking services which leads to a debited balance, and so on. In addition, research conducted by Saputra & Sanjaya (2023) on mobile banking users The assessment of the people of PALI Regency towards Bank Sumsel Babel shows that the Mobile Banking application provided is still considered less effective, efficient, and not fully satisfying for its users. . Based on previous studies, user satisfaction is associated with several reasons. Some key factors include accounting information system quality, service quality, and system security. These three factors that affect user satisfaction are factors that can have an impact on and evaluate the level of user satisfaction of the Bank Sumsel-Babel m-banking application.

This study aims to identify how the value of accounting information systems, services, and system security affects user satisfaction of the M-Banking application at Bank Sumsel-Babel.

Researchers chose the head office of Bank Sumsel-Babel because Bank Sumsel-Babel needs to measure the success of the mobile banking information system in order to maintain and improve product reputation in the digitalization era. This evaluation is directed at measuring the increase in banking profits, determining internal control needs, supporting long-term maintenance budgeting decisions for mobile banking applications, increasing marketing cost efficiency, and assessing the net benefits obtained from the adoption of mobile services.

2. Literature Review

2.1 Theoretical Foundation

2.1.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a model used to evaluate the factors that influence how an organization accepts a technology. This technology acceptance model (Technology Acceptance Model or TAM) is an acceptance model for information technology systems used by users. The technology acceptance model or Technology Acceptance Model (TAM) was developed by Davis et al (1989) based on the TRA model. The TRA model can be applied because individual decisions to accept an information system technology are conscious actions and can be explained and predicted through behavioral interests. TAM also incorporates two main constructs into the TRA model framework.

2.1.2 User Satisfaction

User/customer satisfaction is an individual evaluation of the performance or results of a product or service relative to expectations (Adelia, 2019). In other words, user satisfaction is the level of a person's feelings after comparing the perceived performance or results compared to his expectations. Satisfaction reflects a person's assessment of the performance of the product or service he considers, or the results and their relationship to expectations (Nurdin et al., 2020). User satisfaction represents the alignment between a person's expectations and the results achieved by a system where that person participates in the development of the system (Putra et al., 2020).

2.1.3 Quality of Accounting Information Systems

According to Darma & Sagala (2020), the accounting information system is a series of resources that work synergistically to process financial data into financial information, and communicate that information to users. The quality of the accounting information system reflects the characteristics expected by users in producing information. Some of the characteristics of the quality of accounting information systems include reliability and integration. According to (Gusherinsya & Samukri, 2020), an accounting information system is a system that produces accounting and financial information, as well as other information obtained through routine processing of accounting transactions. If the recording and assessment procedures are carried out accurately from start to finish, the financial statements will reflect the truth. Companies also need to be able to project the amount of inventory that must be maintained and pay attention to internal controls over the inventory.

2.1.4 Service Quality

According to Saputri (2016), service quality is the user's view of the services provided by the accounting application program package provider. Service quality refers to the extent to which service providers can meet customer expectations in providing services (Budiyanto, 2023). Ease of consumer access to banking services through mobile devices can increase consumers' positive perceptions of company services and also increase support for company services

(Adelia, 2019). Customer satisfaction in making transactions is an indicator to assess service quality, whether the service has met customer expectations or not (Handayani, 2023). In providing its services, the company also conveys information and policies that can disappoint customers, so that customers can quickly assess the quality of service provided by the company to them (Budiyanto, 2023).

2.1.5 System Security

According to Adelia (2019), m-banking system security includes the ability to provide transaction services with a high level of security. Security in financial transactions through online systems is a top priority for customers who use m-banking services. Customers expect service providers to be able to guarantee and provide security for financial transactions through the m-banking platform. According to Mukhtisar et al (2021), security is a factor that has an important role in influencing customer trust in utilizing mobile banking services. The level of security perceived by customers is a major factor that has a strong influence on their decision to use highly confidential mobile banking services.

2.2 Research Framework

This study uses accounting information system quality, service quality and system security as independent variables. The quality of the accounting information system measured is system flexibility (ease of access), response time (speed of access / response), content (content), accuracy (accuracy), format (format), timeliness (timeliness). Service quality is measured by reliability (reliability), responsiveness, assurances, empathy, tangibles. System security measurement is a guarantee of data security and confidentiality. Then user satisfaction is used as the dependent variable is the fulfillment of mobile banking user expectations, the fulfillment of mobile banking user needs, overall user satisfaction with the mobile banking application, and the user's desire to make transactions repeatedly. With this explanation, the figure below illustrates the conceptual framework in this study.

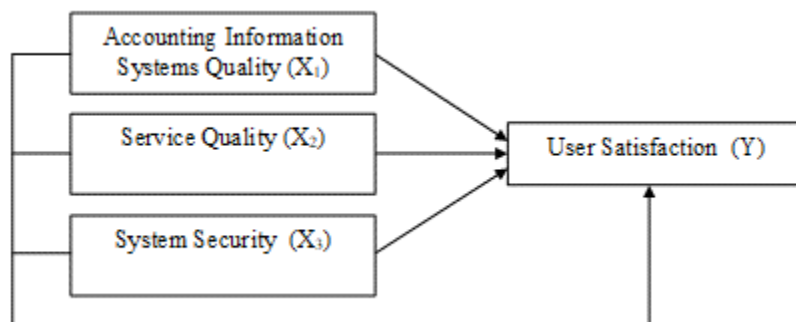


Figure 1. Research Paradigm

2.3 Hypothesis Development

2.3.1 The Effect of Accounting Information System Quality on User Satisfaction

The quality of the resulting accounting information system determines the amount of user satisfaction in using the facilities used (Siregar, 2023). The financial accounting information processing cycle involves processing data (facts) to produce financial accounting information. This process is expressed as operational steps, including input, process, output, and data storage. Based on the results of the explanation above, the following hypothesis can be formulated:

H1: Accounting Information System quality affects user satisfaction

2.3.2 The Effect of Service Quality on User Satisfaction

According to Hasanah (2014), service quality measures the level of excellence expected and control over the level of excellence to meet customer desires which can be assessed from the dimensions of tangibles (measurable evidence), reliability, responsiveness, assurance, and empathy. The more optimal their services implemented, their higher their level of user satisfaction in their banking sector. The desired level of excellence will also achieve user needs, because user satisfaction is related to being in line or in accordance with their expectations of the products used (Siregar, 2023). From this explanation, the hypothesis tested is:

H2: Service quality affects user satisfactio

2.3.3 The Effect of System Security on User Satisfaction

According to (Nurdin et al., 2020). Their top priority for customers using mobile banking services is the security of their online financial transaction system. This explains that their higher their level of application security, their greater user satisfaction will increase. The security of using the application can provide a sense of satisfaction and comfort to customers when transacting, so they don't need to worry about the user data that has been stored. Based on the results of the explanation above, the hypothesis can be concluded as follows:

H3 : System security affects user satisfaction

2.3.4 The Effect of Accounting Information System Quality, Service Quality, and System Security on User Satisfaction

According to Handayani (2023), the higher the quality of accounting information systems, services, and security of a company, the greater the user satisfaction that will be achieved. Accounting information systems in mobile banking applications are accurate and easily accessible to the public, service quality through responsiveness and empathy or attention, and system security is maintained, so that users can use the application safely. From this explanation, the hypothesis tested is as follows:

H4 : Accounting Information System Quality, Service Quality and system security affect user satisfaction.

3. Research Method

3.1 Object of Research

The object of this research was conducted at the Head Office of Bank Sumsel Babel. Jl. Governor H. Ahmad Bastari No. 7 Kel. Silaberanti Kec. Seberang Ulu I Jakabaring Palembang.

3.2 Research Methodology

3.2.1 Population and Sample

The population in the study were all bank customers who used mobile banking. The population of mobile banking users of Bank Sumsel Babel in Palembang is 198,017 customers. In this study, to calculate the sample size, researchers used the Slovin technique. The use of the Slovin formula is because in withdrawing the sample the number must be representative. The error tolerance limit used in this study is 5%, so that $e = 5\% = 0.05$. Thus, the minimum sample size required in this study was 400 customers. The sampling method in this study was determined by random sampling method (random sampling techniques). The way the author determines customers as respondents is using a random table. The criteria used as a reference in distributing

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questionnaires to respondents are that the sample is a customer of Bank Sumsel Babel and is familiar with and uses mobile banking services.

3.2.2 Types and Sources of Data

The type of data used in this study is primary data which is the main data source obtained directly by researchers through the data collection process using the distribution of questionnaires using Google Forms to customers who use the Bank Sumsel Babel Mobile Banking application.

3.2.3 Research Variables and Operational Definition of Variables

Variable operations are used as instructions on how to measure a variable, so that it becomes

variable that can be observed and measured by determining the things needed to achieve certain goals. This research was conducted to determine the effect of accounting information system quality accounting information system quality, service quality and system security on user satisfaction mobile banking application at the head office of Bank Sumsel-Babel where this research uses one dependent variable. This study uses one dependent variable and three independent variables. The dependent variable in this study is user satisfaction, while the independent variable is user satisfaction. While the independent variables consist of accounting information system quality, service quality and system security.

The following is an operational table of variables:

Table 1. Operational Variables

Variable	Operational Definition	Indicator	Scale Measure
Independent Variable: 1. Quality of Accounting Information System (X ₁)	Accounting information system is a system that produces accounting and financial related information, as well as additional information obtained through periodic processing of accounting transactions. (Gusherinsya & Samukri, 2020)	1.Ease to access 2.Speed access/response 3.Content 4.Accuracy 5.Format 6.Timeliness (DeLone & Ephraim, 1978)	Likert of
2. Service Quality (X ₂)	Service quality is an important aspect that can provide an edge in competition in today's banking industry. (Priyanto et al., 2021)	1. Reability 2. responsiveness 3. Assurance 4. Empathy 5. Tangibles	Likert

		6. Tangibles (Kotler & Keller, 2016)	
3. System Security (X ₃)	System security is the ability to control or maintain confidential information or user data privacy from potential fraud and theft in the context of online banking. (Siregar, 2023)	1.Security guarantee 2.Data confidentiality (Raman & Annamalai, 2012) dalam (Ratnasari et al., 2021)	Likert
4. User Satisfaction (Y)	User / customer satisfaction is an individual evaluation of the performance or results of a product or service relative to expectations. (Adelia, 2019)	1. The fulfillment of mobile banking user expectations 2. The fulfillment of mobile banking user needs 3. Overall user satisfaction with the mobile banking application 4. The user's desire to make transactions repeatedly. (Fernos & Gietricen, 2019)	Likert

3.2.4 Variable Measurement Scale

In this study, the variable measurement scale used is a Likert scale. According to Syarifuddin et al (2021), the Likert scale is a measurement tool used to assess the attitudes, opinions, and

perceptions of individuals or groups towards social phenomenal. In this study, respondents will provide a score according to their statement for filling out the questionnaire where their scale is 1-5.

3.3 Analysis Technique

The method in this study uses quantitative analysis methods used to measure the strength of the relationship between the dependent variable and the independent variable in a population in this study. The data analysis technique used in this research is multiple linear regression analysis. The data collection technique uses primary data on users of the Bank Sumsel-Babel mobile banking application.

4. Findings and Discussions

4.1 Research Results

4.1.1 Respondent Characteristics

Based on the results of the questionnaire distributed by researchers to users of the Bank Sumsel Babel m-banking application, data obtained from 400 respondents. Characteristics of respondents based on gender were 47.3% male, 52.8% female. characteristics based on age < 21 years as much as 9.8%, 21-30 years 38%, 31-40 years 32.3%, 41-50 years 15.2%, > 50 years 4.7%. Characteristics based on student / college work as much as 20%, employees / employees 44.3%, self-employed 14.7%, others as much as 21%. Characteristics of respondents based on monthly income < Rp. 1,000,000 as much as 21.8%, Rp. 1,000,000 - Rp. 2,000,000 as much as 19%, Rp. 2,100,000 - Rp. 3,000,000 as much as 16.5%, > Rp.

3,000,000 as much as 42.8%. Characteristics based on length of time as a customer < 1 year 35.3%, 1-3 years as much as 24%, > 3 years 40.8%.

4.1.2 Data Tabulation Analysis Results

Based on the results of data from the questionnaire of the Accounting Information System Quality variable (X1), the data tabulation of the Accounting Information System Quality variable is obtained which is explained in the following table:

Table 2. Recapitulation of Respondents' Answers to the Quality of Accounting Information Systems (X1)

NO	Statement	Respondent's Answer					Total	Avera ge
		STS (1)	TS (2)	N (3)	S (4)	SS (5)		
1	The accounting information system in the Bank Sumsel-Babel mobile banking application has the convenience to be accessed anytime when needed.	6	64	65	107	158	400	3,86
		1,5%	16%	16,2 %	26,8 %	39, 5%	100%	
2	Accounting information systems in the Bank Sumsel-Babel mobile banking application have access speed when used.	2	53	83	125	137	400	3,85
		0,5%	13,2 %	20,8 %	31,2 %	34, 3%	100%	
3	The accounting information system at Bank Sumsel Babel is able to present reports according to the needs of the company and customers, allowing them to track their transaction records over a certain period.	5	36	107	123	129	400	3,83
		1,2%	9%	26,8 %	30,8 %	32, 2%	100%	

4	There are clear instructions or instructions for using the accounting information system in the Bank Sumsel-Babel mobile banking application.	3	28	104	156	109	400	3,85
		0,7%	7%	26%	39%	27,3%	100%	
5	The format or appearance of the accounting information system in the mobile banking application at Bank Sumsel Babel that I use is easy to use.	3	25	88	152	132	400	3,96
		0,7%	6,3%	22%	38%	33%	100%	
6	The mobile banking accounting information system at Bank Sumsel Babel can produce the latest information in a timely manner.	3	39	82	165	111	400	3,85
		0,7%	9,8%	20,5%	41,3%	27,7%	100%	
Average								3,86

Source: Data processed by researchers, 2024

According to Table 2 above, it can be seen that the respondents' answers to the questionnaire on the Accounting Information System Quality variable had an average of 3.86. Therefore, it can be concluded that the level of Accounting Information System Quality in the Bank Sumsel Babel mobile banking application is categorized as high.

Table 3. Recapitulation of Respondents' Answers to Service Quality (X2)

NO	Statement	Respondent's Answer					Total	Average
		STS (1)	TS (2)	N (3)	S (4)	SS (5)		
1	Bank Sumsel-Babel mobile banking application can be easily used to transact for 24 hours anywhere without the need to queue.	10	38	67	106	179	400	4
		2,5%	9,5%	16,8%	26,5%	44,7%	100%	
2	Service quality in the Bank Sumsel-Babel	2	27	109	143	119	400	3,87

	mobile banking application responds quickly to customer complaints.	0,5%	6,8%	27,3%	35,7%	29,7%	100%	
3	You can easily contact the service department in the Bank Sumsel-Babel mobile banking application if you have a complaint.	2	38	89	146	125	400	3,88
		0,5%	9,5%	22,3%	36,5%	31,2%	100%	
4	The appearance / features of the Bank Sumsel-Babel mobile banking application are clearly designed, attractive and informative.	4	36	80	141	139	400	3,93
		1%	9%	20%	35,3%	34,7%	100%	
Average								3,92

Source: Data processed by researchers, 2024

According to Table 3 above, it can be seen that respondents' answers to the questionnaire on the Service Quality variable have an average of 3.92. Therefore, it can be concluded that the level of Service Quality in the Bank Sumsel Babel mobile banking application is categorized as high.

Table 4. Recapitulation of Respondents' Answers to System Security (X3)

NO	Statement	Respondent's Answer					Total	Average
		STS (1)	TS (2)	N (3)	S (4)	SS (5)		
1	Evidence of each mobile banking transaction complete with transaction time	0	32	75	115	178	400	4,09
		0%	8%	18,7%	28,8%	44,5%	100%	
2	Bank Sumsel-Babel has good enough controls to protect customers' personal data and funds securely which also requires customers to enter their user ID and password before	1	20	82	122	175	400	4,12
		0,2%	5%	20,5%	30,5%	43,8%	100%	

	logging in to the mobile banking application.							
3	Confidentiality of mobile banking data will be maintained because it is done by yourself	1	13	62	139	185	400	4,23
		0,2%	3,3%	15,5%	34,8%	46,2%	100%	
4	Confidentiality of customer's personal data is guaranteed in mobile banking transactions.	2	18	58	137	185	400	4,21
		0,5%	4,5%	14,5%	34,3%	46,2%	100%	
Average								4,12

Source: Data processed by researchers, 2024

According to Table 4 above, it can be seen that the respondents' answers to the questionnaire on the System Security variable had an average of 4.12. Therefore, it can be concluded that the level of System Security in the Bank Sumsel Babel mobile banking application is categorized as very high.

Table 5. Recapitulation of Respondents Answers to User Satisfaction (Y)

NO	Statement	Respondent's Answer					Total	Average
		STS (1)	TS (2)	N (3)	S (4)	SS (5)		
1	The performance and features of Bank Sumsel-Babel mobile banking are in line with expectations.	3	23	88	143	143	400	4
		0,7%	5,7%	22%	35,8%	35,8%	100%	
2	Bank Sumsel Babel mobile banking can fulfill the needs in conducting banking transactions.	3	11	75	140	171	400	4,16
		0,7%	2,8%	18,7%	35%	42,8%	100%	
3	You are satisfied with the ease of transactions and security provided by Bank Sumsel Babel mobile banking.	0	11	80	139	170	400	4,17
		0%	2,8%	20%	34,7%	42,5%	100%	

4	You will use the mobile banking application repeatedly for transaction activities	1	14	62	150	173	400	4,2
		0,2%	3,5%	15,5%	37,5%	43,3%	100%	
		Average						4,13

Source: Data processed by researchers, 2024

According to Table 5 above, it can be seen that respondents' answers to the questionnaire on the User Satisfaction variable have an average of 4.13. Therefore, it can be concluded that the level of User Satisfaction in using the Bank Sumsel Babel mobile banking application is categorized as very high.

4.1.3 Descriptive Statistical Analysis Results

Table 6. Descriptive Statistics

Descriptive Statistics							Std.
			N	Minimum	Maximum	Mean	Deviation
Accounting Information System Quality			400	8.00	30.00	23.2275	5.06853
Service Quality			400	4.00	20.00	15.7125	3.44813
System Security			400	6.00	20.00	16.6700	3.13459
User Satisfaction			400	6.00	20.00	16.5325	3.00275
Valid N (listwise)			400				

Source: Data processed

It is known from table 6 that their number of observational data used for all variables is 400, which is in accordance with the findings of descriptive statistical analysis.

4.1.4 Data Quality Test

4.1.4.1 Validity Test

The validity of their questionnaire data is determined through their validity test. The validity test used in data collection for research, as well as to verify that the data obtained from respondents can be considered valid as an effective research instrument. In the validity test in this study, the R table value is known to be 0.098, the value owned by X1_1 is 0.876, X1_2 is 0.874, X1_3 is 0.848, X1_4 is 0.812, X1_5 is 0.820, X1_6 is 0.793. For variable X2-1 of 0.850, X2-2 of 0.859, X2_3 of 0.857, X2_4 of 0.872. For variable X3_1 0.886, X3_2 0.867 X3_3 0.865, X3_4 0.834. For Y_1 0.864, Y_2 0.888, Y_3 0.873, Y_4 0.808. Based on this data, it can be concluded that the variables X1, X2, X3, and Y are valid or feasible because $r_{count} > r_{table}$ and can proceed to the reliability test.

4.1.4.2 Reliability Test

In this reliability test, the Cronbach's Alpha method is used to show how consistent respondents

are in responding to all variables that represent one particular aspect of the variable. the results of the reliability test on each variable show that these variables are considered reliable, because the Cronbach's Alpha value is > 0.7 . X1 variable is 0.910. X2 variable is 0.875. The Cronbach's Alpha value of the X3 variable is 0.875 and the variable is 0.872. From this data, all variables have a Cronbach's Alpha value > 0.8 so that it can be interpreted that all items are reliable and consistently have strong reliability.

4.1.5 Test of Classical Assumption Tests

4.1.5.1 Normality Test

Table 7. Monte Carlo Method Data Normality Test

						Unstandardized Residual
N						400
Normal Parameters ^{a,b}						
Mean						.0000000
Std. Deviation						1.08664603
Most	Extreme	Absolute				.062
Differences		Positive				.062
		Negative				-.060
Test Statistic						.062
Asymp. Sig. (2-tailed)						.001 ^c
Monte Carlo Sig. (2-tailed)	Sig.	99%	Confidence	Lower		.087 ^d
				Bound		.079
				Upper		.094

Source: Data processed

Based on table 7, the normality test uses Kolmogorov-Smirnov with the Exact Monte Carlo method, the distribution is said to be normal if the significance result is greater or > 0.05 . Based on the results of their normality test above, it can be concluded that their data shows ai Monte Carlo significance of 0.087, which means that the data used in this study are normally distributed because $0.087 > 0.05$.

4.1.5.2 Multicollinearity Test

Table 8. Multicollinearity Test

Model	Unstandardized Coefficients			Collinearity Statistics		
	B	Std. Error	t	Sig.	Tolerance	VIF
1 (Constant)	1.970	.296	6.665	.000		
Accounting Information System Quality	.070	.024	2.916	.004	.201	4.963
Service Quality	.288	.035	8.188	.000	.202	4.941
System Security	.504	.036	13.96	.000	.233	4.300

2

Source: Data processed

Based on table 8, the multicollinearity test results show that the accounting information system quality variable (X1) has a tolerance value of 0.201 and a VIF of 4,963, the service quality variable (X2) has a tolerance value of 0.202 and a VIF of 4,941, and the system security variable (X3) has a tolerance value of 0.233 and a VIF of 4,300. The multicollinearity test results obtained are in accordance with the multicollinearity requirements, namely tolerance > 0.1 and VIF < 10, so it can be concluded that in this test there is no multicollinearity.

4.1.5.3 Heteroscedasticity Test

Table 9. Heteroscedasticity Test White Test Method

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.349a	.122	.102	1.49941
a. Predictors: (Constant), X2X3, X1.2, System Security, Service Quality, Accounting Information System Quality, X2.2, X3.2, X1X3, X1X2				

Source: Data processed

In table 9, it is known that the R Square data is 0.122 which will then be calculated to get the results of the heteroscedasticity test From the calculation, it can be concluded that C^2 count < C^2 table where $48.8 < 394.626$. So it can be concluded that there are no symptoms of heteroscedasticity in the data tested.

4.1.6 Multiple Linear Regression Test

Table 10. Multiple Linear Regression Test

Coefficients ^a							
Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	1.970	.296		6.665	.000		
Accounting Information System Quality	.070	.024	.118	2.916	.004	.201	4.963
Service Quality	.288	.035	.331	8.188	.000	.202	4.941
System Security	.504	.036	.527	13.96	.000	.233	4.300

2

a. Dependent Variable: User Satisfaction

Source: Data processed

Based on table 10 above, the multiple linear regression model equation can be made in the form: $Y = 1.970 + 0.070 + 0.288 + 0.504 + e$

4.1.7 Hypothesis Test

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4.1.7.1 Partial Test (t Test)

Table 11. Partial Test (T Test)

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	1.970	.296			6.665	.000
Accounting Information System Quality	.070	.024	.118		2.916	.004
Service Quality	.288	.035	.331		8.188	.000
System Security	.504	.036	.527		13.962	.000

a. Dependent Variable: User Satisfaction

Source: Data processed

Based on table 11, it can be explained that the hypothesis test for the accounting information system quality variable (X1) has a significance value of 0.004 <0.05 with a t value of 2.916 > 1.966, so it can be concluded that there is a partial influence between the accounting information system quality variable (X1) on user satisfaction (Y). Hypothesis testing of the service quality variable (X2) has a significance value of 0.000 <0.05 with a t value of 8.188 > 1.966, so it can be concluded that there is a partial influence between the service quality variable (X2) on user satisfaction (Y). Hypothesis testing of the system security variable (X3) has a significance value of 0.000 <0.05 with a t value of 13.962 > 1.966, so it can be concluded that there is a partial influence between the system security variable (X3) on user satisfaction (Y).

4.1.7.2 Simultant Test (F Test)

Table 12. Simultant Test (F)

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3126.438	3	1042.146	875.941	.000 ^b
	Residuals	471.139	396	1.190		
	Total	3597.578	399			

a. Dependent Variable: User Satisfaction

b. Predictors: (Constant), System Security, Service Quality, Accounting Information System Quality

Source: Data processed

Based on table 12, it is known that the F sig is 0.000 where the value is <0.05 and the calculated F value is 875.941 where the value is > 2.63. From these results, it can be concluded that the variables of Accounting Information System Quality (X1), Service Quality (X2) and System Security (X3) have a simultaneous or joint influence on User Satisfaction (Y).

4.1.7.3 Coefficient of Determination Test (R2)

Table 13. Coefficient of Determination Test (R²)

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.932 ^a	.869	.868	1.09075
a. Predictors: (Constant), System Security, Service Quality, Accounting Information System Quality				
b. Dependent Variable: User Satisfaction				
Source: Data processed				

Based on table 13, the R Square value is 0.869, where this value is obtained from multiplying the R value, namely $0.932 \times 0.932 = 0.869$ or equal to 86.9%. From the results of these calculations, it can be concluded that the Quality of Accounting Information Systems (X1), Service Quality (X2) and System Security (X3) simultaneously or simultaneously affect User Satisfaction (Y) by 86.9%, while 13.1% is influenced by other variables outside the regression equation.

4.2 Discussion

4.2.1 The Effect of Accounting Information System Quality on User Satisfaction

The results of hypothesis testing between Accounting Information Quality (X1) on User Satisfaction (Y) show that H1 is proven and accepted. This can be verified by a significance value of $0.004 < 0.05$ with a calculated t value of $2.916 > 1.966$. So, these results show that Accounting Information Quality (X1) has a positive and significant effect on User Satisfaction (Y). This shows that the better the quality of the accounting information system, the higher the user satisfaction with the system. The quality of accounting information systems that are created optimally and with quality can have an impact on transaction processes that are faster with accuracy, display information on time and reduce the number of errors that occur.

The results of this study are supported based on research conducted by Handayani (2023) and Anggraeni & Muslim (2023) conducted the same research. Where the results of both studies show that the quality of the accounting information system has a positive effect on user satisfaction, so it can be concluded that the quality of the accounting information system has a significant effect on customer satisfaction. Thus, there is a relationship that has a mutual impact and produces a significant correlation between the quality of accounting information and the satisfaction of m-banking application users.

4.2.2 Effect of Service Quality on User Satisfaction

The results of hypothesis testing between Service Quality (X2) on User Satisfaction (Y) show that H2 is proven and accepted. This is evidenced by the significance value of $0.000 < 0.05$ with a calculated t value of $8.188 > 1.966$, so it can be concluded that there is a partial influence between the service quality variable (X2) on user satisfaction (Y). This shows that the better the quality of service applied to banking applications, the higher the level of user satisfaction with the mobile banking application. Superior service quality will provide user comfort when the transaction process is carried out in transactions with readiness to provide solutions to user problems when needed. The level of excellence expected is in accordance with user needs because users will feel satisfied if the product is used in accordance with their expectations.

The results in this study are in line with previous research conducted by Suryani & Koranti

(2022) and Adelia (2019) which state that service quality has a significant positive effect on user satisfaction, so it can be concluded that service quality has a significant positive effect partially. Then research conducted by Amhas (2018) shows that directly, service quality has a direct impact on user satisfaction. However, the test results show that service quality does not have a significant effect on user satisfaction through employee performance, when compared to its direct effect. Thus, there is a relationship that has a mutual impact and produces a significant correlation between service quality and user satisfaction.

4.2.3 The Effect of System Security on User Satisfaction

The results of hypothesis testing between System Security (X3) on User Satisfaction (Y), show that H3 is proven and accepted. This can be verified from the significance value of

$0.000 < 0.05$ with a calculated t value of $13.962 > 1.966$, so it can be concluded that there is a partial influence between the system security variable (X3) on user satisfaction (Y). This shows that the higher the level of security in the mobile banking application at a banking company, the higher the level of user satisfaction that will be obtained. With the security of the system in the application, it will cause a sense of satisfaction and security felt by application users in making transactions so that it can increase the sense of trust and security with the user data provided stored by the relevant bank.

The results of research conducted by Hariyadi et al (2019) state that system security has a significant positive effect on user satisfaction. This shows that the level of mobile banking user satisfaction is strongly influenced by system security. which means that the higher the level of system security affects user satisfaction.

4.2.4 The Effect of Accounting Information System Quality, Service Quality, and System Security on User Satisfaction

The results of hypothesis testing between Accounting Information System Quality (X1), Service Quality (X2) and System Security (X3) on User Satisfaction (Y), show that H4 is proven and accepted. So, it can be concluded that the higher the level of quality of accounting information systems, service quality and system security, the higher the level of user satisfaction of mobile banking applications. In this study, the simultaneous test results obtained show that the results of the quality of accounting information systems, service quality and system security have a simultaneous influence on user satisfaction of the Bank Sumsel Babel mobile banking application. Good accounting information system quality, service quality and system security will have an impact on the transaction process that occurs, comfort, user confidence, and the user's desire to use the application repeatedly without hesitation.

This research is in line with research conducted by Handayani (2023), which states that the quality of information systems, service quality and system security have a positive and significant effect on student satisfaction of m-banking users at FE UIN Malang. Then research conducted by Siregar (2023) which shows that the quality of accounting information systems, service quality and system security have a positive and significant effect on user satisfaction of mobile banking-based applications at Bank Mandiri KCP Medan Zainul Arifin. Thus, there is a relationship that has a mutual impact and produces a significant correlation between the quality of accounting information, service quality and system security with user satisfaction of m-banking applications...

5 Conclusion

This study was conducted to determine the effect of accounting information system quality

variables, service quality and system security on user satisfaction of the Bank Sumsel Babel m-banking application. Based on the results of hypothesis testing, it shows that the quality of the accounting information system has a positive and significant effect on user satisfaction of m-banking-based applications at Bank Sumsel Babel. Service quality has a positive and significant effect on user satisfaction of m-banking based applications. System security has a positive and significant effect on user satisfaction of m-banking-based applications. The quality of accounting information systems, service quality and system security together have a positive and significant effect on user satisfaction of m-banking-based applications at Bank Sumsel Babel. This means that the quality of the accounting information system in the mobile banking application at Bank Sumsel Babel is an application that is easy to understand and access, the quality of service owned by the Bank Sumsel Babel m-banking application from complaint responses, empathy and service, and good system security have provided trust and satisfaction of users of m-banking-based applications at Bank Sumsel Babel.

Based on the results of this study, companies are advised to improve the accessibility of mobile banking services, respond quickly to feedback and complaints, and improve ease of access and add mobile banking service applications to increase user convenience in obtaining information. For users of mobile banking-based applications, it is hoped that they will use the application more skillfully and wisely. For future research, it is recommended to consider adding variables that can affect mobile banking application user satisfaction, as well as adding intervening and moderating variables to deepen understanding of the factors that affect user satisfaction..

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The Influence of Motivation, Compensation, and Competency on Employee Performance Mediated by Job Satisfaction (Case Study at Lembaga Penjamin Simpanan)

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Abstract

This research aims to analyze motivation, compensation, and competence on employee performance as mediated by job satisfaction at the Deposit Insurance Corporation. This research uses a survey method with a sample of 100 people using a proportional stratified random sampling technique. The data collection technique uses a questionnaire whose validity and reliability have been tested. The data analysis technique uses the Partial Least Square (PLS) application version 3.2.9. by evaluating the outer model, the inner model, and path analysis tests. The research results provide conclusions: (1) Motivation has no significant effect on employee performance; (2) Compensation has a significant effect on employee performance; (3) Competency has a significant effect on employee performance; (4) Motivation has no significant effect on job satisfaction; (5) Compensation has a significant effect on job satisfaction; (6) Competency has a significant effect on job satisfaction; (7) Job satisfaction has no significant effect on employee performance; (8) The influence of motivation on employee performance cannot be mediated by job satisfaction; (9) The effect of compensation on employee performance cannot be mediated by job satisfaction; (10) The influence of competency on employee performance cannot be mediated by job satisfaction; (11) The coefficient value of the determinant (R^2) of the Job Satisfaction construct is 0.649, indicating that the influence of Motivation, Compensation, and Competence constructs on Job Satisfaction is 64.9%; (12) The coefficient value of the determinant (R^2) of the Employee Performance construct is 0.640, indicating that the influence of Motivation, Compensation, and Competence Job Satisfaction constructs on Employee Performance is 64%.

Keywords: Motivation, Compensation, Competency, Employee performance, Job satisfaction.

JEL CODES: E24, J28, J33.

How to Cite:

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1. Introduction

Guaranteeing customer deposits in Indonesia is the responsibility of the Deposit Insurance Corporation. This institution guarantees bank customers their savings in the event of bank failure or liquidation. The Deposit Insurance Agency also has a role in supervising and providing recommendations to improve bank health. Apart from that, the Deposit Insurance Corporation carries out outreach and education activities to the public about the importance of saving funds in banks and the benefits of deposit insurance provided by the Deposit Insurance Corporation. This can increase understanding and provide confidence to the public regarding the function and role of the Deposit Insurance Agency in maintaining financial system stability. The Deposit Insurance Corporation also responds when a bank failure or financial crisis occurs. Actions taken by the Deposit Insurance Corporation to restore financial system stability can strengthen public confidence in the institution. The Deposit Insurance Corporation together with members of the Financial System Stability Committee (KSSK) consisting of the Ministry of Finance, Bank Indonesia, and the Financial Services Authority always work together and work hard to maintain the stability of the national financial system. Through various strategic policies issued, ultimately the stability of the financial system and national banking can be maintained to this day (www.lps.go.id).

The performance results of the Deposit Insurance Corporation were recorded as very good, this can be seen from the total assets of the Deposit Insurance Corporation in the last five years which have continued to increase, where in 2019 it was recorded at IDR 120.58 trillion until in 2023 it reached IDR 213.69 trillion. The same thing can also be seen in LPS's income in 2023 which managed to record an income of IDR 29.95 trillion or an increase of 7.80% (yoy) compared to the same position in 2022. The results of the Deposit Insurance Corporation's performance audit also always received the title "Fair Without Exceptions". Through effective human resource management, the Deposit Insurance Corporation can strengthen its position as a regulator, improve operational performance, and better face emerging challenges. This can be seen in employee performance achievements through the Key Performance Index (KPI) for 2019 to 2023 in Figure below:

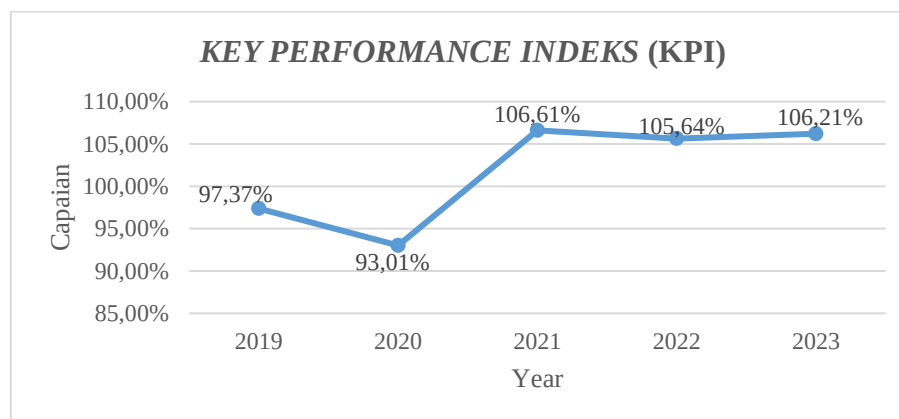


Figure 1.1 Key Performance Index (KPI) for 2019 to 2023

2. Literature Review

2.1 Motivation

According to (Paais & Pattiruhu, 2020) motivation is critical in encouraging employee performance. Motivation, according to David McClelland in Ariani et al. (2023), are factors that encourage a person to carry out a certain activity through indicators from the theory,

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namely the need for achievement, the need for relationships, and the need for strength. In the questionnaire, indicators related to motivation include job satisfaction, intrinsic motivation, monetary rewards, and career development opportunities. Employees prefer motivation in the form of rewards in the form of money because motivation in the form of money will be in line with the employee's work results (Al Mamun & Khan, 2020). Previous research has proven that extrinsic rewards in the form of money are a good source of motivation (Nasir et al., 2022). However, motivation in the form of rewards in the form of money cannot be given and predicted at any time so it is more valuable when given intrinsic rewards in the form of opportunities to work, self-actualization, and promotion. Employees who receive intrinsic rewards perform better than those who don't.

There are many theories about motivation. However, of the many motivation theories that have been explained by experts, only a few need theories can explain work motivation. The “needs theory” that is usually used is the theory put forward by Abraham Maslow, Frederick Herzberg, Alderfer, and Mc. Clelland is also known as satisfaction theory (Rusmansyah, 2022).

The first theory is the theory coined by Abraham Maslow or what is usually called Maslow's Hierarchy of Needs Theory. Maslow in Rusmansyah (2022) explains that humans' desire to fulfill their individual needs has a big influence on their lives. Abraham Maslow in Rusmansyah (2022) revealed that there are five levels of human needs to fulfill everyone's needs and this theory is structured based on a hierarchy formed from a triangle with a wide base and increasingly tapering to the very top. This hierarchy is arranged from physiological needs to self-fulfillment needs.

2.2 Compensation

Incorporating adequate health benefits and quality of service into compensation packages has been shown to have a positive impact on employee performance (Owuze & Akhimien, 2022). According to Sutrisno in Ariani et al. (2023), compensation is recognition of the sacrifice of time, energy, and thought that employees dedicate to the organization. Compensation indicators usually include health benefits, retirement funds, vacations, allowances, and facilities. Ferrara & Giua (2022) suggest that offering compensation based on job hierarchical levels can significantly improve employee performance. Empirical evidence shows a strong relationship between compensation and employee performance with higher levels of compensation leading to increased performance. Arif et al in Ariani et al. (2023). In addition, executive compensation as an important factor in finance shows that when leaders have relationships with company owners, executive compensation plays a more significant role (Cieslak et al., 2021).

2.3 Competency

The definition of competence according to Spencer and Spencer in Lumanauw (2022) is that competence is the basic characteristic of a person (individual) that influences the way of thinking and acting, generalizes about all situations faced, and lasts for a long time in humans. The definition proposed by Spencer and Spencer in Lumanauw (2022) explains that when using the concept of competency there must be "comparative criteria" to prove that a competency element influences good or bad performance. A characteristic cannot be said to be competency unless it can predict something meaningful that happens in the real world. A characteristic that cannot make a change in performance is not competency and cannot be used to evaluate someone's performance.

Based on the description above, it can be concluded that competency is the ability and willingness to carry out a task with effective performance. Kotler and Armstrong in Lumanauw

(2022), state that competence is knowledge, skills, and individual qualities. Meanwhile, Watson Wyatt in Lumanauw (2022) defines competency as a combination of skills, knowledge and behavior that can be observed and applied critically for the success of an organization and the work performance and personal contribution of employees to their organization. Competence is also a basic employee characteristic that influences the way of thinking and acting, generalizes about all situations faced, and lasts for a long time in the employee/employee.

2.4 Employee Performance

Performance according to Bernardin in Chaidir & Zulfikar (2023) is defined as a record of results resulting from specified work activities during a certain period. Employee performance is documentation of individual work results by the specified time. This definition views employee performance as work behavior where work results are related to personal characteristics, including reliability, integrity, perseverance, knowledge, attitudes, and loyalty. Although these factors are not actual performance measurements, according to Bernardin in Chaidir & Zulfikar (2023), they contribute to determining overall performance. In other words, employee performance is not only measured based on the quality and quantity or amount of work but there also needs to be an assessment related to work attitudes and behavior. Performance because of behavior was also stated by Campbell in Chaidir & Zulfikar (2023). This definition does not only see performance as a result but performance also as behavior that needs to be differentiated because work results and behavior can be influenced by organizational system factors (Sunatar, 2023). Another opinion that supports the statement is Brumbach quoted by Chaidir & Zulfikar (2023) that performance means both behavior and results. Behavior originates from the performer and transforms performance from abstraction into action. Behaviors are also outcomes in themselves; they are the product of mental and physical effort applied to a task and can be assessed separately from outcomes. Behavioral signs originating from individuals are converted into actions and apart from that, behavior is also a result that is produced psychologically and physically to produce performance.

2.5 Job Satisfaction

According to Stephen Robbins in Rusmansyah (2022), job satisfaction is defined as a positive attitude towards a job based on an evaluation of job characteristics. Meanwhile, according to Luthans in Rusmansyah (2022), job satisfaction is the result of employees' perceptions of how well their work provides things that are considered important. This can be seen and assessed from the good behavior that employees show towards their work and the environment around them. So, it can be concluded that if an employee is satisfied with his work, it will produce a positive attitude or maximum results. On the other hand, if an employee is dissatisfied with his work, this will result in a negative attitude or less-than-optimal results.

According to Handoko in Indra & Rialmi (2022), job satisfaction is an employee's view of their work in the form of pleasant or unpleasant feelings. So, it can be understood that job satisfaction is related to how enjoyable the work they do is based on an assessment of the work situation they are experiencing. Employees who feel satisfaction at work tend to like their work more than those who don't like it so these employees will carry out their work well.

From several theories above, it can be concluded that job satisfaction is an attitude, either in the form of actions or an emotional attitude that shows an employee's actions that will influence their behavior and performance at work.

3. Research Method

This type of research is quantitative research using data collection instruments in the form of

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questionnaires. Data analysis in this research used the Partial Least Square (PLS) program version 3.2.9.

3.1 Research population

The population used in this research is employees of the Deposit Insurance Corporation with a total number of employees in 2023 (position Dec 2023) namely 503 people.

3.2 Research Sample

Sampling in this study was carried out proportionally according to the distribution of questionnaires given to the entire population. This research uses balanced sampling (proportional stratified random sampling) which is carried out to represent the population proportionally so that the results from the sample can be generalized to the population. From this data, the sample size was obtained using the Slovin formula, as follows.

$$n = N / 1 + Ne^2 = 503 / 1 + 503 \cdot 0,01^2 = 503 / 6,03 = 83,41 \sim 83 \text{ samples}$$

The variables used in research can be classified into:

1. Dependent variable (Y)
In this research, the dependent variables are Job satisfaction (Y)
2. The Independent Variable (X), in this research is:
 - a. Motivation (X₁)
 - b. Compensation (X₂)
 - c. Competency (X₃)
3. This research's intervening variable (Z) is Employee Performance (Z).

The conceptual framework used to describe the relationship between income, operational expenses, and tax expenses on a company's financial performance is as follows:

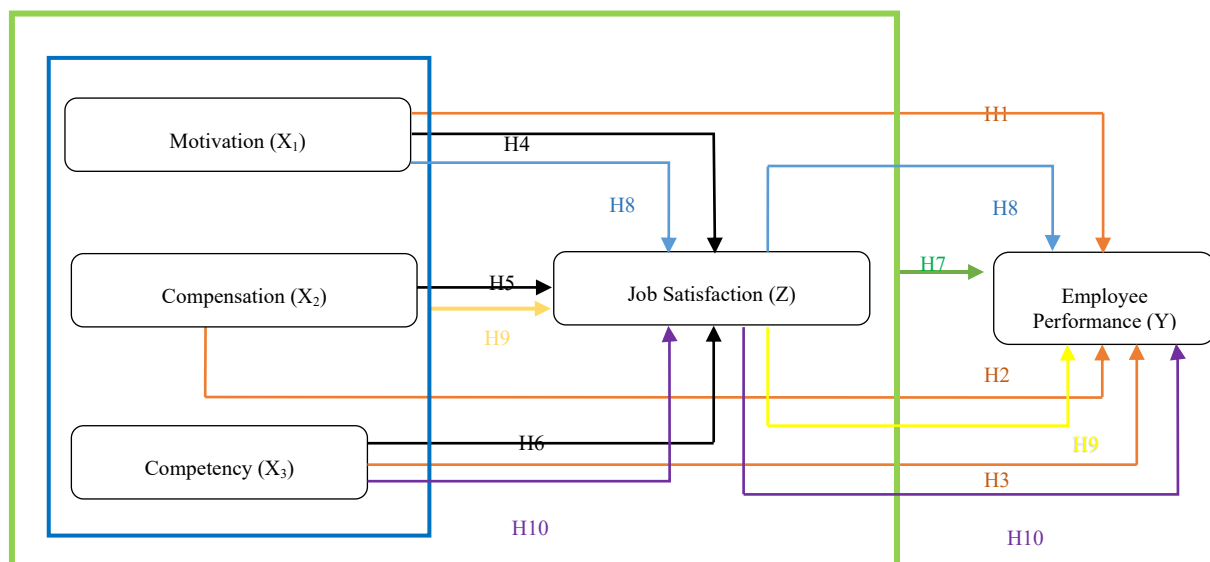


Figure 3.1. Research Model

The hypotheses in this research are:

- H1: Motivation influences employee performance.
 H2: Compensation influences employee performance.
 H3: Competency influences employee performance

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H4: Motivation influences job satisfaction.

H5: Compensation influences job satisfaction

H6: Competence influences job satisfaction.

H7: Job satisfaction influences employee performance.

H8: Motivation influences employee performance which is mediated by job satisfaction.

H9: Compensation influences employee performance which is mediated by job satisfaction.

H10: Competence influences employee performance which is mediated by job satisfaction.

4. Findings and Discussions

4.1 Findings

The data used is panel data, so its use must meet panel data regression testing, namely:

Validity Test Results

Table 1 Motivational Variable Validity Instrument Test Results (X₁)

Dimension	Item	Correlation	Prob.	Remark
Achievement	Ability to solve problems	0,724	0,000	Valid
Confession	Awards	0,747	0,000	Valid
	Praise	0,778	0,000	Valid
Responsibility	Assigning responsibility	0,848	0,000	Valid
	Granting permission/power	0,841	0,000	Valid
The job itself	Job placement	0,744	0,000	Valid
	Challenge	0,702	0,000	Valid
Improvement	Promotion	0,830	0,000	Valid
	Opportunities to improve work abilities	0,694	0,000	Valid

Source: Analyze results from primary data

Based on the table above, it can be explained that the results of the validity test of respondents' responses to the Motivation variable (X₁) are:

1. The achievement dimension consists of one statement item. This item has a probability value lower than the significance level (α) of 0.05, this shows that the item is valid in forming an achievement dimension.
2. The recognition dimension consists of two statement items. These two items have a smaller probability value at the significance level (α) of 0.05, this shows that the two items are valid in forming a recognition dimension.
3. The responsibility dimension consists of two statement items. The two items have a probability value that is smaller at the significance level (α) of 0.05, this shows that the two items are valid in forming a responsibility dimension.
4. The job dimension itself consists of two statement items. These two items have a probability value lower than the significance level (α) of 0.05; this shows that the two items are valid in forming the job dimension itself.

5. The dimension of increasing sharing a shared vision consists of two statement items. These two items have a probability value that is smaller at the significance level (α) of 0.05, this shows that the two items are valid in forming an improvement dimension.

Table 2 Compensation Variable Validity Instrument Test Results (X_2)

Dimension	Item	Correlation	Prob.	Remark
Direct Compensation	The income received is appropriate	0,919	0,000	Valid
	Equality of income levels provided	0,870	0,000	Valid
Indirect Compensation	Providing insurance	0,720	0,000	Valid

Source: Analyze results from primary data

Based on the table above, it can be explained that the results of the validity test of respondents' responses to the Compensation variable (X_2) are:

1. The direct compensation dimension consists of two statement items. The items have a probability value that is smaller at the significance level (α) of 0.05, this shows that the items are valid in forming a direct compensation dimension.
2. The indirect compensation dimension consists of one statement item. The two items have a probability value lower than the significance level (α) of 0.05, this shows that the two items are valid in forming the indirect compensation dimension.

Table 3 Competency Variable Validity Instrument Test Results (X_3)

Dimension	Item	Correlation	Prob.	Remark.-
Knowledge	Sufficient knowledge of the work area	0,745	0,000	Valid
	Work is completed according to the knowledge	0,861	0,000	Valid
	Know the job	0,841	0,000	Valid
Skills	Providing knowledge to colleagues	0,760	0,000	Valid
	Collaboration ability	0,776	0,000	Valid
	Understand and master the job	0,731	0,000	Valid
Behavior	Discipline	0,788	0,000	Valid
	Responsive and diligent	0,716	0,000	Valid
Experience	The experience you have supports the completion of the work	0,767	0,000	Valid

Source: Analyze results from primary data

Based on the table above, it can be explained that the results of the validity test of respondents' responses to the Competency variable (X_3) are:

1. The knowledge dimension consists of three statement items. The items have a probability value lower than the significance level (α) of 0.05, this shows that the items are valid in forming a knowledge dimension.
2. The skills dimension consists of three statement items. The two items have a probability value lower than the significance level (α) of 0.05, this shows that the two items are valid in forming a skills dimension.
3. The behavioral dimension consists of two statement items. The two items have a smaller probability value at the significance level (α) of 0.05, this shows that the two items are valid in forming a behavioral dimension.
4. The experience dimension consists of one statement item. The two items have a probability value lower than the significance level (α) of 0.05, this shows that the two items are valid in forming the experience dimension.

Table 4. Job Satisfaction Variable Validity Instrument Test Results (Z)

Dimensi	Item	Korelasi	Prob.	Keterangan
Reward	Providing rewards by basic needs.	0,742	0,000	Valid
	Providing rewards according to workload.	0,797	0,000	Valid
Promotion	Promotional opportunities	0,809	0,000	Valid
	Clear career path	0,733	0,000	Valid
Supervision	Good supervision from superiors	0,729	0,000	Valid
	Providing direction according to abilities and skills	0,721	0,000	Valid
Work colleague	Good communication with colleagues	0,743	0,000	Valid
	Solidarity in cooperation	0,779	0,000	Valid
The job itself	Freedom to get work done.	0,779	0,000	Valid

Source: Analyze results from primary data

Based on the table above, it can be explained that the results of the validity test of respondents' responses to the Job Satisfaction (Z) variable are:

1. The reward dimension consists of two statement items. The items have a smaller probability value at the significance level (α) of 0.05, this shows that the items are valid in forming the reward dimension.
2. The promotion dimension consists of two statement items. The two items have a probability value that is smaller at the significance level (α) of 0.05, this shows that the two items are valid in forming the promotion dimension.
3. The supervision dimension consists of two statement items. The two items have a probability value lower than the significance level (α) of 0.05, this shows that the two items are valid in forming a supervision dimension.
4. The co-worker dimension consists of two statement items. The two items have a smaller probability value at the significance level (α) of 0.05, this shows that the two items are valid in forming the co-worker dimension.
5. The job dimension itself consists of one statement item. The item has a probability value lower than the significance level (α) of 0.05, this shows that the two items are valid in forming the job dimension itself.

Table 5. Employee Performance Variable Validity Instrument Test Results (Y)

Dimension	Item	Correlation	Prob.	Remark
Quality of work	Opportunity to take initiative in achieving work targets	0,730	0,000	Valid
	Completion of work well and thoroughly	0,828	0,000	Valid
Quantity	Fulfill all workload	0,748	0,000	Valid
	Minimize the error rate when working	0,855	0,000	Valid
Execution of tasks	Completion of work on time	0,773	0,000	Valid
	Completion of work faster than specified	0,816	0,000	Valid
Responsibility	Completion of work to completion	0,738	0,000	Valid

Source: Analyze results from primary data

Based on the table above, it can be explained that the results of the validity test of respondents' responses to the Employee Performance (Y) variable are:

1. The work quality dimension consists of two statement items. The items have a smaller probability value at the significance level (α) of 0.05, this shows that the items are valid in forming the work quality dimension.
2. The quantity dimension consists of two statement items. The two items have a probability value that is smaller at the significance level (α) of 0.05, this shows that the two items are valid in forming the quantity dimension.
3. The task implementation dimension consists of two statement items. The two items have a probability value lower than the significance level (α) of 0.05, this shows that the two items are valid in forming the task implementation dimension.
4. The responsibility dimension consists of one statement item. The two items have a probability value lower than the significance level (α) of 0.05, this shows that the two items are valid in forming a responsibility dimension.

Reliability Test Results

Table 6. Summary of Research Variable Reliability Instrument Test Results

No	Latent Variables	Cronbach's Alpha	Category
1.	Motivation (X ₁)	0,911	Reliable
2.	Compensation (X ₂)	0,785	Reliable
3.	Competency (X ₃)	0,916	Reliable
4.	Job satisfaction (Z)	0,907	Reliable
5.	Employee performance (Y)	0,894	Reliable

Source: Analyze results from primary data

Based on Table 6, it can be stated that the five latent variables formed by the indicators are proven to have good reliability. This is indicated by all Cronbach's alpha values greater than 0.70.

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Structural Model Evaluation Testing (Inner Model)

Several indicators, including the coefficient of determination R^2 , show that the inner model was evaluated in this research.

R-Square (Coefficient of Determination)

Table 7. R-Square Value

Structure	Construct	R-Square
Structure I	Job satisfaction	0.649
Structure II	Employee performance	0.640

Source: Analyze results from primary data

Based on table 4.17 it can be explained as follows:

1. Structure I
The determinant coefficient (R^2) value of the Job Satisfaction construct is 0.649, indicating that the influence of the Motivation, Compensation, and Competency construct on Job Satisfaction is 64.9% and the remaining 35.1% is explained outside this research model.
2. Structure II
The determinant coefficient (R^2) value of the Employee Performance construct is 0.640, indicating that the influence of Job Satisfaction on Employee Performance is 64% and the remaining 36% is explained outside this research model.

Path Analysis

1. Direct Effect

Table 8. Direct Effect Test Results

Track	Original Sampel Estimate	T-count	P-Value	Remark
Motivation → Employee performance	0.012	0.127	0.053	Not significant
Compensation → Employee performance	0.236	2.914	0.004	significant
Competency → Employee performance	0.719	9.793	0.000	significant
Motivation → Job satisfaction	0.151	1.939	0.899	Not significant
Compensation → Job satisfaction	0.512	6.796	0.000	significant
Competency → Job satisfaction	0.401	6.622	0.000	significant
Job Satisfaction → Employee performance	-0.09	0.965	0.335	Not significant

Source: Analyze results from primary data

Based on Table 8, the results of the direct influence test can be explained, namely:

2. The calculated t-value of the influence of Motivation on Employee Performance is

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- 0.127 and the p value of the influence of Motivation on Employee Performance is 0.053. Because the t-value < 1.96 or p-value > 0.05 , it can be said that motivation does not have a significant effect on employee performance.
3. The calculated t value of the influence of compensation on employee performance is 2.914 and the p value of the influence of compensation on employee performance is 0.004. Because the calculated t-value is > 1.96 or the p-value < 0.05 , it can be said that compensation has a significant effect on employee performance. Compensation influences employee performance by 0.236.
 4. The calculated t value of the influence of Competency on Employee Performance is 9.793 and the p value of the influence of Competency on Employee Performance is 0.000. Because the calculated t-value is > 1.96 or p-value < 0.05 , it can be said that Competency has a significant effect on Employee Performance. Competency influences employee performance by 0.719.
 5. The calculated t-value of the influence of Motivation on Job Satisfaction is 1.939 and the p value of the influence of Motivation on Job Satisfaction is 0.899. Because the calculated t-value is < 1.96 or the p-value is > 0.05 , it can be said that motivation does not have a significant effect on job satisfaction.
 6. The calculated t-value of the influence of Compensation on Job Satisfaction is 6.796 and the p value of the influence of Compensation on Job Satisfaction is 0.000. Because the calculated t-value is > 1.96 or the p-value < 0.05 , it can be said that compensation has a significant effect on job satisfaction. Compensation reduces Job Satisfaction by 0.512.
 7. The calculated t-value of the influence of Competency on Job Satisfaction is 6.622 and the p value of the influence of Competency on Job Satisfaction is 0.000. Because the calculated t-value is > 1.96 or p-value < 0.05 , it can be said that Competency significantly affects Job Satisfaction. Competency affects Job Satisfaction by 0.401.
 8. The calculated t-value of the influence of Job Satisfaction on Employee Performance is 0.965 and the p value of the influence of Job Satisfaction on Employee Performance is 0.335. Because the calculated t-value is < 1.96 or p-value > 0.05 , it can be said that Job Satisfaction does not have a significant effect on Employee Performance.
 9. The table above shows that the results of the multicollinearity test have been successful, where the results are taken from the coefficients table and all tolerance values are > 0.100 . All VIF values are < 10.00 , meaning that the data shows that there is no multicollinearity in the research data.

10. Indirect Effect

Table 9. Direct Effect Test Results

Track	Path Coefficien t	T-count (O/STDEV)	P- Value
Motivation → Job satisfaction → Employee performance	-0.014	0.911	0.363
Compensation → Job satisfaction → Employee performance	-0.046	0.878	0.380
Competency → Job satisfaction → Employee performance	-0.036	0.956	0.339

Source: Analyze results from primary data

Based on Table 9 above, it can be concluded that:

1. The calculated t value of the influence of Motivation on Employee Performance which is mediated by Job Satisfaction is 0.911 and the p value of the influence of Motivation

on Employee Performance which is mediated by Job Satisfaction is 0.363. Because the t -value < 1.96 or p -value > 0.05 , it can be said that Job Satisfaction cannot mediate the influence of Motivation on Employee Performance.

2. The calculated t -value of the influence of Compensation on Employee Performance mediated by Job Satisfaction is 0.878 and the p -value of the influence of Compensation on Employee Performance mediated by Job Satisfaction is 0.380. Because the calculated t -value is < 1.96 or the p -value is > 0.05 , it can be said that Job Satisfaction cannot mediate the influence of Compensation on Employee Performance.
3. The calculated t value of the influence of Competency on Employee Performance which is mediated by Job Satisfaction is 0.956 and the p value of the influence of Competency on Employee Performance which is mediated by Job Satisfaction is 0.339. Because the calculated t -value is < 1.96 or the p -value is > 0.05 , it can be said that Job Satisfaction cannot mediate the influence of Competency on Employee Performance.

4.2 Discussion

The Effect of Motivation on Employee Performance

The results of this study indicate that motivation does not have a significant effect on employee performance or in other words, changes in employee motivation are not related to changes in their performance.

The results of this research support previous research conducted by Habeahan (2023) and R. Hidayat (2021) showing that motivation does not affect employee performance. A similar thing was also found in research conducted by Fadillah & Nasution (2022) that motivation does not guarantee that employee performance will be better. So, employee motivation must be further increased so that employees are more active in carrying out their work and it can have a positive impact on employee performance.

Effect of Compensation on Employee Performance

The results of this research indicate that compensation has a significant effect on employee performance. So, the higher the compensation an employee receives, the higher the performance the employee will show.

The results of this study support previous research conducted by Maizar et al. (2023) and Purwanto et al. (2023) stated that compensation has a positive and significant effect on employee performance. Yasa et al. (2023) in their research also stated that work motivation has a positive and significant effect on employee performance. So, companies need to maintain or even increase current compensation.

Effect of Competency on Employee Performance

The results of this analysis show that competence has a significant effect on employee performance.

The results of this research support previous research conducted by Asniwati (2022) and Sudiarso (2021) which stated that competency has a positive and significant effect on employee performance. Razak (2021) also found the same thing in his research, stating that competency influences employee performance. So, to improve employee performance, the Deposit Insurance Corporation needs to maintain existing competencies in its company. This is done so that employees can be more active in carrying out their work so that it can have a positive impact on their performance.

The Effect of Compensation on Job Satisfaction

The results of this study show that compensation has a significant effect on job satisfaction.

The results of this research support previous research conducted by Dharmiarto et al. (2021) and research by Astuti et al. (2024) stated that compensation has a positive and significant

effect on job satisfaction. The same thing is also supported by research by Aisha & Juhaeti (2023) and Aritonang & Febrian (2023) which states that compensation has a positive and significant effect on job satisfaction. So, it can be concluded that a high level of compensation influences employee job satisfaction.

Effect of Competency on Job Satisfaction

The results of this study show that competence has a significant effect on job satisfaction.

The results of this research support previous research conducted by Nurmalaya & Endratno (2022) and Janah et al. (2023) stated that the competency variable has a significant and influential effect on job satisfaction. This is also supported by research conducted by Wulandari et al. (2024) and Toreh et al. (2022) which states something similar.

Effect of Job Satisfaction on Employee Performance

The results of this study indicate that job satisfaction does not significantly influence employee performance.

The results of this study support previous research by Bague et al. (2024) and Fitri et al. (2021) which states that job satisfaction has a negative and insignificant effect on employee performance. So, employee satisfaction does not guarantee that the employee's performance will be better.

The Effect of Motivation on Employee Performance Mediated by Job Satisfaction

The results of this study indicate that job satisfaction is unable to mediate the influence of motivation on employee performance.

The results of this study support previous research conducted by Nadapdap et al. (2022) and Sembiring & Tanjung (2021) which show that job satisfaction is unable to mediate motivation on employee performance.

The Effect of Compensation on Employee Performance Mediated by Job Satisfaction

The results of this study indicate that job satisfaction is unable to mediate the effect of compensation on employee performance.

The results of this research support previous research conducted by Azizah (2020) and Yuliantika (2020) which showed that job satisfaction was unable to mediate compensation on employee performance.

The Effect of Competency on Employee Performance Mediated by Job Satisfaction

Based on the results of this research, shows that job satisfaction is unable to mediate the influence of competence on employee performance.

The results of this research support previous research conducted by Sundari & Putri (2023) and Janah et al. (2023) which states that job satisfaction is unable to mediate the influence of competence on employee performance.

5. Conclusion

Based on the results of the analysis of the influence of the Motivation variable (X_1), Compensation variable (X_2), and Competency variable (X_3) on Employee Performance (Y) mediated by Job Satisfaction (Z), several research conclusions can be obtained as follows:

1. Motivation does not affect employee performance.
A high level of motivation does not affect the increase in employee performance at the Deposit Insurance Corporation.
2. Compensation influences employee performance.
Increasing compensation can affect employee performance at the Deposit Insurance Corporation.
3. Competence influences performance.

High competency will improve employee performance at the Deposit Insurance Corporation.

4. Motivation does not affect Job Satisfaction.
A high level of motivation does not affect the level of job satisfaction at the Deposit Insurance Corporation.
5. Compensation influences job satisfaction.
Increasing compensation will affect employee job satisfaction at the Deposit Insurance Corporation.
6. Competence influences job satisfaction.
A high level of competency will also influence the level of job satisfaction at the Deposit Insurance Corporation.
7. Job satisfaction does not affect employee performance.
Increasing job satisfaction does not affect the increase in employee performance at the Deposit Insurance Corporation.
8. Job satisfaction is unable to mediate the influence of motivation on employee performance.
9. Job satisfaction is unable to mediate the influence of compensation on employee performance.
10. Job satisfaction is unable to mediate the influence of competency on employee performance.

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Evaluating the Impact of Service Quality and Trust on Customer Loyalty in Financial Institutions

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Abstract

This study was conducted at PT. Permodalan Nasional Madani (PNM) Unit Ilir Timur 2-2 Palembang to measure the effect of service quality and trust on customer satisfaction and its impact on customer loyalty. The background of this study is based on the rapid economic development in Indonesia, which drives an increase in the financial needs of the community, making the role of financing institutions increasingly important. The purpose of this study is to explore how service quality, trust, and satisfaction affect customer loyalty. The method used is a quantitative method with a positivistic approach, utilizing multiple linear regression analysis. Data were obtained from 100 respondents selected using purposive sampling techniques. The results of the study indicate that service quality has a significant effect on customer loyalty, with a regression coefficient of 0.763 and a significance value of 0.000. However, customer trust and customer satisfaction do not show a significant effect on loyalty in this model. Therefore, it is recommended that PT. PNM focuses more on improving service quality to strengthen customer loyalty, while trust and satisfaction should still be considered through a more specific approach and measurement. The study concludes that although service quality is a major factor in building loyalty, it is important for companies not to ignore the role of trust and satisfaction in the long term.

Keywords: service quality, customer trust, customer satisfaction, customer loyalty

Keywords: Motivation, Compensation, Competency, Employee performance, Job satisfaction.

JEL CODES: E24, J28, J33.

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1. Introduction

Along with the rapid development of the economy in Indonesia, people's financial needs are increasing. These needs are largely met through lending and borrowing activities, both between individuals and legal entities with organizations, both formal and informal (Karwur et al.,

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2022). Financing institutions, both banking and non-banking, play an important role in supporting economic activities. The main difference between the two lies in the method of capital mobilization; banks can mobilize capital directly, while non-banking institutions can only do so indirectly (Damilola Oluwaseun Ogundipe et al., 2024).

In the Indonesian context, financing institutions have experienced very dynamic developments in terms of service quality and technology. This development has created fierce competition among financing institutions, forcing them to develop strategies to avoid losing customers. Companies such as PT.PNM, Amarth, and Bina Artha are some of the main players in this market. Customers tend to choose quality and trusted financing institutions to ensure satisfaction y (Ogundipe et al., 2024).

PT.PNM (Permodalan Nasional Madani), established based on government regulations, aims to improve the welfare of the community, especially women micro entrepreneurs, through a group system that facilitates business management. Customer satisfaction is a top priority in this industry because it has a direct impact on the development and sustainability of the business (Lepistö et al., 2024). Customer satisfaction is an important indicator for assessing the loyalty and success of a company (Alzaydi, 2024).

Satisfied customers tend to show loyalty by recommending products or services to others and continuing to use services from the same company (Mansoor & Hussain, 2024). Customer satisfaction is measured by the suitability between expectations and the services received. If the quality of service does not meet expectations, customers will feel dissatisfied and may not trust the service again (Sholeha et al., 2018).

Service quality is considered a reflection of the perfection of service expected by customers. The higher the quality of service, the higher the level of customer satisfaction. The implementation of Islamic values in services can also optimize service excellence (Dakhi et al., 2021). However, not all studies show consistent results regarding the effect of service quality on customer loyalty, with some studies presenting different findings (Aji et al., 2024).

The data shows that the number of customers at PT PNM increased from 1,811 in 2019 to 5,155 in 2023, indicating that service quality, trust, and customer satisfaction are crucial for the company. This study aims to measure the effect of service quality and trust on customer satisfaction and its impact on customer loyalty in financing institutions.

Given this background, the author has chosen the research title "The Effect of Service Quality and Trust on Satisfaction and Its Impact on Customer Loyalty of Financing Institutions" to explore more deeply how these factors influence customer loyalty and to provide strategic recommendations for financing institutions.

2. Literature Review

2.1 Service Quality

Service quality refers to the degree of excellence or the relative measure of goodness of a product or service. According to the Indonesian dictionary, "quality" signifies the level of how good or bad something is. Service quality involves efforts to meet customer needs with maximum service to match customer expectations (Rashid et al., 2020). Duc Dinh et al. (2024) defines it through several dimensions including customer, service, excellence, consistency, quality, delivery, and levels. (Supriyanto et al., 2021) emphasizes that service quality is experienced when customers receive service that aligns with their desires and expectations.

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Therefore, service quality is about meeting customer needs to match their expectations.

2.2 Customer Trust

Customer trust is the belief in the honesty and capability of a party to fulfill promises, demonstrate reliable concern, and act in the trustor's best interest (Muharam et al., 2021). (Al Karim (2019) describes trust as the expectation that others will not act opportunistically and will adhere to social ethics and commitments. Alqasa & Afaneh (2022) highlights two key dimensions of customer trust: Trusting Belief, which involves confidence in another's intentions, integrity, and competence; and Trusting Intention, which pertains to the willingness to rely on others, accept potential risks, and share personal information.

2.3 Customer Satisfaction

Customer satisfaction originates from the Latin words "satis" (sufficient) and "facio" (to make). It is generally understood as the effort to achieve a satisfying outcome. Setiawan & Sayuti (2017) defines customer satisfaction as the feeling derived from comparing the performance of a product or service against expectations. According to Mowen as cited by Al Karim (2019), satisfaction is a general attitude towards a product or service after use, reflecting an evaluative judgment of a particular choice.

2.4 Customer Loyalty

Customer loyalty is a commitment to a brand or store based on a positive attitude, reflected in repeated and consistent purchases (Rashid et al., 2020). Aji et al. (2024) describes it as a customer's consistent behavior of purchasing the same products or services over time due to satisfaction. Customer loyalty is crucial for banking institutions as it can enhance financial performance and ensure business sustainability. It encompasses both behavioral and attitudinal components, resulting in four types of loyalty: No Loyalty, Spurious Loyalty, Latent Loyalty, and Loyalty, with the latter being the ideal situation where customers exhibit positive attitudes and consistent purchasing behavior.

2.5 Framework of Thought

The framework of thought aims to help researchers in systematically describing the main problems in the research. This framework of thought can be seen in the form of the following image:

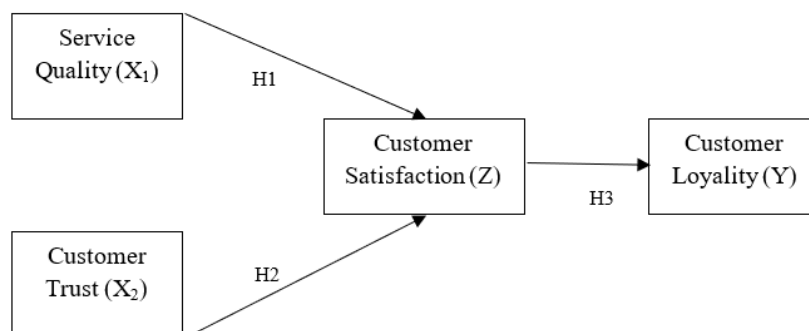


Figure 1. Framework of Thought

Source: Author data (2024)

From the framework of thought in Figure 2.1 above, this study aims to focus the discussion on whether service quality, trust, and satisfaction have an effect on their impact on customer loyalty. The hypotheses in the study are as follows:

2.5 Development Hypothesis

1. **H1:** It is suspected that service quality has a positive influence on customer satisfaction at PT. Permodalan Nasional Madani Unit Ilir Timur 2-2 Palembang.
2. **H2:** It is suspected that customer trust has a positive influence on customer satisfaction at PT. Permodalan Nasional Madani Unit Ilir Timur 2-2 Palembang.
3. **H3:** It is suspected that customer satisfaction has a very positive and significant influence on customer loyalty at PT. Permodalan Nasional Madani Unit Ilir Timur 2-2 Palembang.

3. Research Method

This research was conducted at PT. Permodalan Nasional Madani (PNM) Unit Ilir Timur 2-2 Palembang using a quantitative method based on the philosophy of positivism. The quantitative method was chosen to study the relationship between variables through the collection. This study involved four variables which are service quality (X1), customer trust (X2), customer satisfaction (Z), and customer loyalty (Y). The independent variables are service quality and customer trust, while the dependent variables are customer satisfaction and loyalty.

Data sources include both primary and secondary data. Primary data were obtained through questionnaires given to customers of PT. PNM, while secondary data were collected from relevant journals and books. The study population consisted of 5,155 customers of PT. PNM in 2023, with a sample of 100 respondents determined using the Slovin formula. The sampling technique employed was purposive sampling, with specific criteria applied to select the respondents.

Data were collected through the distribution of questionnaires using a Likert scale to measure respondents' attitudes towards the research variables. Validity and reliability tests were conducted to ensure the reliability of the research instrument. Validity was tested by comparing the calculated r value with the r table, while reliability was assessed using Cronbach's alpha, with a value greater than 0.60 considered reliable.

Data analysis includes classical assumption tests, including normality, heteroscedasticity, and multicollinearity tests, to ensure the validity of the regression model. Statistical tests are carried out using multiple linear regression analysis to measure the effect of independent variables on dependent variables, as well as F tests and t-tests to test simultaneous and partial significance. The coefficient of determination (R^2) is used to measure the strength of the relationship between independent and dependent variables, with values close to 1 indicating a good model.

4. Findings and Discussions

The findings and discussion of this research are explained in the paragraph below. This finding concerns the general information of respondents, validity test, normality test, regression analysis, and Anova test results, including t-test and f-test results.

4.1 Findings

4.1.1 General Information of Respondents

The data in Table 1 shows the demographic characteristics of the research respondents, all of whom were women, with a percentage of 100% and no participation from men. This indicates

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that this research is focused on the female customer segment at PT. Permodalan Nasional Madani (PNM) Unit Ilir Timur 2-2 Palembang, which may reflect the company's specific policies or preferences for women's economic empowerment.

In terms of age, most respondents were over 40 years old, reaching 55%, indicating the dominance of customers from more mature age groups. The 31-40 age group also has a significant representation of 27%, while respondents aged 21-30 years were only 18%. This distribution shows that PNM customers are generally in adulthood, with most of them at a stage of life that tends to be more stable economically and socially.

In terms of education, most respondents have a secondary education background, with 58% of respondents completing their education up to Senior High School (SMA). Meanwhile, 24% of respondents only completed their education up to Junior High School (SMP), and another 18% completed their elementary education. This indicates that although the majority of customers have secondary education, there are also a significant number who have lower levels of education, which may affect their access to financial information and services provided by PNM.

Table 1. Respondents Information

Variables	Unit	Percentage (%)
Gender	Male	0
	Female	100
Age	21-30 years	18
	31-40 years	27
	>40 years	55
Education	Primary	18
	Junior High School	24
	Senior High School	58

Source: Survey Author (2024)

4.1.2 Validity Test

The data in the table illustrates the results of the validity test conducted on several questions representing the four main variables in the study, namely Service Quality (X1), Customer Trust (X2), Customer Satisfaction (Z), and Customer Loyalty (Y). Each variable is measured through several questions that are assessed using the Pearson correlation coefficient to determine its validity. The results show that all questions for each variable have a Pearson correlation value greater than the r table value of 0.195, indicating that all questions are valid.

For the Service Quality variable (X1), there are five questions tested, and all have high correlation values, ranging from 0.621 to 0.795. The highest correlation value is in question X1.1 with 0.795, indicating that this question has a very strong relationship with the Service Quality variable as a whole. The high validity of all these questions ensures that the measurement instrument for Service Quality can accurately represent the intended variable. In the Customer Trust variable (X2), five questions are also all valid, with Pearson correlation values ranging from 0.716 to 0.828. Question X2.3 shows measures of the Customer Trust aspect. The high consistency of the validity results indicates that the Customer Trust variable is measured with a very reliable instrument.

The Customer Satisfaction (Z) and Customer Loyalty (Y) variables also show similar results,

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with all questions asked declared valid. For Customer Satisfaction, the correlation values range from 0.643 to 0.735, with question Z.3 having the highest correlation of 0.735. Meanwhile, for Customer Loyalty, the correlation values range from 0.683 to 0.767, with question Y.4 having the highest correlation of 0.767. Consistent validity across questions in these two variables ensures that they are able to capture and reflect well the concepts of Customer Satisfaction and Loyalty measured in this study.

Table 2. Validity Test Result

Variable	Questions	Pearson Correlation	r table	Description
Service Quality (X ₁)	X1.1	.795	0.195	Valid
	X1.2	.621	0.195	Valid
	X1.3	.760	0.195	Valid
	X1.4	.778	0.195	Valid
	X1.5	.744	0.195	Valid
Customer Trust (X ₂)	X2.1	.807	0.195	Valid
	X2.2	.716	0.195	Valid
	X2.3	.828	0.195	Valid
	X2.4	.809	0.195	Valid
	X2.5	.755	0.195	Valid
Customer Satisfaction (Z)	Z.1	.675	0.195	Valid
	Z.2	.722	0.195	Valid
	Z.3	.735	0.195	Valid
	Z.4	.643	0.195	Valid
	Z.5	.707	0.195	Valid
Customer Loyalty (Y)	Y.1	.683	0.195	Valid
	Y.2	.758	0.195	Valid
	Y.3	.700	0.195	Valid
	Y.4	.767	0.195	Valid
	Y.5	.707	0.195	Valid

4.1.3 Normality Test Result

The data in Table 3, The One-Sample Kolmogorov-Smirnov Test table below provides the results of the normality test for unstandardized residuals in the regression model used in the study. This test is carried out to ensure whether the residual data follows a normal distribution, which is one of the important assumptions in linear regression analysis. In this table, the number of samples (N) is 100, indicating that the test was carried out on 100 residual data from the model. The normal parameters used as a benchmark are the mean close to zero (0E-7) and a standard deviation of 0.8855. The "Most Extreme Differences" column shows the maximum difference between the distribution of the residual data and the expected normal distribution. The largest absolute difference is 0.115, with positive and negative values of 0.115 and -0.111, respectively. This difference provides an idea of how the residual data deviates from the normal distribution, with larger positive values indicating a shift in the data towards a larger normal distribution, while negative values indicate a shift towards a smaller one.

The Kolmogorov-Smirnov Z value obtained is 1.150, which is a measure of the maximum observed deviation, multiplied by the square root of the number of available observations. This

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value is then compared to the theoretical Kolmogorov-Smirnov distribution to determine whether the difference between the sample distribution and the normal distribution is significant. The larger the Z value, the greater the difference between the sample distribution and the expected normal distribution. Finally, the Asymp. Sig. (2-tailed) value of 0.142 indicates the significance of this normality test. Since this significance value is greater than the general threshold used in research ($\alpha = 0.05$), the results indicate that there is not enough strong evidence to reject the null hypothesis, which states that the residual data is normally distributed. Thus, the assumption of residual normality in this regression model is met, allowing researchers to continue further analysis with confidence that the model is valid based on the assumption of normality.

The results of the validity test conducted on a number of questions representing the four main variables in the study, namely Service Quality (X1), Customer Trust (X2), Customer Satisfaction (Z), and Customer Loyalty (Y). Each variable is measured through several questions that are assessed using the Pearson correlation coefficient to determine its validity. The results show that all questions for each variable have a Pearson correlation value greater than the r table value of 0.195, indicating that all questions are valid. For the Service Quality variable (X1), there are five questions tested, and all have high correlation values, ranging from 0.621 to 0.795. The highest correlation value is in question X1.1 with 0.795, indicating that this question has a very strong relationship with the Service Quality variable as a whole. The high validity of all these questions ensures that the measurement instrument for Service Quality is able to accurately represent the intended variable. For the Customer Trust variable (X2), there are five questions that are also all valid, with Pearson correlation values ranging from 0.716 to 0.828. Question X2.3 measures the aspect of Customer Trust. The high consistency of the validity results indicates that the Customer Trust variable is measured with a highly reliable instrument. The Customer Satisfaction (Z) and Customer Loyalty (Y) variables also show similar results, with all questions asked declared valid. For Customer Satisfaction, the correlation value ranges from 0.643 to 0.735, with question Z.3 having the highest correlation of 0.735. Meanwhile, for Customer Loyalty, the correlation value ranges from 0.683 to 0.767, with question Y.4 having the highest correlation of 0.767. Consistent validity across questions on these two variables ensures that they are able to capture and reflect well the concepts of Customer Satisfaction and Loyalty measured in this study.

Table 3. Normality Test Results

4.1.4 Regression Analysis Tests Result

The research titled *Evaluating the Impact of Service Quality and Trust on Customer Loyalty in Financial Institutions* analyses the relationships between service quality (X1), customer trust (X2), and customer satisfaction (Z) and their influence on customer loyalty (Y). The model provides insights into how each of these variables interacts to shape customer loyalty in the context of financial institutions as shown in Table 4.

The results indicate that service quality (X1) has a significant and positive effect on customer satisfaction (Z), with an unstandardized coefficient of 0.763 and a high t-value of 9.508,

showing that improved service quality leads to increased customer satisfaction. The significance level (Sig. = 0.000) confirms that this relationship is statistically significant. Furthermore, the high Beta value (0.772) suggests that service quality is a strong predictor of customer satisfaction. However, the collinearity statistics reveal a tolerance of 0.374 and a VIF of 2.672, indicating that multicollinearity is not a major concern but should still be monitored.

On the other hand, customer trust (X2) shows no significant impact on customer satisfaction (Z), as evidenced by the unstandardized coefficient of 0.067 and a t-value of only 0.903. The p-value (Sig. = 0.369) is far above the conventional significance threshold, indicating that customer trust does not independently predict customer satisfaction in this model. The relatively lower Beta value (0.071) further reflects the weak influence of trust on satisfaction. However, the collinearity statistics for trust, with a tolerance of 0.397 and a VIF of 2.517, suggest that multicollinearity is moderate and should be observed cautiously.

Lastly, customer satisfaction (Z) has a minimal and statistically insignificant impact on customer loyalty (Y), with an unstandardized coefficient of 0.064 and a t-value of 0.726. The p-value (Sig. = 0.470) suggests that customer satisfaction does not play a critical role in predicting loyalty in this model. The Beta value (0.063) also highlights the weak predictive power of customer satisfaction on loyalty. The tolerance value of 0.322 and a VIF of 3.102 point to some potential multicollinearity issues, implying that other factors not included in the model may contribute to customer loyalty.

Table 4. Regression Analysis Test Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.672	.902		1.854	.067		
Service Quality (X1)	.763	.080	.772	9.508	.000	.374	2.672
Customer trust (X2)	.067	.075	.071	.903	.369	.397	2.517
Customer Satisfaction (Z)	.064	.089	.063	.726	.470	.322	3.102

a. Dependent Variable: Customer Loyalty

4.1.5 Anova Test Results

Table 5 below illustrates the results of the analysis of variance (ANOVA) for a multiple linear regression model predicting Customer Loyalty (Y) based on three independent variables: Service Quality (X1), Customer Trust (X2), and Customer Satisfaction (Z). In this context, ANOVA is used to test the overall significance of the model, determining whether the independent variables simultaneously have a significant effect on the dependent variable.

The first section of the ANOVA table pertains to the total amount of variance explained by the model and the unexplained variance. The Sum of Squares in the first column is broken down into two main parts: Regression and Residual. The Regression sum of squares, which is 250.557, represents the total variance in Customer Loyalty that can be explained by the three independent variables. Meanwhile, the Residual sum of squares, which is 77.633, represents the variance that cannot be explained by the model, or the variance caused by other factors not

included in the model.

The second section addresses the degrees of freedom (df), shown in the second column. The df for Regression is 3, corresponding to the number of independent variables in the model (Service Quality (X1), Customer Trust (X2), and Customer Satisfaction (Z)). The df for Residual is 96, calculated by subtracting the number of independent variables (3) and 1 (for the constant) from the total number of samples (100). The total df is 99, which is the sum of the df for Regression and Residual.

The third section discusses the Mean Square value, obtained by dividing the Sum of Squares by the df. For Regression, the Mean Square is 83.519 (250.557/3), representing the average variance explained by each independent variable. For Residual, the Mean Square is 0.809 (77.633/96), representing the average variance not explained by the model. This value is used to calculate the F statistic.

The fourth section explains the F value, calculated by dividing the Mean Square of Regression by the Mean Square of Residual. The resulting F value is 103.279, indicating the ratio between the variance explained by the model and the variance not explained by the model. The greater the F value, the higher the likelihood that the independent variables collectively have a significant effect on the dependent variable.

Finally, the results of the F significance test are indicated by the Sig. value in the last column of the table. The Sig. value of 0.000 indicates that the F test results are highly significant, as it is smaller than 0.05. This means that statistically, the three independent variables (Service Quality (X1), Customer Trust (X2), and Customer Satisfaction (Z)) together have a significant effect on Customer Loyalty (Y). Thus, the regression model used is considered effective in explaining the variance in Customer Loyalty based on the variables studied.

Table 4. Regression Analysis Test Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	250,557	3	83,519	103,279	,000 ^b
	Residual	77,633	96	,809		
	Total	328,190	99			

a. Dependent Variable: Loyalitas Nasabah

b. Predictors: (Constant), Kepuasan Nasabah, Kepercayaan Nasabah, Kualitas Layanan

4.2 Discussions

Based on the results of the data analysis conducted, this study aims to examine the effect of service quality, customer trust, and customer satisfaction on customer loyalty at PT. Permodalan Nasional Madani Unit Ilir Timur 2-2 Palembang. The analysis shows that service quality has a significant effect on customer loyalty, while customer trust and customer satisfaction do not demonstrate a significant impact on customer loyalty in this model. These conclusions were drawn using multiple linear regression analysis, along with tests for validity, normality, and analysis of variance (ANOVA).

The first hypothesis (H1) posits that service quality has a positive effect on customer satisfaction at PT. Permodalan Nasional Madani Unit Ilir Timur 2-2 Palembang. The results show that service quality has a regression coefficient of 0.763 with a significance value of 0.000. This indicates that service quality significantly affects customer loyalty, implicitly

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suggesting that service quality can influence customer satisfaction. The first hypothesis is accepted, as service quality is proven to have a positive effect on loyalty, which is closely related to customer satisfaction. This result aligns with the findings of Aji et al. (2024).

The second hypothesis (H2) suggests that customer trust positively affects customer satisfaction at PT. Permodalan Nasional Madani Unit Ilir Timur 2-2 Palembang. However, the regression analysis reveals a coefficient value for customer trust of 0.067 with a significance value of 0.369, indicating no significant influence between customer trust and customer loyalty. Thus, the second hypothesis cannot be fully accepted in this context, as customer trust has not been proven to significantly affect loyalty, which implies its effect on customer satisfaction may also be insignificant. This finding is consistent with the results from Alzaydi (2024).

The third hypothesis (H3) asserts that customer satisfaction has a very positive and significant effect on customer loyalty at PT. Permodalan Nasional Madani Unit Ilir Timur 2-2 Palembang. However, the regression analysis shows a customer satisfaction coefficient of 0.064 with a significance value of 0.470, indicating that customer satisfaction does not have a significant effect on customer loyalty in this study. Therefore, the third hypothesis is not accepted, as there is no evidence to support a significant effect of customer satisfaction on customer loyalty.

From the ANOVA table analyzed, it is known that the resulting F value is 103.279 with a significance value of 0.000. This shows that overall, the regression model built using three independent variables (service quality, customer trust, and customer satisfaction) simultaneously has a significant effect on customer loyalty. However, when looking at the effect of each independent variable individually, only service quality shows a significant effect on customer loyalty. The final conclusion of this analysis is that although the overall regression model is valid and significant, only service quality is proven to have a significant effect on customer loyalty. This shows that in order to improve customer loyalty at PT. Permodalan Nasional Madani Unit Ilir Timur 2-2 Palembang, the main focus should be given to improving service quality. Customer trust and satisfaction, although important, do not show a significant effect in this model, so a more specific approach or different measurements may be needed to evaluate their effects on customer loyalty.

5. Conclusion

The analysis of the data reveals that the primary driver of customer loyalty at PT. Permodalan Nasional Madani Unit Ilir Timur 2-2 Palembang is service quality, while customer trust and customer satisfaction do not demonstrate a statistically significant impact within the context of this study. This finding is both illuminating, and somewhat counterintuitive, as conventional wisdom and previous studies often highlight customer satisfaction and trust as critical factors in building loyalty. The significant effect of service quality on loyalty, evidenced by a regression coefficient of 0.763 with a significance value of 0.000, underscores the importance of consistently delivering high-quality services to retain customers. In contrast, the regression coefficients for customer trust (0.067 with a significance of 0.369) and customer satisfaction (0.064 with a significance of 0.470) suggest that these variables, in the specific operational context of PT. Permodalan Nasional Madani Unit Ilir Timur 2-2 Palembang, do not translate directly into customer loyalty. This may indicate that customers' loyalty to the institution is predominantly driven by the tangible aspects of service quality rather than their overall satisfaction or trust in the company.

Given these insights, it is crucial for PT. Permodalan Nasional Madani Unit Ilir Timur 2-2

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Palembang to prioritize strategies aimed at enhancing service quality to reinforce customer loyalty. This might involve investing in staff training to improve customer service skills, streamlining processes to reduce wait times, and ensuring that all customer interactions are handled with the utmost professionalism and efficiency. Additionally, while customer trust and satisfaction did not show a significant effect in this study, it is important not to dismiss these factors entirely. The results suggest that the measures or approaches used to assess customer trust and satisfaction might not fully capture their potential influence on loyalty. Therefore, PT. Permodalan Nasional Madani could benefit from exploring alternative strategies or metrics that might better reflect the nuanced relationship between these variables and customer loyalty.

Moreover, the lack of significant impact from customer satisfaction and trust could also point to potential gaps in customer expectations versus the services provided. To address this, PT. Permodalan Nasional Madani should consider conducting qualitative research, such as in-depth interviews or focus group discussions, to gain deeper insights into customer perceptions and expectations. Understanding these nuances could inform more targeted interventions that might strengthen the overall customer experience, thereby indirectly fostering greater trust and satisfaction, which in turn could contribute to enhanced loyalty more sustainably.

In conclusion, while service quality is the most critical factor in maintaining customer loyalty at PT. Permodalan Nasional Madani Unit Ilir Timur 2-2 Palembang, the company should not overlook the complex interplay of customer trust and satisfaction. By refining service delivery and exploring more effective ways to measure and enhance trust and satisfaction, the company can build a more robust, holistic approach to customer loyalty that addresses both the immediate and long-term needs of its clientele.

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The Effect of Financial Literacy and *Payment Gateway* on Financial Performance in MSMEs in Palembang City

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Abstract

This research, aimed at testing the influence of financial literacy and payment gateways on the financial performance of MSMEs in Palembang, yields significant findings. The sampling technique, non-probability with purposive sampling, was employed to gather data from 100 respondents in the culinary subsector MSMEs in Palembang. The research method, a quantitative approach involving the distribution of questionnaires, was used. The data analysis, facilitated by SmartPLS 3 software, included the evaluation of measurement models, structural models (inner models), and hypothesis testing. The research results, which are of paramount importance, reveal that financial literacy has a positive and significant effect on financial performance, payment gateway has a negative and insignificant effect on financial performance, financial literacy has a positive and significant effect on payment gateways, and payment gateways are unable to mediate and have a negative impact between financial literacy and financial performance.

Keywords: Financial literacy, payment gateway, MSME financial performance

JEL codes: G53, L26, O31

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1. Introduction

In Indonesia, Micro, Small, and Medium Enterprises (MSMEs) play an important role in economic development as a means to encourage regional development. This sector is a major factor in economic growth, creating job opportunities for the community. Based on Law Number 20 of 2008, MSMEs have a vital role in Indonesia's economy, with laws that provide legal recognition and support to increase growth, create jobs, and expand economic distribution. The phenomenon that occurs in Palembang City MSMEs, based on a pre-survey, shows that

some MSME players, especially those with low education, still do not apply modern financial records. They prefer manual recording in books because it is considered easier to understand, while the use of application systems is considered complicated, time-consuming and expensive. They tend to focus only on not incurring losses without paying attention to financial turnover. This shows the importance of improving financial literacy, especially for low-income and low-education groups. In contrast, MSMEs with higher educational backgrounds have implemented financial records according to the accounting system and utilize digital technology in transactions, such as the use of payment gateways. Protection and support for MSMEs is expected to encourage inclusive and sustainable economic progress. However, in managing MSMEs, good performance is needed, especially in financial management. In the city of Palembang, MSMEs contribute greatly to job creation and the improvement of the local economy, but many still face challenges in managing finances effectively. Financial literacy and payment gateway technology are important keys in improving the financial performance of MSMEs. This study aims to analyze the influence of financial literacy and the use of payment gateways on the financial performance of MSMEs in Palembang City, with the hope of providing practical insights and recommendations for MSME actors, as well as being a reference for the government and other stakeholders in supporting the improvement of financial literacy and the adoption of payment technology.

2. Literature Review

The first person to present *Resource Based Theory* is Wernerfelt (1984) in his article entitled "*A Resources-Based View of the Firm*". This theory states that good resources in a company will have an impact on the company's long-term financial performance and make it superior in competing with competitors. An advantage in competing can be created if the company has valuable and scarce resources, so that the resources owned by the company are not easily replaced, imitated, and will last for a long time. *Theory Resource-Based* Explain how a company's work works ideally when it has a good competitive advantage, allowing it to acquire *value added* company. Companies can achieve competitive advantage and better performance by ensuring proper mastery of its assets, including physical and intangible assets, which is the foundation in maintaining competitive strategies as well as achieving significant profits. Intangible assets can be considered strategic assets that provide long-term competitive advantages for businesses. Factors that support this include having intrinsic value for the company, being difficult to replicate by competitors, being rare (only owned by a few companies), and difficult to replace by products from other companies. RBT theory basically examines the resources owned by an organization and how to manage and utilize those resources. Companies can improve their value and financial performance by using (Dewi, 2022) (Hastuti, 2019; R. A. Putri et al., 2023) *payment gateway* more effectively.

Financial literacy affects several factors, one of which is making daily to long-term financial decisions. By understanding and using financial information effectively, individuals can make smarter and more purposeful financial decisions. This is important because the right financial decisions can affect an individual's financial well-being in the long run. Therefore, it is important for every individual to continue to improve their financial literacy through education, experience, and access to relevant information According to financial literacy is the ability of individuals to understand, analyze, and manage various aspects of finance in their daily lives. According to the Financial Services Authority (OJK), financial literacy includes an understanding of money management, investment, insurance, and financial planning. Factors that affect financial literacy include education, experience, and access to quality financial

information. There are three indicators in financial literacy, as follows:

1. Basic knowledge of financial management
2. Credit management
3. Savings and investment management

With increasing financial literacy, individuals can make smarter financial decisions, better manage risk, and achieve long-term financial goals more effectively. Therefore, it is important for each individual to continue to improve their financial literacy through education, experience, and access to relevant information. According to financial performance, it consists of several indicators, namely: Basic knowledge of financial management, Credit Management, Investment Management or Savings. (Lusardi, 2019) (Lusardi & Mitchell, 2012; Sanistasya et al., 2019) (Hidayati et al., 2018; Lusardi & Mitchell, 2012; Sanistasya et al., 2019)

Payment gateway is one way to process electronic transactions, where *payment gateways* provide tools to process payment transactions between customers, businesses, and banks *Payment gateways* are also the most important part of a transaction between customers, businesses, and banking institutions. *Payment Gateway* is also used to provide facilities for electronic transactions (Benedicta, 2023)

Payment Gateway is a service that authorizes payments for digital transactions using credit cards, debit cards, bank transfers, or e-money. This service supports online shopping activities and makes it easier to use digital transactions. *Payment gateways* operate automatically and facilitate the transaction process safely and instantly. Every financial transaction is processed in real-time to ensure the safety and convenience of users. (Purnamasari, 2020) According to Ainun (2021), *Payment Gateway* is a fintech engaged in services, namely payments that can be made online through e-wallets. There are several types of applications from *Payment Gateways* including OVO, GOPAY, DANA, Link Aja, and SHOPEEPAY. According to (Saputra, 2019) *payment gateways* consist of several indicators, namely: Flexible: *Fintech payment gateways* must be flexible in the sense that they can adapt to various user needs, both in terms of transaction types, payment methods, and integration with other platforms, Users can easily operate in the application: *Fintech payment gateway* applications It should be designed with a *user-friendly* interface, so that users can easily understand and use the features provided without the need for special training, Operation is carried out in a timely manner: The *fintech payment gateway* system should be able to process transactions quickly and accurately according to the user's expected time, be it for payment or payment receipt, Simplify the work of users: *Fintech payment gateways* are expected to provide added value by simplifying the transaction process and financial administration for users, such as managing transaction data, financial statements, and so on, *Payment gateways* do it carefully and on target: Accuracy in making transactions and receiving payments is crucial. *Fintech payment gateways* must be able to ensure that each transaction is processed carefully and in accordance with the purpose desired by the user, Providing good service: The service aspect is the key in maintaining user satisfaction. *Fintech payment gateways* must be able to provide responsive service, help in resolving user problems or questions well, and ensure an overall positive user experience. There are six indicators in the payment gateway, which are as follows:

1. Flexible

2. Users can easily perform operations in the application
3. Operation is done in a timely manner
4. Simplify the work of users
5. Performing thoroughly and on target
6. Provide good service

Financial performance can be interpreted as a special measuring tool that can measure the company's success in achieving profits. The financial performance of MSMEs needs a measuring tool that is not only seen from a financial perspective but also harmonized from a non-financial perspective. One way that can be done to improve or produce good MSME performance is by providing a new innovation for the sustainability of their business, namely innovating in terms of finance or payments by consumers (Ruby, 2022).

The financial performance of MSMEs describes the achievement of the planned strategy so that the success that has been achieved can be improved and can be improved in the future so that it can compete with other MSMEs. The measurement of MSME performance activities is designed to assess how performance activities and final results are achieved. Financial performance plays a very important role in determining the failure or success of running a business, where performance is used as a measure of the success of a company in achieving its goals. In measuring performance, it must have appropriate indicators to produce a good MSME performance because if a performance produced is in accordance with the desired, the business will stand firmly and can be a source of income for an individual and can play an important role in optimizing the national economy. (Hastuti, 2019) According to financial performance, it consists of several indicators, namely: (Hastuti, 2019; R. E. Putri et al., 2022; Riadloh & Nasution, 2023) Profit Growth, Growth in the Number of Customers, Growth in the Number of Assets. Previous research serves as a reference source for the findings of previous researchers, as well as new researchers with similar topics. The goal is to compare and contrast new research with existing research (Waluya et al., 2019). According to (Hastuti, 2019; Putri et al., 2022; Riadloh & Nasution, 2023) financial performance consists of several indicators, namely:

1. Profit growth
2. Growth in the number of customers
3. Growth in total assets

Research related to the influence of financial literacy and payment gateways on the financial performance of City MSMEs is still rare. Thus, research related to the topic still needs to be further researched and tested to determine the consistency of the results on the topic. This research is a development of research conducted by , with the title "The Influence of (Journal & Mea, 2024) *Fintech P2P Lending And Payment Gateway* on the Financial Performance of MSMEs in Karawang Regency" but there is a slight difference with the research. The difference between this study and the previous research lies in the variables and objects, where in this study the researcher replaced the variables *Fintech P2P Lending* with the variables of Financial Literacy and MSMEs in Palembang City as objects. (Ratnawati, 2014)

The Relationship Between Financial Literacy and Financial Performance in MSMEs in Palembang City According to Financial Literacy involves a deep understanding of financial concepts and risks, coupled with practical skills, strong motivation, and a firm belief in applying that knowledge and understanding effectively in making wise financial decisions in various

financial situations. Financial literacy is an important key for every entrepreneur. One of the strategies that can improve company performance is to increase the financial knowledge of business actors, because financial literacy and financial management are directly related to the company's business development, which in turn has a positive impact on individual income. (Dewi, 2022) Through increased financial literacy, individuals can make smarter financial decisions, better manage risk, and achieve long-term financial goals more effectively. Therefore, every individual is expected to continue to improve their financial literacy through education, experience, and access to relevant information.

Relationship Between *Payment Gateway* on Financial Performance in MSMEs in Palembang City The use of fintech in their business activities can increase and provide new opportunities for exploration in order to develop the business. The ease of using financial technology in activities has made industry players, especially MSMEs, begin to feel an improvement in the performance of the businesses they run. With the emergence of information technology, people can use and utilize technology that has been modernized and can also take advantage of the facilities provided by various related parties in advancing information technology in Indonesia. *Payment gateway* It helps people who like to shop online and people who like to use digital transactions. *Payment gateway* It is carried out fully automatically and facilitates the transaction process. All financial transactions are processed securely and *real time*. Electronic money payments are fast, convenient, and can increase transaction volume which is a presentation of the financial performance of MSMEs, where the existence of *Payment Gateway* can increase the efficiency of non-cash payments (Herdinata & Pranatasar, 2019). The Effect of Financial Literacy on the Financial Performance of MSMEs. Financial literacy can help business actors as economic agents to acquire financial knowledge, skills and abilities appropriately in the preparation of business financial strategies (Sanistasya et al., 2019). With increased financial literacy, individuals can make more financial decisions. Therefore, every individual is expected to continue to improve their financial literacy through education, experience, and access to relevant information. The research conducted shows that Financial Literacy has a positive and significant influence on financial performance. Meanwhile, research conducted by shows that Financial Literacy has a significant positive influence on the financial performance of MSMEs. Based on the above statement, the hypothesis to be tested is: (Dewi, 2022) (Hamidah et al., 2020)

H1: Financial literacy has a positive and significant effect on the financial performance of MSMEs in Palembang City.

The Influence of *Payment Gateways* on the Financial Performance of MSMEs. The acceptance of *Payment Gateways* by the public results in an increase in income which in turn contributes to the financial performance of MSMEs (Dermawan, 2019). *A payment gateway* is a transaction provided by an *e-commerce* application service that can provide payment processing online or electronically. So that with this payment gateway, payment or purchase transactions can be made easier. (Benedicta, 2023). Research conducted by Shania Rizky, Fitria Suri (2023), Siti Maysaroh, Diansyah (2022), Deka Anggun Lestari, Endah Dewi Purnamasari (2020) shows that *Payment Gateway* has a significant influence on financial performance. Meanwhile, research conducted by shows that (Journal & Mea, 2024) *Payment Gateways* have no influence on the financial performance of MSMEs. Based on the above statement, the hypothesis to be tested is H2: *Payment Gateway* has a positive and significant effect on the financial performance of MSMEs in Palembang City.

The Effect of Financial Literacy on *Payment Gateways* in MSMEs in Palembang City. With

good financial literacy, MSME owners can understand the benefits and risks associated with digital payment technology, so they are more confident in adopting it. High financial literacy allows for more efficient cash flow management, makes it easier to track income and expenses, and improves financial planning. Additionally, understanding payment gateways opens up access to a wider market, allowing for the acceptance of a variety of payment methods that make it easy for customers. Financial literacy also helps MSMEs save transaction and operational costs, increase professionalism and credibility in the eyes of customers, and encourage adaptation to technological innovation. Thus, good financial literacy is the key for MSMEs in Palembang City to maximize the use of *payment gateways*, increase efficiency, reduce costs, and expand business growth opportunities. Based on the above statement, the hypothesis that will be tested is H3: Financial Literacy affects *Payment Gateway* in MSMEs in Palembang City.

The Influence of Financial Literacy and *Payment Gateway* On the financial performance of MSMEs. Research conducted (Benedicta, 2023) shows that Financial Literacy and *Payment Gateway* has a positive and significant influence on financial performance. Based on the above statement, the hypothesis to be tested is H4 : Financial Literacy and *Payment Gateway* simultaneously has a positive and significant effect on the financial performance of MSMEs in Palembang City.

3. Research Method

The design of this study is Quantitative Research. The research method used is the survey method, which takes samples from the population using questionnaires and observations as the main data collection tools. This study is designed to understand or analyze the influence of financial literacy and *payment gateway*. The scope of this research is Micro, Small and Medium Enterprises (MSMEs) of Palembang City. The object of this study is Financial Literacy and *Payment Gateway* carried out by Palembang City MSMEs. The subject of the study is MSME Actors in Palembang City. The MSMEs in question are businesses that are categorized as micro, small and medium in the culinary field

In this study, the population taken is MSME actors in Palembang City. In order for the results of the study to be more accurate, in this case, the researcher limits MSME actors to be used as a population, the MSME actors who will be used as a population in this study are MSME actors in the culinary subsector, which is 12,811 MSME actors. The population is taken from the number of MSME actors in Palembang City which are located in Ilir Barat I, Ilir Barat II, Seberang Ulu I, Seberang Ulu II, and Jakabaring Districts. the population is 12,811 MSMEs, so the sample in this study is 99.22 but because the subject is not a fractional number, it is rounded to 100 respondents from MSME actors in Palembang City, where the MSME actors referred to in this research sample are MSME actors in the middle class and those engaged in the culinary industry sector. Operational variables are used as instructions on how to measure a variable, so that it becomes a variable that can be observed and measured by determining what is needed to achieve a certain goal. This study was conducted to determine the influence of financial literacy and payment gateways on financial performance in MSMEs in the city of Palembang using one bound variable (*dependent*) and two independent variables (*independent*). The bound variable (*dependent*) in this study, namely financial performance, while the independent variable (*independent*) is financial literacy.

The research uses primary data, namely distributing questionnaires directly to MSME actors who are selected as samples, secondary data is obtained from various sources related to MSME

management, such as data issued by the Cooperative and SME Office and related literature that we have researched. The data collection technique is through observation methods by observing the research object, face-to-face interviews and direct questions and answers between data collectors and researchers to sources or data sources, and questionnaires that in this study use questionnaires made and distributed to respondents of Palembang City MSMEs in the culinary sector.

Then the data was analyzed using *the Smart-PLS software*. *Smart-PLS (Partial Least Square)* is to test the relationship between variables. *Smart-PLS* has the ability to test SEM models both formative and reflective, using different indicator measurement scales in a single model and the number of samples required for analysis is relatively small. Different types of scales, such as category ratio scales, Likert, and others, can be tested in a single model. However, there is a drawback in the use of *Smart-PLS*, namely *Smart-PLS* can only process data from Excel files in CSV format.

In general, *Structural Equation Modeling (SEM)* is a multivariate statistical analysis technique that combines factor analysis approaches, structural models, and path analysis. It is a more complex method than regression or path analysis because it involves the construction of measurement models and structural models. SEM allows testing of complex and non-linear relationships between variables. It can also be seen as a combination of regression analysis and factor analysis. In SEM, there are three activities that are carried out simultaneously, namely checking the validity and reliability of instruments (*confirmatory factor analysis*), testing the relationship model between variables (*path analysis*), and finding a suitable model for prediction purposes (structural model and regression analysis).

Measurement models are used to evaluate the validity and validity of discrimination, while structural models describe hypothetical relationships. The use of statistical software can make SEM analysis easier. Currently, several statistical software is available to perform SEM analysis, including Lisrel, AMOS, and *Smart PLS*.

The data analysis method with *Partial Least Squares Analysis (PLS)* is a statistical method used to analyze the relationship between latent variables in a model. The main purpose of PLS analysis is to understand and test the relationship between latent variables that cannot be directly observed, but can be represented through measurable indicators. PLS analysis is often used in the context of *Structural Equation Modeling (SEM)*, where the relationship between complex latent variables can be tested using this technique. In the PLS analysis, the proposed conceptual model is tested by paying attention to the relationship between the latent variable and the observation variable (or indicator), as well as the relationship between the latent variable itself. This method allows researchers to check the validity of the model, test the hypothesis proposed, and understand the complexity of the relationships between variables in a model.

Outer model *analysis* is used to explain the relationship between indicators and their latent variables. There are several calculations to measure the outer model, namely, as follows: *Convergent validity* is the value of *loading* factors on latent variables with their indicators. The expected value is > 0.7 . If the loading factor value is above 0.70, then the measure is declared ideal or valid as an indicator that measures the construct, *Discriminant validity* is a *cross loading* factor value that is useful whether the construct has adequate discrimination. By comparing the value of the intended construct must be greater than the value of other constructs. This shows that latent constructs predict the size of blocks better than other block sizes., *Composite reliability* is a measurement if the reliability value is > 0.7 , then the construction value has a

high reliability value. This shows that a reliability value above 0.7 is acceptable. Furthermore, hypothesis testing, and variable measurements were carried out.

4. Findings and Discussions

Micro, Small and Medium Enterprises (MSMEs) are one of the business units that drive the economy in various fields in the interests of the community. The presence of MSMEs is expected to improve the economy and its existence is able to encourage the availability of jobs for the community so that it can reduce the unemployment rate in Indonesia. The city of Palembang has a lot of potential in encouraging economic growth, one of which is MSMEs. This area has a variety of culinary delights such as kemplang crackers, pempek, burgo and others that are characteristic of the city of Palembang. MSMEs in the culinary sector in Palembang City have many enthusiasts so that the number of business actors in each sub-district is increasing. This study analyzes the units of MSME actors in the culinary sector in Palembang City which amounted to 110 respondents. Respondents were asked several questions related to financial literacy, *Payment Gateway*, and MSME Financial Performance. Then to complete the respondent's profile, the characteristics of the respondents are grouped based on gender, last education, age of business, and monthly sales turnover. This grouping of respondents aims to find out clearly the characteristics of the respondents who are the object of the research.

Jenis Kelamin
110 responses

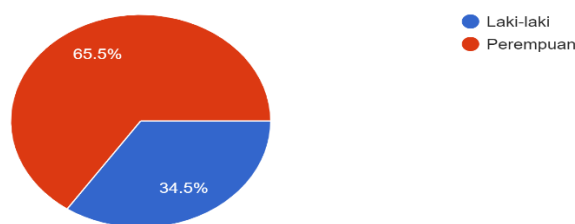


Figure 1. Characteristics of respondents by gender

Source: Primary Data Processed 2024

Figure 1 shows that 65.5% (72 people) of the respondents were men, and 34.5% (38 people) were women. This shows that MSME actors in the city of Palembang are more men than women. Men are considered the main breadwinners for the family, while the burden is more on housewives, who are required to take care of the house and children.

Usia
110 responses



Figure 2. In Characteristics of respondents by age
Source: Primary Data Processed 2024

Figure 2 shows that the X axis shows the respondents' age, and the Y axis shows the number of respondents. The respondents who own MSMEs the most are 25 years old. This means that MSME business owners are in the young adult phase, which is indeed a productive age to stabilize their careers or have a business.

Pendidikan Terakhir
110 responses

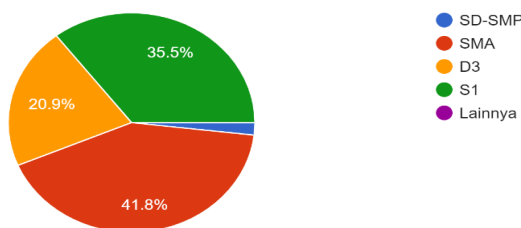


Figure 3. Characteristics of respondents based on last education
Source: Primary Data Processed 2024

Based on figure 3, it shows that most of the respondents 41.8% (46 people) have a high school education level, 35.5% (39 people) have a S1 level, 20.9% (23 people) have a D3 level and 1.8% (2 people) have an elementary and junior high school education level. Thus, the sample in this research is the most recent education at the high school level. This shows that to start a business/business, you don't have to be a bachelor's degree, even just a high school level if you have the will and feel that someone can start the MSME business.

Umur Usaha



Figure 4. Characteristics of respondents based on age of business

Source: Primary Data Processed 2024

Figure 4 shows that the X axis is the age of the effort, and the Y axis is the number of respondents. It can be seen that the maximum age of MSME businesses is 1 year old. Ini. The MSMEs are considered new but have implemented the Payment gateway system, which shows that the business is ready to adopt modern technology. With the use of digital from an early age, MSMEs have the opportunity to grow and develop better in an increasingly digitally connected business environment.

Omset Penjualan per Bulan
110 responses

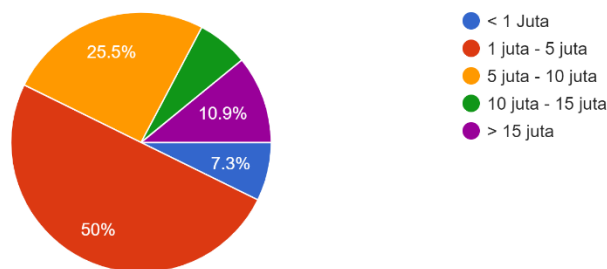


Figure 4. Respondents' characteristics based on monthly sales turnover

Source: Primary Data Processed 2024

Based on figure 5, it shows that most of the sales turnover per month owned by the research sample of 1 million -5 million is 50% (55 people), from 5 million to 10 million 25.5% (28 people), 15 million is 10.9% (12 people), 10 million to 15 million is 6.4% (7 people) and below 1 million is 7.3% (8 people). Thus, the sales turnover per month that is most owned by the research sample is 1 million – 5 million.

Metode Pembayaran yang Digunakan
110 responses

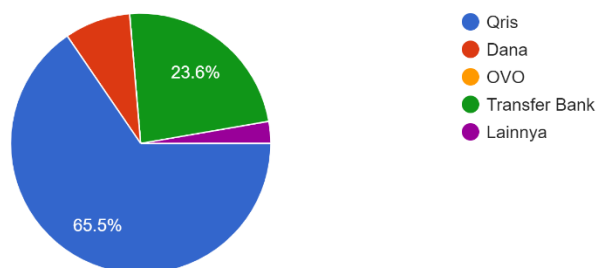


Figure 5. Respondent characteristics by payment method

Source: Primary Data Processed 2024

Based on figure 6, it shows that most of the respondents who use the Qris payment method are 65.5% (72 people), Dana is 8.2% (9 people), bank transfer is 23.6% (26 people), Others are 2.7% (3 people) and Ovo is none. Thus, it can be concluded that those who use the most widely

used payment method are Qris by 65.5% as many as 72 people.

Other Model

The PLS-SEM model was evaluated using Smart-PLS 3.0 to measure the evaluation of factor analysis results, test the validity and reliability of the confirmation of latent constructs. Furthermore, it is followed by evaluating and testing the structural model to test the significance of the latent relationship between constructs or variables.

The measurement model or outhur model in this study consists of a reflective measurement model where the variables of financial literacy, payment gateway, and financial performance are measured reflectively. This measurement model assesses *convergent validity*, *discriminant validity*, and *composite reliability*.

Because there is an invalid or red value, namely a value of < 0.07 , an outlier is carried out, by removing one or more indicators as described below so that all indicators are valid, as follows:

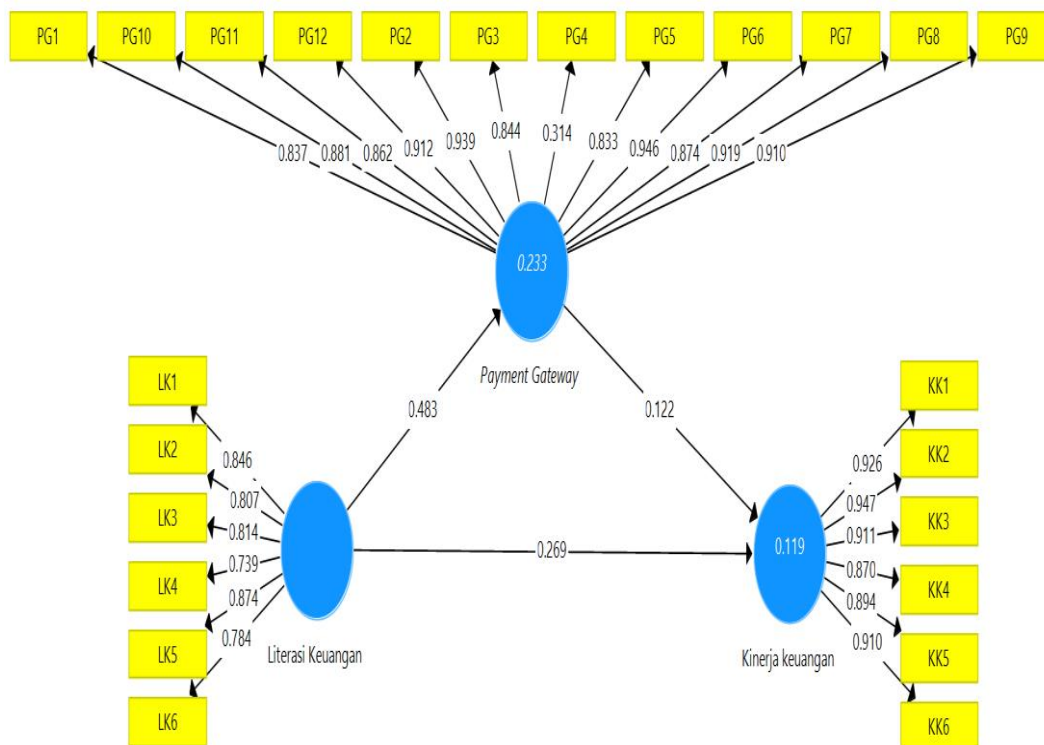


Figure 6. Outhur Previous models outlier

Source: Data Processed by SmartPLS 3

In figure 7, an outlier is carried out on the *payment gateway indicator* that goes to PG4 because the value < 0.07 means that it does not meet the validity assumption.

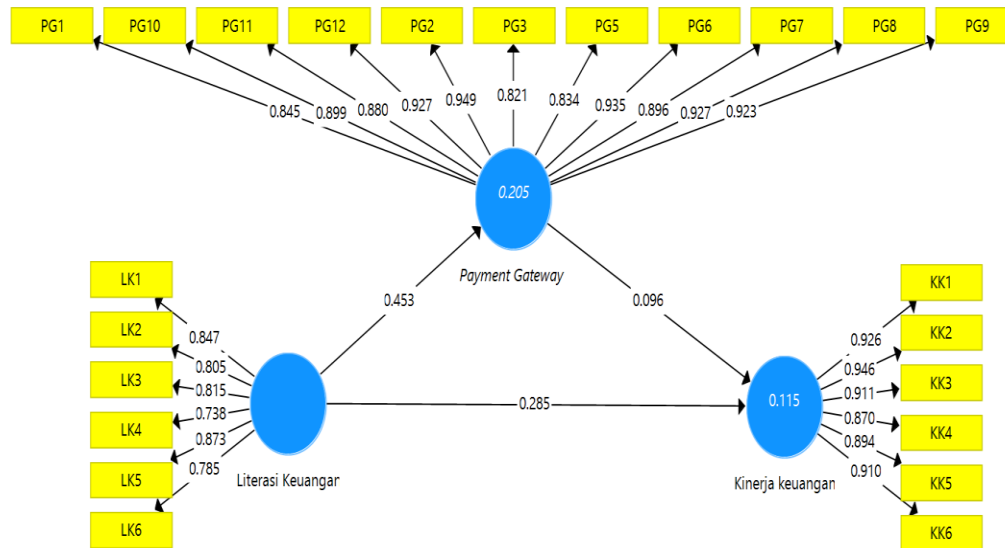


Figure 7. Outer model after outlier

Source: Data Processed by SmartPLS 3

Figure 8. is the outer model after the outlier where all the values of each indicator are above 0.07.

The hypothesis test can be seen based on the previous analysis, so to see the results of the hypothesis test can be seen from the t-statistic and p-value. This hypothesis is acceptable if the p-value < 0.05. To see the results of this effect, you can see the results in the *coefficients patch* table located in the *bootstrapping* section of SmartPLS. The results of the hypothesis test can be seen in the table below:

Table 1. Total Influence Test Results (direct influence)

	Original Sample (O)	Average Sample (M)	Standard Deviation (STDEV)	T Statistical (O/STDEV)	P Values
Financial Literacy -> Financial Performance	0,328	0,343	0,073	4,492	0,000
Financial Literacy -> Payment Gateway	0,453	0,464	0,072	6,288	0,000
Payment Gateway -> Financial performance	0,096	0,092	0,106	0,903	0,367

Source: Data Processed by SmartPLS3

From 1. above, the influence of financial literacy on financial performance can be explained with a p-value of $0.000 < 0.05$. So it can be concluded that H1 is accepted, which means that financial literacy affects financial performance. The effect of payment gateways on financial

performance with a p-value of $0.367 > 0.05$. So it can be that H2 is rejected, which means that the payment gateway does not affect financial performance. The effect of financial literacy on payment gateways with p-values of $0.000 < 0.05$. So it can be concluded that H3 is accepted, which means that financial literacy affects the payment gateway.

Next to see the indirect influence. The results of this assessment explain the significance indirectly or using mediation which can be seen in the table below:

Table 2. Results of indirect praise

	Original Sample (O)	Average Sample (M)	Standard Deviation (STDEV)	T Statistical (O/STDEV)	P Values
Financial Literacy -> Payment Gateway -> Financial Performance	0,043	0,042	0,050	0,869	0,385

Source: Data Processed by SmartPLS3

From the results of table 2, it can be seen that the Statistical T value is 0.869 and the P Values are 0.385. Thus, it can be concluded that the financial literacy variable on the financial performance of MSMEs through *the payment gateway* turns out to be a statistical t value of $0.869 < t \text{ table } 1.65$ and a p value of $0.385 > p \text{ value } 0.05$ which shows that the influence is rejected or insignificant. This means that *payment gateways* are not able to mediate and have a negative effect on the financial performance of MSMEs.

The results of testing the financial literacy hypothesis on the financial performance of MSMEs, indicated that H1 was accepted. With a p-value of $0.000 < 0.05$, which means that financial literacy has a positive and significant effect on the financial performance of MSMEs. This shows that good financial literacy allows individuals to make wiser decisions about the use of their money, such as choosing the right investment products, managing debt wisely, and planning for long-term finances. Financial literacy is very important for Micro, Small, and Medium Enterprises (MSMEs) because it helps business owners manage their business finances more effectively and efficiently. It can be concluded that good financial literacy allows MSMEs to manage their resources more effectively, make smarter decisions, and improve their overall financial performance. This can ultimately help MSMEs grow and develop, making a positive contribution to the economy.

The results of the *Payment Gateway hypothesis* test on the financial performance of MSMEs, indicating that H2 was rejected. With a p-value of $0.367 > 0.05$, which means *that the payment gateway* has a negative and insignificant effect on the financial performance of MSMEs. It can be concluded that the relationship between the use of payment gateways and the financial performance of MSMEs may not be significant due to several factors. For example, transaction and maintenance fees charged by payment gateways can reduce profit margins, especially for MSMEs with low sales volumes. Furthermore, reliance on technology and third parties can present unanticipated operational risks, such as technical disruptions or delays in disbursement of funds, which can disrupt cash flow and daily operations. Thus, although payment gateways offer convenience and security in transactions, their impact on the financial performance of MSMEs can be insignificant or even negative, depending on the business context and the market concerned.

The results of the financial literacy hypothesis test on *the payment gateway* showed that H3 was

accepted, with a p-value of $0.000 < 0.05$. So it can be concluded that H3 is accepted, which means that financial literacy affects the payment gateway. It can be concluded that the relationship between financial literacy and the use of payment gateways in MSMEs shows a positive influence because good financial literacy allows business owners to better understand and manage the costs and benefits associated with this payment technology. With adequate financial literacy, MSME owners can effectively assess transaction costs, understand how payment gateways work, and choose the most profitable services for their business. They are also able to integrate payment gateways with their financial systems, optimize cash flow, and avoid potential fraud or errors that can occur. In addition, a good understanding of financial management helps MSMEs to utilize the transaction data provided by payment gateways for better financial analysis and business planning. Thus, good financial literacy strengthens the ability of MSMEs to make optimal use of payment gateways, which can ultimately improve their operational efficiency and overall financial performance.

5. Conclusion

The results of this study show that financial literacy has a positive and significant influence on the financial performance of MSMEs, with a p-value of $0.000 < 0.05$. This means that MSME owners with good financial literacy can make wiser financial decisions. On the other hand, the use of payment gateways did not show a significant influence on the financial performance of MSMEs, with a p-value of $0.367 > 0.05$, likely due to transaction costs and dependence on technology. Financial literacy has also been proven to positively affect the use of payment gateways, but payment gateways do not moderate the relationship between financial literacy and the financial performance of MSMEs. In conclusion, increasing financial literacy is key to improving the financial performance of MSMEs, while payment gateways need to be further evaluated to ensure their benefits for MSMEs.

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Comparative Analysis of Financial Performance of Family Companies and Non-Family Companies

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Abstract

This study aims to analyze and compare the financial performance of family and non-family companies. The objects in this study are banking sub-sector companies and state-owned companies listed on the Indonesia Stock Exchange in 2023. This type of research is descriptive quantitative. The number of samples taken in this study were 37 companies and 11 non-family companies. A purposive sampling technique was used. This study indicates differences in profitability, activity, and liquidity ratios between family and non-family companies. No difference exists in leverage ratio, capital structure, and stock price between family and non-family companies. This research is expected to contribute to and refer to further research comparing the financial performance of family and non-family companies.

Keywords: Family Companies, Non-Family Companies, Financial Performance

How to Cite:

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1. Introduction

In the era of globalization and rapid economic growth, competition among companies is getting tighter and more intensive. Therefore, companies are required to continue to improve company performance because it not only provides benefits for the company itself but also the shareholders. Companies that successfully improve performance can increase company value because it can describe good prospects in the future and will provide a good image for the company so that it can attract investors to invest their capital (Davin Azaria Purnama, 2022).

In the business world, based on ownership, companies are divided into two types, namely family companies managed by families and non-family companies managed by the state (Suwarno & Harianti, 2022). Family companies have an important role in the national economy, for example, acting as development implementers and expanding employment opportunities because they have contributed 95% of all businesses in Indonesia (Kamener & Putri, 2017). According to a Boston Consulting Group survey, family companies or family groups now account for 60-78% of all companies worldwide (Suwarno & Harianti, 2022).

A related phenomenon can be seen from research conducted in the United States that family companies perform better than non-family companies (Anderson et al., 2022). The greater the level of capital increase or ownership by those who hold decision-making authority by the family, the greater the overall performance of the organization (Anjani, 2024). Family companies are more efficient than non-family companies because there are fewer costs in family companies (Suwarno & Harianti, 2022). According to the Central Bureau Statistics, family companies in Indonesia make a major contribution to Gross Domestic Product (GDP) reaching 82.44%.

There are several financial analysis tools to measure the company's financial performance used to analyze the comparison of family companies and non-family companies, namely, profitability ratios, activity ratios, leverage ratios, liquidity ratios, capital structure, and stock prices. This research refers to previous research such as adding one variable, namely stock price and the research year is 2023.

2. Literature Review

2.1 Agency Theory

Agency theory illustrates that a high level of family ownership in a company will provide better performance (Rake Setyawan & Rechandy Christian, 2022). In the context of family firms, it consists of type 1 agency conflict and type 2 agency conflict. Type 1 agency conflict occurs between shareholders and managers, occurring due to a dispersed ownership structure. Family companies tend to have lower levels of agency conflict due to easier control by the family over the company because the dominance of family members in management can reduce agency costs associated with monitoring and supervision of management by external owners and other parties. While type 2 agency conflict occurs between controlling shareholders and non-controlling shareholders, it occurs in companies with a concentrated ownership structure. Family companies have the possibility to use their control over company management to obtain personal benefits.

2.2 Profitability Ratio

Profitability ratio is an indicator that shows the company's ability to generate profits during a certain period and also provides an overview of the level of management effectiveness in carrying out its operating activities (Kusmayadi et al., 2021). The higher the profitability ratio, the greater the potential profit that can be generated by the company (Sastrawan & Latrini, 2016). The profitability ratio used is Return on Asset (ROA) because it draws the extent to which the management or use of a company's assets in generating profits (Fuadi, 2023).

$$ROA = \frac{\text{Net Profit}}{\text{Total Asset}}$$

2.3 Activity Ratio

The activity ratio is also known as the turnover ratio or efficiency ratio which is used to measure how efficiently a company uses its assets to generate sales or revenue (Kusmayadi et al., 2021). The higher the activity ratio, the more efficient the company's assets are in generating sales (Aisyah et al., 2017). The activity ratio used is Turn Asset Turn Over (TATO) because it is useful or measuring the ability of capital in the company's assets to rotate in a certain period (Fuadi, 2023).

$$TATO = \frac{Sales}{Total Asset}$$

2.4 Leverage Ratio

Leverage ratio is a ratio used to measure the company's ability to pay all its obligations, both short and long term (Kusmayadi et al., 2021). The higher the leverage ratio value, the higher the debt used to finance the company's investment (Fahmi, 2013). The ratio used is Debt to Equity Ratio (DER) because it is useful measuring the company's ability to guarantee its debt (Putri et al., 2022).

$$DER = \frac{Total Liabilities}{Total Equity}$$

2.5 Liquidity Ratio

Liquidity ratio is a ratio used to measure the company's ability to meet its short-term obligations in a timely manner (Ompusunggu & Rahayu, 2023). The higher the liquidity ratio value, the more liquid the company's position (Kusmayadi et al., 2021). The ratio used is Current Ratio (CR) because it is useful to see the ability of a company to pay off short-term debt (Kusmayadi et al., 2021).

$$CR = \frac{Current Assets}{Current Liabilities}$$

2.6 Capital Structure

Capital structure is the balance between the amount of short-term debt, long-term debt, and company stock (Harjito et al., 2021). The higher this ratio, the greater the amount of loan capital used for investment in assets to generate profits for the company (Kurniadiantoyo & Kurnia, 2022). The ratio used is Debt To Asset Ratio (DAR) because it is useful for measuring the ratio between total debt and total assets.

$$DAR = \frac{Total Debt}{Total Asset}$$

2.7 Share Price

Stock price is the value of a stock on the stock exchange market at a certain time, which is determined by market participants based on the demand and supply of these shares in the capital market (Lutfiana, 2021). The higher the share price, the higher the value of the company (Kurniadiantoyo & Kurnia, 2022). The ratio used is the Price to Earning Ratio (PER) because it is useful to describe the availability of investment to pay a certain amount for each company's profit.

$$PER = \frac{Share Price}{(Net Profit : Shares Outstanding)}$$

2.8 Relationship between Research Variables

2.8.1 Profitability Ratio of Family Companies Differs from Non-Family Companies

A high profitability ratio indicates that the company is efficient in managing its resources and operations, so that it can generate profits that are large enough to fulfill financial responsibilities and generate profitable profits for shareholders. Utamaningsi (2020) said that family companies

have better performance than non-family companies. This hypothesis is supported by research from Prastia & Hasanah (2022) that there are differences in profitability ratios between family companies and non-family companies.

2.8.2 Activity Ratio of Family Companies Differs from Non-Family Companies

One of the advantages of family companies is that they pay greater attention to customers than non-family companies which can affect product sales so that company activities increase (Perwira, 2019). This hypothesis is supported by research from Perwira (2019) that there are differences in activity ratios between family companies and non-family companies.

2.8.3 Leverage Ratio of Family Companies Differs from Non-Family Companies

Companies with a low leverage ratio may be better able to deal with difficult financial situations and maintain their operations without having to experience excessive financial pressure. Perwira (2019) said that family companies have greater leverage than non-family companies. Meanwhile Hanafi (2020) said that the leverage of non-family companies is greater than family companies. This hypothesis is supported by research from Nurainda (2022) that there are differences in leverage ratios between family companies and non-family companies.

2.8.4 Liquidity Ratio of Family Companies Differs from Non-Family Companies

A low liquidity ratio indicates that the company is using its current assets more efficiently to support its operations or for long-term investment that have the potential to generate greater revenue or profit. The relationship between family companies and liquidity ratios is explained that family involvement in business has the potential to improve financial performance. This hypothesis is supported by research from Utamaningsi (2020) that there are differences in liquidity ratios between family companies and non-family companies.

2.8.5 Capital Structure of Family Companies Differs from Non-Family Companies

Based on the concept of control, managers have the authority to adjust the company's capital structure (Harjito et al., 2021). Family control and managerial ownership can affect the level of debt and generally family owners are reluctant to relinquish control of the company. This hypothesis is supported by research from Susilowati & Sanjaya (2015) that there are differences in capital structure between family companies and non-family companies.

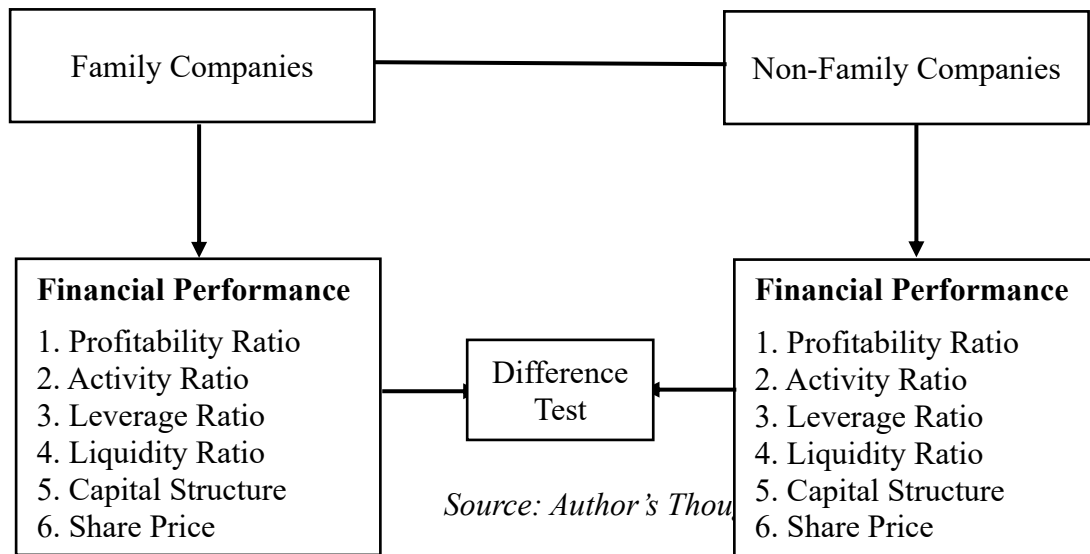
2.8.6 Share Price of Family Companies Differs from Non-Family Companies

Family firms tend to have stronger incentives, which can be seen in the long-term thinking towards the survival of the firm. This is reflected in favorable long-term investment decisions, which aim to provide stable returns. This has the effect of making the reputation of family companies better and higher, so that the share price valuation ratio has also increased. This hypothesis is supported by research from Candrayani et al. (2020); Jenia (2023) that there are differences in stock prices between family companies and non-family companies.

2.9 Framework of Thought

To outline the research on "Comparative Analysis of Financial Performance of Family Companies and Non-Family Companies" can be seen in Figure 1 below.

Figure 1. Conceptual Model of Research



2.7 Hypothesis Development

$H_0: \mu_1 = \mu_2$ atau $H_a: \mu_1 \neq \mu_2$

- H1: It is suspected that there is a difference in profitability ratios between family companies and non-family companies.
- H2: It is suspected that there is a difference in activity ratios between family companies and non-family companies.
- H3: It is suspected that there is a difference in leverage ratios between family companies and non-family companies.
- H4: It is suspected that there is a difference in liquidity ratios between family companies and non-family companies.
- H5: It is suspected that there is a difference in capital structure between family companies and non-family companies.
- H6: It is suspected that there is a difference in stock prices between family companies and non-family companies.

3. Research Methods

3.1 Methods

This research uses a quantitative approach with a descriptive research design that focuses on the relationship between research variables. The data used is secondary data which is indirect data.

3.2 Participants and procedures

3.2.1 Data Type

Secondary data is data obtained from second parties in the form of records, journals, books, literature studies from several literatures, and other sources related to this research. Secondary data is also obtained by accessing the official website of the Indonesia Stock Exchange (IDX),

namely www.idx.co.id by looking at the company's annual financial statements for the period 2023.

3.2.2 Population and Sample

The population in this study are banking sub-sector companies classified as family companies and BUMN companies classified as non-family companies listed on the Indonesia Stock Exchange (IDX). The samples used in this study were 40 family companies and 11 non-family companies using purposive sampling technique which aims to obtain samples that match the specified criteria.

3.2.3 Operational Definition of Variables

- Profitability ratio: Net income and total assets.
- Activity ratio: Sales and total assets.
- Leverage ratio: Total liabilities and total equity.
- Liquidity ratio: Current assets and current liabilities.
- Capital structure: Total debt and total assets.
- Share price: Share price, net income, and share outstanding.

3.3 Data Analysis Method

The data analysis technique in this study used SPSS version 26 software.

Independent Sample T-Test and Mann Whitney Test were used to test the significance of mean differences between two groups (Perwira, 2019). If the data from both groups are normally distributed, then an Independent Sample T-Test can be used to test the mean difference. However, if the data is not normally distributed, it must use the Mann Whitney Test which is a non-parametric test equivalent to the t-test for two independent samples. Because this study to the unequal number of samples, the data is not normally distributed, it must use the Mann Whitney test.

- If $Z_{hitung} > 1.96$ or probability < 0.05 then H_a is accepted or the hypothesis is supported.
- If $Z_{hitung} < 1.96$ or probability > 0.05 then H_a is rejected or the hypothesis is not supported.

4. Findings and Discussion

In this study, the research objects used were banking sub-sector companies and state-owned companies listed on the Indonesia Stock Exchange (IDX). The sample in this study amounted to 37 family companies and 11 non-family companies.

4.1 Hypothesis Testing

The hypothesis test used is the Mann Whitney Test which aims to compare two independent samples, especially when the data does not meet the assumption of normality or is ordinal. If the $p\text{-value} < 0.05$ then there is a difference, while if the $p\text{-value} > 0.05$ then there is no difference.

Table 1. Hypothesis Test Results

Indicator	Average		P-Value	Conclusion
	Family	Non-Family		
Profitability Ratio	22,03	32,86	0,025	There is a difference
Activity Ratio	20,57	37,73	0,000	There is difference
Leverage Ratio	24,76	23,64	0,816	No Difference
Liquidity Ratio	26,97	16,18	0,025	There is a difference
Capital Structure	23,89	26,55	0,581	No Difference
Share Price	26,43	18,00	0,079	No Difference

Source: Data processed, 2024

The explanation of the hypothesis test results is as follows:

1. The p-value of the profitability ratio is $0,025 < 0.05$, so H1 is accepted and Ho is rejected, meaning that there is a difference in profitability ratio between family companies and non-family companies.
2. The p-value of the activity ratio is $0,000 < 0.05$, so H2 is a accepted and Ho is rejected, meaning that there is a difference in the activity ratio between family companies and non-family companies.
3. The p-value of the leverage ratio is $0,816 > 0.05$, so H3 is rejected and Ho is accepted, meaning that there is no difference in the leverage ratio between family companies and non-family companies.
4. The p-value of liquidity ratio is $0,025 < 0.05$, so H4 is accepted and Ho is rejected, meaning that there is a difference in liquidity ratio between family companies and non-family companies.
5. The p-value of capital structure is $0,581 > 0.05$, so H5 is rejected and Ho is accepted, meaning that there is no difference in capital structure between family companies and non-family companies.
6. The p-value of stock price is $0,079 > 0.05$, so H6 is rejected and Ho is accepted, meaning that there is no difference in stock price between family companies and non-family companies.

4.2 Discussion

H1 There is a difference in profitability ratio between family companies and non-family companies

The results of this study indicate that there are differences in profitability ratios between family companies and non-family companies. Family companies have an average of 22,03, which means that out of 40 family companies, the average value of company profits is 22,03% of the total assets owned by the company. Meanwhile, non-family companies have an average of 32,86, which means that out of 11 non-family companies, the average profit value of the company is 32,86% of the total assets owned by the company. These results indicate that non-family companies have better performance capabilities in generating profits than family companies. This result is in accordance with the research of Prastia & Hasanah (2022); Utamaningsi (2020) which shows that there are differences in profitability ratios between family companies and non-family companies.

Non-family companies are likely to be more aggressive in taking risks and making investments

that generate higher returns. Management in family companies may need to re-evaluate their approach to risk and consider whether a bolder approach can improve profitability without compromising long-term stability. Better profitability performance suggests that non-family companies are more efficient in their operations, perhaps through the use of technology or tighter management practices. Family companies may need to review their operational efficiency to reduce costs and improve margins.

H2 There is a difference in activity ratio between family companies and non-family companies

The results of this study indicate that there are differences in activity ratios between family companies and non-family companies. Family companies have an average of 22.40, which means that out of 40 family companies have the ability to generate sales or revenue of 22.40% of the total assets owned by the company. Meanwhile, non-family companies have an average of 39.09, which means that out of 11 non-family companies have the ability to generate sales or revenue of 39.09% of the total assets owned by the company. These results indicate that non-family companies have sales or income faster and more often than family companies. The result of this study are in accordance with the research of Rake Setyawan & Rechandy Christian (2022) which shows that there are difference in activity ratios between family companies and non-family companies.

Non-family companies are likely to be more efficient in managing their assets, such as inventories and receivables, because they have tighter operational processes and more effective control systems. Family companies need to review their operations to find ways to improve efficiency by optimising inventory management and accelerating the cash conversion cycle. The inventory turnover performance of non-family companies indicates efficient inventory management, which can reduce storage costs and financial risks. Family companies may need to consider improving their inventory management by using new technologies or changing purchasing strategies to ensure that inventories are more closely aligned with market demand.

H3 There is no difference in leverage ratio between family companies and non-family companies

The result of this study indicate that there is no difference in the leverage ratio between family companies and no-family companies. This is likely because both companies have high leverage. Family companies have an average of 26.78, which means that out of 40 family companies, the company's burden in paying its debts is 26.78% of the total equity owned by the company. Meanwhile, non-family companies have an average of 23.18, which means that out of 11 non-family companies, the company's burden in paying its debt is 23.18% of the total equity owned by the company. The results of this study are not in accordance with research by Perwira (2019) which shows that family companies have greater leverage than non-family companies.

Family companies with higher levels of debt can increase financial risks, including the risk of bankruptcy if the business is unable to meet its debt obligations. Management in family companies needs to focus on managing this risk by monitoring the debt-equity ratio and ensuring that cash flows are sufficient to meet debt repayments. Although non-family companies have lower levels of debt, management should ensure that they do not use debt too conservatively.

H4 There is a difference in liquidity ratio between family companies and non-family companies

The results of this study indicate that there is a difference in liquidity ratios between family

companies and non-family companies. Family companies have an average of 28.08, which means that out of 40 family companies have current assets whose value is greater than current debt, which is 28.08%. While non-family companies have an average of 18.45, which means that out of 11 non-family companies, current assets are greater than current debt, which is 18.45%. The results of this study are in accordance with the research of Kusmawati (2020); Perwira (2019) which shows that there is no difference in liquidity ratios between family companies and non-family companies.

Family companies have higher liquidity than non-family companies, suggesting that family companies tend to hold more liquid assets, such as cash or cash equivalents, relative to short-term liabilities. The high liquidity of family companies may be due to a more conservative approach to financial management. Family companies may be more cautious in managing cash and tend to hold large liquidity reserves to deal with uncertainty, which can be a strength in volatile economic situations, but it may also indicate that the firm is not making the most of available investment opportunities. Non-family companies may have low liquidity because the business may be more aggressive in allocating funds to investment or expansion, which could result in faster growth but also increase financial risk.

H5 There is no difference in capital structure between family companies and non-family companies

The result of this study shows that there is no difference in capital structure between family companies and non-family companies. Family companies have an average of 25.68 which means that out of 40 family companies have a total debt greater than the total assets owned by 25.68%. Meanwhile, non-family companies have an average of 27.18, which means that out of 11 non-family companies, the total debt is greater than the total assets owned by 27.18%. The results of this study are in accordance with the research of Rake Setyawan & Rechandy Christian (2022) which shows that there is no difference in capital structure between family companies and non-family companies.

Non-family companies have a higher capital structure than family companies, which means that non-family companies have a higher proportion of debt in their financing compared to equity. The fact that non-family companies have a higher capital structure indicates a greater use of debt, which may increase the financial risk of the business. Management should focus on managing this risk, including ensuring that the firm has sufficient cash flow to meet debt obligations and managing interest rate risk, which can affect the cost of debt. Family companies have lower capital structures because they are less likely to face financial risks.

H6 There is no difference in stock prices between family companies and non-family companies

The results of this study indicate that there is no difference in stock prices between family companies and non-family companies. Family companies have an average of 26.25, which means that out of 40 family companies have an average ability of the price per share to generate revenue or profit from each share sold to investors of 26.25 times. Meanwhile, non-family companies have an average of 25.09, which means that 11 non-family companies have an average ability of the price per share to generate revenue or profit from each share sold to investors of 25.09 times. The results of this study are in accordance with the research of Perwira (2019) which shows that there is no difference in stock prices between family companies and non-family companies.

The share price of family companies is higher than that of non-family companies, which may

reflect several factors that influence the market perception and valuation of family firms. The fact that family companies have higher share prices is likely to reflect the market perception that family companies are more stable and have a strong long-term focus. Investors may view family ownership as a commitment to business sustainability, which could increase investor confidence and loyalty. Non-family companies with lower share prices may indicate that the market views non-family companies as being more vulnerable to management turnover or changes in strategy, especially if there is pressure from shareholders who are more concerned with short-term profits.

5. Conclusion

5.1 Conclusion

The results of this study concluded that there are differences in profitability ratios between family companies and non-family companies that non-family companies have better performance than family companies. There are differences in activity ratios between family companies and non-family companies that sales or income of non-family companies are faster and more frequent than family companies. There is no difference in the leverage ratio between family companies and non-family companies because they have the same leverage. There are difference in liquidity ratio between family companies and non-family companies because they have the same liquidity. There is no difference in capital structure between family companies and non-family companies because they have the same capital structure. There is no difference in stock price between family companies and non-family companies because they have the same stock price.

5.2 Research Limitations

The limitations in this study are that the scope is still very limited, there are only two types of companies, namely banking sub-sector companies and state-owned companies listed on the Indonesia Stock Exchange, the observation period chosen is only one year, namely 2023, the use of Agency Theory which has produced inconsistent research results if applied, and this study only compares the company's financial performance only.

5.3 Managerial Implications

1. If the analysis shows that the company's profitability is low, the managerial implications include the need for management to evaluate its cost structure, improve operational efficiency or explore new market opportunities.
2. If the analysis shows that the company's activity is low, the managerial implications include various strategic and operational actions that need to be considered to improve the company's efficiency and performance.
3. If the analysis shows that the company's leverage is high, managerial implications include the need for management to focus on debt management, consider debt restructuring, or reduce reliance on external financing to reduce financial risk.
4. If the analysis shows that the company's liquidity is high, managerial implications include ensuring that there is enough cash flow to meet short-term obligations, perhaps by delaying non-essential investments, accelerating the collection of receivables, or renegotiating payment terms with suppliers.
5. If the analysis shows the company's capital structure is high, the managerial implications include increasing the potential return on equity, but also carrying greater risks, especially related to interest expense and debt repayment obligations.

6. If the analysis shows the company's share price is low, managerial implications include improving communication with investors, clarifying long-term strategies, or taking corporate actions such as share buybacks to increase the value of the shares in the eyes of investors.

5.4 Advice

Suggestions that can be given in this study are to conduct a different test using variables other than the variables that have been tested such as managerial ownership and managerial ownership, dividend policy, using a larger population, and should use Entrenchment theory as a substitute for Agency Theory so as to produce results that better reflect the actual situation.

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The Effect of Perceived Knowledge of Accounting, Business Scale, and Level of Education Level of MSME Actors Against Use of Accounting Information in Palembang City

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Abstract

This study aims to determine the effect of perceived accounting knowledge, business scale, and education level of MSME actors on the use of accounting information in Palembang City. The research method used is descriptive quantitative. The data used in the study were primary data and secondary data. The sampling technique used non-probability sampling techniques. The sample studied in this study were 100 respondents who were MSMEs in Palembang City, especially the Plaju and Kertapati areas. Based on the statistical t test conducted, it can be concluded that the perception of accounting knowledge affects the use of accounting information with a significance value of $0.000 < 0.05$. Based on the statistical t test conducted, it can be concluded that the scale of business has no effect on the use of accounting information $0.438 > 0.05$. Based on the statistical t test conducted, it can be concluded that the level of education affects the use of accounting information with a significance value of $0.000 < 0.05$. The magnitude of the influence of the independent variable on the dependent variable is 50.8%, the remaining 49.2% is influenced by other variables that are not included in the research model.

Keywords: Use of Accounting Information, Perception of Accounting Knowledge, Scale of Business, Level of Education

JEL Codes: M41, M49, L25

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1. Introduction

MSMEs also have the capacity to absorb a significant amount of labor (Wahyudiati, 2018). Based on data submitted by the Indonesian Ministry of Cooperatives and SMEs, it can be concluded that the Micro, Small and Medium Enterprises (MSMEs) sector has a huge contribution to Indonesia's economy and employment. Although in terms of the number of business units, MSMEs contribute around 99.99% of the total businesses in Indonesia (62.9

million units), but large businesses only contribute around 0.01% (5,400 units). More importantly, MSMEs make a significant contribution to employment. Micro enterprises, with a total of 107.2 million or around 89.2%, are the largest contributor in terms of employment. Small businesses contributed around 5.7 million or 4.74%, while medium-sized enterprises contributed around 3.73 million or 3.11%. On the other hand, large businesses were only able to absorb around 3.58 million people. By absorbing, overall MSMEs are able to absorb around 97% of the total national workforce.

South Sumatra Province has great potential to develop the MSME sector, such as woven fabrics, songket fabrics, batik, and regional specialties. Micro, Small and Medium Enterprises (MSMEs) in South Sumatra have a long history and have become an important part of the regional economy. Along with the times, MSMEs in South Sumatra continue to grow and develop, increasingly recognized by the community. In general, the condition of MSMEs in South Sumatra Province in the past year has increased significantly. Reporting from Databoks (2023) of the Ministry of Cooperatives and SMEs, in 2023 the number of MSMEs in South Sumatra reached 860,000 units and increased to 2,300,000 units in 2024.

South Sumatra Province has several regencies and large cities, one of which is Palembang City, which is also the capital of the province. Palembang City has a lot of economic potential, including the MSME sector which is an important sector to drive economic growth. The region has a variety of potential natural resources, such as fishery, agriculture, and mining products, which can be used as raw materials for MSME production. Based on data from the Office of Cooperatives and SMEs of Palembang City, the number of MSME players in this city has increased very rapidly in the last five years. The following table shows the number of MSME players in Palembang City in the last five years:

Table 1: Number of MSMEs in Palembang City

Year	Number of MSMEs
2019	37.902
2020	40.130
2021	60.879
2022	80.903
2023	81.755

Source: Office of Cooperatives and SMEs survey 2024

The problem that MSMEs are still facing is the problem of organizing and utilizing accounting information in managing their business. Many Micro, Small and Medium Enterprises (MSMEs) have not used and use an irregular accounting information system, so that not a few of their businesses last only a short time and experience failure. In an effort to avoid business failure, MSMEs use accounting information.

The application of accounting in a managed business will allow obtaining a lot of information from financial reports that are systematically compiled, therefore to make it easier for MSME actors to record all business activities that occur and prepare financial reports. Accounting information is very useful as a tool used by users of accounting information for decision making for business people. For business actors, accounting information can actually provide and present important relevant information, business actors can find out whether the business is running according to expectations or not, and accounting information can help manage business planning, control, decision making and evaluation (Priliandani et al., 2020).

This research refers to previous research conducted by Nasution et al. (2024) regarding "The

Effect of Education Level, Business Age, and Accounting Knowledge on the Use of Accounting Information in Small and Medium Enterprises in Labuhanbatu". The results of this study indicate that the level of education has no significant positive effect on the use of accounting information, business age has no positive and insignificant effect on the use of accounting information, and accounting knowledge has a significant positive effect on the use of accounting information.

This study was conducted to determine the effect of MSME perceptions of accounting, accounting knowledge, education level, and business experience on the use of accounting information. There are differences with previous research, where this study adds independent variables such as MSME perceptions and business scale about accounting, does not add the variable business age in this study. And also the object of this research is different from previous research.

2. Literature Review

2.1 Theoretical foundation

2.1.1 Decision Usefulness Theory

Decision usefulness theory is a theory that underlies the systematic procedure for choosing the best alternative from several options, which will be used as an advanced method for solving problems used to find and solve problems. The statement emphasizes that the decision-making process requires several stages in a person's thinking, and encourages him to think systematically.

2.1.2 Planned Behavior Theory

Planned behavior theory is the theory that a person's behavior is influenced by his perceptions. A person's behavior when acting is influenced by his interest in taking that action (Juniariani & Wirakusuma, 2016). There are three main factors for individuals in making behavioral intentions according to planned behavior theory, namely subjective norms, attitudes towards behavior, and perceptions of self-control. Interest is influenced by people's attitudes towards behavior, as well as behavior that is influenced by subjective norms and perceptions of control over behavior.

2.1.3 Micro, Small and Medium Enterprises (MSMEs)

Micro, Small, and Medium Enterprises (MSMEs) are business activities or businesses run by individuals, households, or small business entities. Small businesses are productive economic businesses that stand alone, are not subsidiaries and are run by individuals or business entities. Meanwhile, micro enterprises are productive and independent economic activities carried out by individuals or business organizations that are not subsidiaries or branches of other companies, and are not owned or controlled by large companies. Large companies or companies that meet the criteria of micro businesses in accordance with Law No. 20 of 2008.

2.1.4 Use of Accounting Information

The use of accounting information is the utilization of recorded accounting data for business decision making. This accounting information can be a reliable basis for decision making in small business management, such as market development and pricing decisions (Mubarokah & Srimindarti, 2022). The use of accounting information is their process, method, and action of utilizing accounting information for economic decision making in choosing between various alternative actions (Novianti et al., 2018). Accounting information is important because it helps organize companies from various problems related to economic activities. Accounting

information is information that has a significant contribution to the company's decision-making activities. Thus, the use of accounting information is defined as a process of using information that provides benefits in the form of quantitative and qualitative data needed by a corporate organization (Kentari, 2023).

2.1.5 Perceptions of Micro, Small and Medium Enterprises (MSMEs) Actors About Accounting

MSME actors' perception of accounting involves the process of interpreting, interpreting, and interpreting accounting in a business using the five senses and considering the benefits resulting from the process. People's actions are often based on their perceptions, although those perceptions may not always reflect the actual reality. Therefore, business actors need to have a mindset and understanding that accounting provides many benefits in the business world, such as providing business economic data that is important for decision making and allows monitoring of business conditions over a period of time (Sunaryo et al., 2021).

2.1.6 Business Scale

According to Nirwana & Purnama (2019), business scale is a measurement of company criteria based on the number of workers per day, both permanent and non-permanent workers, as well as the amount of business income, which will affect the operational capabilities carried out. According to Sunaryo et al. (2021) also states that business scale is a measurement of a company based on the number of workers per day, including permanent and non-permanent workers, as well as the amount of company revenue that will affect the operational capabilities carried out.

2.1.7 Education Level

The level of education is the stage of education that is determined based on the development of students, the goals to be achieved, and the abilities developed (Mubarakah & Srimindarti, 2022). The level of education affects the perspective and insight of the owner or manager in managing and running his business, including the use of accounting information for business management. A person's ability and expertise are strongly influenced by the level of formal education that has been taken. This has an impact on how they respond to the existing accounting system (Gafiki, 2020). The level of education an entrepreneur has allows them to gain knowledge and improve the quality of their business (Nasution et al., 2024).

2.2 Framework of Thought

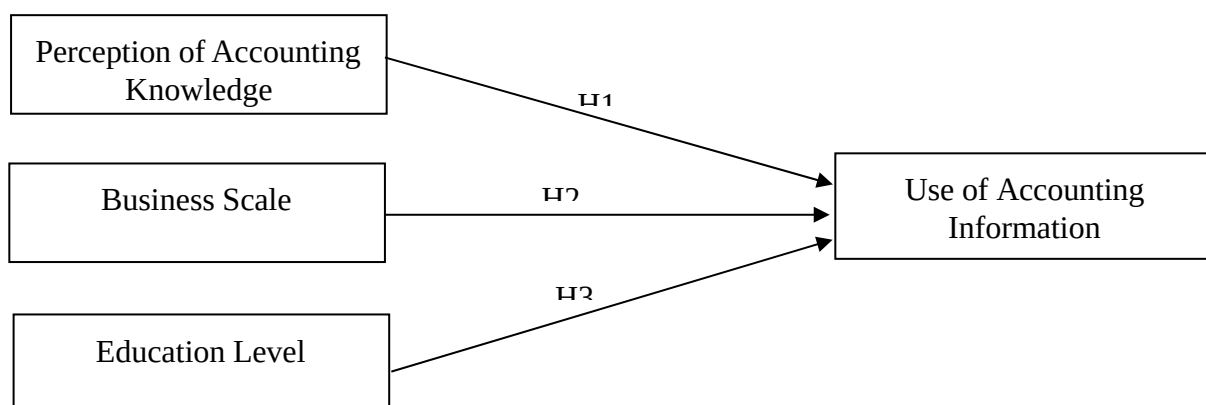


Figure 1. Framework of Thought

2.3 Perception of Accounting Knowledge

2.3.1 Perception of Accounting Knowledge

MSME actors' perception of accounting is the process of interpreting, interpreting, and interpreting the accounting of a business through the use of five senses and considering the benefits resulting from the process. People act based on their perceptions, even though those perceptions may not reflect the actual reality. Business actors should have the view that accounting has many benefits in the business world, such as providing economic data about the company for final decision making and showing the status of the company in a certain period (Sunaryo et al., 2021).

H1: Perceptions of MSME actors about accounting have a positive and significant effect on the use of accounting information.

2.3.2 Business Scale

The scale of the business reflects the company's ability to manage its business by considering the number of employees employed and the amount of revenue received during a certain period. The larger the scale of the business, the greater the need for accounting to support business continuity, so that the accounting information system becomes an important tool in decision making. However, in reality, there are still large-scale businesses or businesses that have not utilized accounting information systems, which can be seen from the company's financial management that has not been organized and mixed with personal finances.

H2: Business scale has a positive and significant effect on the use of accounting information.

2.3.3 Education Level

According to (Novianti et al., 2018) entrepreneurs with low levels of formal education tend to be less prepared and less adequate in using accounting information than entrepreneurs who have higher formal education. This is due to accounting material which is usually taught at a higher level of education. The level of education an entrepreneur has allows him to gain knowledge and improve the quality of his business (Nasution et al., 2024).

H3: The level of education affects the use of accounting information

3. Research Method

3.1 Object of Research

This research analyzes the effect of the perception of the acquisition of accounting information, the scale of the business, and the level of education of the ULMKM participants on the acquisition of accounting information. Until in this research this research, the researcher limited the research area to which is only MSMEs in Palembang City.

3.2 Population and Sample

3.2.1 Population

In this study, the population taken was MSME actors in Palembang City totaling 81,755 units. The population was taken from the number of MSME actors in Palembang City who were in all areas in Palembang City.

Sample

In this study, samples were selected using non-probability sampling techniques. According to (Sugiyono, 2018) Non-probability sampling techniques are sampling methods that do not

provide the same possibility or opportunity for each eligible member of their population to become part of the sample.

The population taken to determine the sample in this study was 81,755 MSMEs. In this study, a percentage of 10% was used as a sampling error limit. So with this, researchers used the Slovin formula so that the sample size used to determine the sample in this study. Based on the results of the above calculations from a population of 81,755 MSMEs, the sample in this study was 99.87, but because the subject is not a fractional number, it is rounded up to 100 respondents from all MSME actors, especially in the Plaju and Kertapati areas.

3.3 Types and Sources of Research Data

The type of data used in this research is quantitative data, and the data sources needed by researchers to conduct this research are:

3.3.1 Primary Data

According to Sugiyono (2018), primary data is a data source that directly provides information to data collectors from the first source. In this study, primary data was obtained using a questionnaire given to MSME actors. The from the list of questions asked to respondents through the questionnaire will be processed using a Likert scale. This scale is used to measure the attitudes, opinions, and perceptions of MSME actors towards social phenomena or questions asked. The Likert scale consists of five levels of answer preference with the following options:

Table 2. Likert Scale Measures

No	Clarification	Score
1.	Strongly Disagree (STS)	1
2.	Disagree (TS)	2
3.	Moderately Agree (CS)	3
4.	Agree (S)	4
5.	Strongly Agree (SS)	5

Source: Data processed, 2024

3.3.2 Secondary Data

According to Sugiyono (2018), secondary data is a data source that is provided indirectly to data collectors. This secondary data supports primary data and includes books, articles, journals, and previous studies.

3.3 Operational Definition of Variables

Table 3. Operational Definition of Variables

No	Variable	Definition	Indicator	Measurement Scale
1.	Use of Accounting Information	The use of accounting information means the process of using accounting information in the form of quantitative	1. Use of operational information 2. Use of management	Interval

	data required by a corporate organization.	accounting information	
		3. Use of financial accounting information	
2. Perceptions of MSME Actors about Accounting	The perception of MSME actors about accounting is the process of interpreting, interpreting and interpreting the accounting of a business by using the five senses and considering the benefits arising from this process.	1. Selection by MSME actors about accounting 2. Understanding by MSME actors about accounting 3. Assessment by MSME actors about accounting	Interval
Scale of Business	The scale of business is also the company's ability to manage its business, which is determined by total assets, the number of employees employed, and the revenue earned each accounting period, playing an important role.	1. Number of employees 2. Revenue 3. Assets	Interval
4. Level of Education	The level of education is the stage of education that is determined based on the development of students, the objectives to be achieved, and the abilities to be developed.	1. Technical skills on accounting information 2. Organizational skills on accounting information 3. Knowledge of accounting information supports business development	Interval

4. Findings and Discussions

4.1 Research Results

4.1.1 Respondent Characteristics

From the information collected, the characteristics of the respondents can be analyzed based on gender, namely:

Table 4. Classification of Respondents Based on Gender

No.	Gender	Total	%
1	Male	43	43%
2	Female	57	57%

Source: Data processed, 2024

Based on table 4, it can be seen that the gender of the respondents is mostly female, namely 57 respondents (57%), then for men, namely 43 respondents (43%).

Table 5. Classification of Respondents Based on Last Education

No.	Last Education	Total	%
1.	SMP	1	1%
2.	HIGH SCHOOL	75	75%
3.	D3	1	1%
4.	S1	22	22%
5.	S2	1	1%

Source: Data processed, 2024

Based on table 5, it can be seen that the highest number of respondents' latest education is high school education, namely 75 respondents (75%), followed by S1 education, namely 22 respondents (22%), and the least education is junior high school, D3, and S2, namely 1 respondent (1%).

4.1.2 Descriptive Statistical Analysis

This study uses the use of accounting information as the dependent variable. As for the independent variables used, namely the perception of accounting knowledge (X1), business scale (X2), and education level (X3). The above variables were tested with descriptive statistics to determine the average, maximum and minimum values, as well as the standard deviation obtained. The following are the results of the descriptive analysis test of the data above:

Table 6. Descriptive Statistical Analysis Test Results

	N	Minimum	Maximum	Mean	Std. Deviation
Perception of Accounting Knowledge	100	27.00	45.00	39.3600	4.37514
Business Scale	100	3.00	12.00	5.0500	2.31977
Education Level	100	6.00	15.00	12.5900	1.90213
Use of Accounting Information	100	27.00	45.00	37.2800	4.23330
Valid N (listwise)	100				

Source: Data processed by 2024

4.1.3 Data Quality Test

4.1.3.1 Validity Test

The validity of the questions is shown through the output results of in

tabular form:

- $r \text{ count} > r \text{ table} = \text{valid}$
- $r \text{ count} < r \text{ table} = \text{invalid}$

The results of the validity test of this research questionnaire are:

Table 7. Validity Test of Perceived Accounting Knowledge

Question Item	R Table Value	R Value Count	Description
I have learned (attended training) about accounting.	0,256	0,676	VALID
I am willing to apply accounting in the financial management of my business	0,256	0,716	VALID
I need accounting in the financial management of my business.	0,256	0,714	VALID
The benefits of using accounting are greater than the costs incurred.	0,256	0,684	VALID
Accounting is easy to learn and understand	0,256	0,720	VALID
In my opinion, accounting is a very useful and important science to be applied in the financial management of a business.	0,256	0,638	VALID
Accounting helps me in making bookkeeping about the financial management of my business.	0,256	0,793	VALID
Accounting provides the information I need to make decisions for future business continuity.	0,256	0,784	VALID
Accounting helps me control my finances, evaluate my performance, and plan for the future.	0,256	0,738	VALID

Source: Data processed 2024

Table 7 shows that the variable perception of accounting knowledge (X1) has $r \text{ count} > r \text{ table}$ with $r \text{ table}$ of 0.256, so that all question items on the variable perception of accounting knowledge (X1) are declared valid. Based on this data, it is concluded that the variable perception of accounting knowledge (X1) is declared valid or feasible and can be continued to the reliability test.

Table 8. Validity Test of Business Scale

Question Item	R Table Value	R Value Count	Description
How many employees do you employ?	0,256	0,776	VALID
How much income do you earn during the year?	0,256	0,913	VALID
How many assets do you have?	0,256	0,882	VALID

Source: Data processed, 2024

Table 8 shows that the business scale variable (X2) has $r_{\text{count}} > r_{\text{table}}$ with r_{table} of 0.256, so that all question items on the business scale variable (X2) are declared valid. Based on this data, it is concluded that the business scale variable (X2) is declared valid or feasible and can be continued to the reliability test.

Table 9. Validity Test of Education Level

Question Item	R Table Value	R Value Count	Description
My technical ability is high enough to be able to recognize accounting information.	0,256	0,890	VALID
My organizational skills influence my decision to use accounting information as a basis for policy making.	0,256	0,916	VALID
My knowledge of accounting information products supports business development because I understand accounting information systems.	0,256	0,868	VALID

Source: Data processed, 2024

Table 9 shows that the education level variable (X3) has $r_{\text{count}} > r_{\text{table}}$ with r_{table} of 0.256, so that all question items on the education level variable (X3) are declared valid. Based on this and can be continued to the reliability test.

Table 10. Validity Test of Accounting Information Usage

Question Item	R Table Value	R Value Count	Description
I presented financial statements such as income statement, balance sheet, statement of changes in capital, cash flow statement, and notes to the financial statements.	0,256	0,543	VALID
I do not use accounting information in accordance with applicable regulatory standards.	0,256	0,557	VALID
I find it difficult to follow financial accounting standards in managing my business finances.	0,256	0,629	VALID
With accounting information I can control the financial management of my business in accordance with the planning that I made.	0,256	0,641	VALID
I always make performance assessments based on the plans prepared for future operating decisions.	0,256	0,675	VALID
I always make a sales budget, production cost budget, and	0,256	0,741	VALID

operating cost budget.

I always make records related to records including cash-in book, cash-out book, payables book, receivables book, inventory book, sales book, and purchase book.	0,256	0,682	VALID
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I always present reports including inventory reports, employee salary reports, production quantity reports, and production cost reports in the records.	0,256	0,709	VALID
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I know the amount of production each day, the amount of raw material purchases, know the salaries of employees, and the amount of sales each day.	0,256	0,621	VALID
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Source: Data processed, 2024

Table 10 shows that the variable use of accounting information (Y) has $r_{count} > r_{table}$ with r_{table} of 0.256, so that all question items on the variable use of accounting information (Y) are declared valid. Based on this data, it is concluded that the variable use of accounting information (Y) is declared valid or feasible and can proceed to the reliability test.

4.1.3.1 Reliability Test

The Cronbach's Alpha method is applied to evaluate the consistency of respondents' answers to variables that measure certain aspects of the research. The foundation for the reliability test decision using the Cronbach's Alpha method is:

- If the Cronbach's Alpha value is > 0.7 = sufficient reliability.
- If the Cronbach's Alpha value is > 0.8 , it means that all items are reliable and all tests consistently have strength in reliability.

Table 11: Reliability test

No.	Variables	Cronbach's Alpha	Description
1	X1	0,878	RELIABLE
2	X2	0,817	RELIABLE
3	X3	0,870	RELIABLE
4	Y	0,784	RELIABLE

Source: Data processed, 2024

According to table 11, all variables tested for reliability show a high level of reliability, because the Cronbach's Alpha value exceeds 0.7. The variable of perceived accounting knowledge (X1) has a value of 0.878, business scale (X2) has a value of 0.817, educationlevel (X3) has a value of 0.870, and the use of accounting information has a value of 0.784. With all Cronbach's Alpha values above 0.8, it can be concluded that all items in the variable have excellent reliability consistency.

4.1.4 Classical Assumption Test

4.1.4.1 Normality Test

Table 12: Data normality test

			Unstandardized Residual
N			100
Normal Parameters ^{a,b}	Mean		.0000000
	Std.		2.97008005
	Deviation		
Most	Extreme	Absolute	.060
Differences		Positive	.060
		Negative	-.046
Test Statistic			.060
Asymp. Sig. (2-tailed)			.200 ^{c,d}
a. Test distribution is Normal.			
b. Calculated from data.			
c. Lilliefors Significance Correction.			
d. This is a lower bound of the true significance.			

Source: Data processed, 2024

Table 12 shows the results of the normality test using the Kolmogorov-Smirnov Test technique. The distribution is considered normal if the equality value exceeds 0.05. In this test, the significance value is 0.200 which means it exceeds the threshold of 0.05, so the data can be considered normally distributed.

4.1.4.2 Multicollinearity Test

Table 13. Multicollinearity Test

		Coefficients ^a					Collinearity Statistics	
		Unstandardize d Coefficients	Std. Error	Standardized Coefficients	t	Sig.	Tolerance	VIF
1	(Constant)	11.177	2.828		3.952	.000		
	Perception of Accounting Knowledge	.381	.096	.393	3.967	.000	.521	1.918
	Business Scale	.102	.131	.056	.779	.438	.999	1.001
	Education Level	.843	.221	.379	3.818	.000	.521	1.918

a. Dependent Variable: Use of Accounting Information

Source: Data processed, 2024

Based on table 13, the multicollinearity test results show that all variables (X1, X2, X3) have a tolerance value above 0.1 and VIF below 10, which means there is no multicollinearity problem in this model.

4.1.4.3 Heteroscedasticity Test

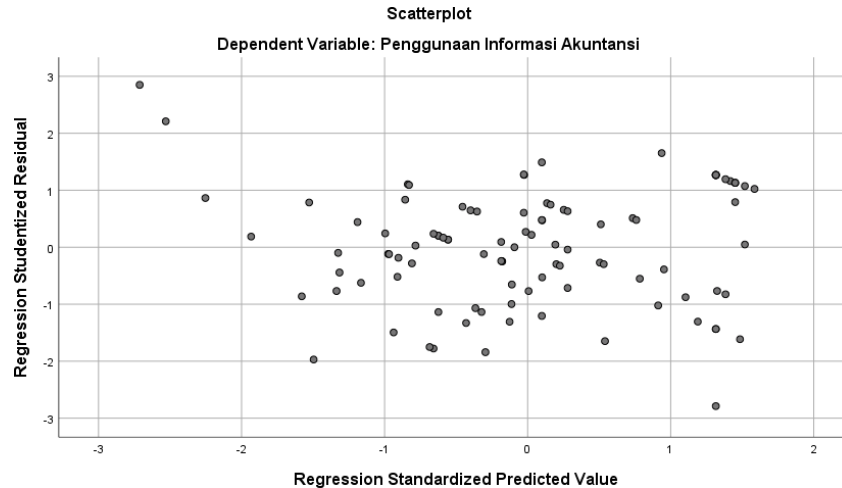


Figure 2. Scatterplot Heteroscedasticity Test

Source: Data processed, 2024

The results of the *scatterplot* test can be seen in Figure 2 which shows that the results of the heteroscedasticity test based on the *scatterplot* graph illustrate that all points are evenly distributed, so it means that there is no heteroscedasticity problem.

4.1.5 Multiple Linear Regression Analysis Test

Based on table 13 above, it can be seen that the multiple linear regression model equation is:

$$Y = 11.177 + 0.381 + 0.102 + 0.843$$

Hypothesis Test

4.1.5.1 Partial Test (T Test) Table 14. Partial Test (T Test)

Based on table 13, then:

1. In the variable perception of accounting knowledge, the significance value is 0.000 < 0.05. In addition, the t count is 3.967 > 1.988. This shows that the perception of accounting knowledge partially affects the use of accounting information.
2. In the business scale variable, the significance value is 0.438 > 0.05. In addition, the t count is 0.779 < 1.988. This shows that the scale of business partially has no effect on the use of accounting information.
3. In the education level variable, the significance value is 0.000 < 0.05. In addition, the t count is 3.818 > 1.988. This shows that the level of education partially affects the use of accounting information.

4.1.5.2 Simultaneous Test (F)

Table 15. Simultaneous Test (F)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	900.844	3	300.281	33.009	.000 ^b
Residuals	873.316	96	9.097		
Total	1774.160	99			

a. Dependent Variable: Use of Accounting Information

b. Predictors: (Constant), Education Level, Business Scale, Perceived Accounting Knowledge

Source: Data processed, 2024

Based on the F test table above, the $F_{count} > F_{table}$ value is $33.009 > 2.70$ while the significance value is less than 5%, namely $0.000 < 0.05$. This shows that the regression model used is appropriate or feasible, and it is proven that the perception of accounting knowledge, business scale, and education level together (simultaneously) have a positive effect on the use of accounting information.

4.1.5.3 Test Coefficient of Determination (R^2)

Table 16. Test Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.713 ^a	.508	.492	3.01613

a. Predictors: (Constant), Education Level, Business Scale, Perceived Accounting Knowledge

b. Dependent Variable: Use of Accounting Information

Source: Data processed, 2024

Based on table 16, the R^2 value is 0.508, which is obtained from the square of the R value ($0.713 \times 0.713 = 0.508$) or 50.8%. This shows that overall their variables of perceived accounting knowledge, business scale, education level affect their use of accounting information by 50.8%, while 49.2% is influenced by other factors not included in their regression model.

4.2 Discussion

4.2.1 The Effect of Perceived Accounting Knowledge on the Use of Accounting Information

The results of this study indicate that the perception of accounting knowledge partially affects the use of accounting information. This is evidenced by the results of the T test (partial) obtained t count greater than t table, namely $3.967 > 1.988$. With a significance level of 0.000

< 0.05 .

The results of this study support the first hypothesis which states that the perception of accounting knowledge affects the use of accounting information. The results of this study are in line with the research of Akuntansi et al. (2024); Andarist (2021); Kustina & Utami (2022); Priliandani et al. (2020); Risa et al. (2021); Sunaryo et al. (2021) show that the perception of accounting knowledge affects the use of accounting information. However, in contrast to Putri & Effendi's research (2023) which shows that the perception of accounting knowledge has no effect on the use of accounting information.

4.2.2 The Effect of Business Scale on the Use of Accounting Information

The results of this study indicate that the scale of business partially has no effect on the use of accounting information. This is evidenced by the results of the T test (partial) obtained the t table number, namely $0.779 < 1.988$. With a significance level of $0.438 > 0.05$.

The results of this study do not support the second hypothesis which states that business scale affects the use of accounting information. These results are in line with Kustina & Utami (2022);

Sunaryo et al. (2021) show that business scale has no effect on the use of accounting information. However, in contrast to research by Akuntansi et al. (2024); Andarist (2021); Mubarokah & Srimindarti (2022); Putri & Effendi (2023); Risa et al. (2021) show that business scale affects the use of accounting information.

4.2.3 The Effect of Education Level on the Use of Accounting Information

The results of this study indicate that the level of education partially affects the use of accounting information. This is evidenced by the results of the T test (partial) obtained t count greater than t table, namely $3.818 > 1.988$. With a significance level of $0.000 < 0.05$.

The results of this study support the third hypothesis which states that the level of education affects the use of accounting information. The results of this study are in line with Gafiki (2020); Mubarokah & Srimindarti (2022) show that the level of education affects the use of accounting information. However, in contrast to the research of (Akuntansi et al., 2024; Nasution et al., 2024; Zakiah, 2020) which shows that the level of education has no effect on the use of accounting information.

5. Conclusion

5.1 Conclusion

Based on research that has been conducted regarding the effect of perceived accounting knowledge, business scale, and education level on the use of accounting information, it is concluded that perceived accounting knowledge affects the use of accounting information. With good accounting perceptions, MSME actors will better control the use of accounting information in their business. Accounting knowledge is needed by MSME actors who have an important role in the use of accounting information as decision making and business development. Business scale has no effect on the use of accounting information. The size of the business scale has no effect if it is not balanced with the perception of good accounting knowledge. The level of education affects the use of accounting information. The formal education taken by MSME actors greatly influences the expertise and abilities possessed by the owner in managing his business.

5.2 Suggestions

For future researchers, it can use other variables that have not been widely used that can affect the use of accounting information in order to explain the contribution of these variables to the use of information, it is hoped that further researchers can use a larger sample so that they can develop this research. For MSME actors, it is hoped that they will be more active in participating in training or socialization in order to increase their understanding and obtain information about MSMEs and be able to share the obstacles that are often faced by MSMEs. And also be able to develop their products produced optimally so as to make these products superior products and in accordance with their demands and needs of their wider community.

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Examining the Influence of Educational and Field Training Programs on Employee Competency at PT. Kereta Api Indonesia (Persero)

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Abstract

Organizations face intensified competition in the era of globalization, making effective Human Resources (HR) management crucial for success. This study investigates the impact of education and field training on employee competency at PT. Kereta Api Indonesia (Persero) Divre III Palembang, an enterprise aiming to enhance its railway services. The problem identified is the discrepancy between educational qualifications and practical competencies, exacerbated by insufficient training resources. This research aims to examine how education and field training influence employee competency and to provide recommendations for improving HR practices. Using a quantitative approach, data were collected from 122 employees through questionnaires and observations, supplemented by a literature review. Hypotheses were tested using multiple regression analysis and statistical tests. The findings reveal that education significantly and positively affects competency, which means that higher education levels necessarily equate to higher competency. Then, field training also significantly improves competency, highlighting its effectiveness in developing practical skills. The study also found that both education and field training, when considered together, significantly impact employee competency. Based on these findings, it is recommended that PT. Kereta Api Indonesia (Persero) should consider further evaluating job assignments, differentiating the training materials to meet the competency needs of each position better, and strengthening training programs that focus on developing critical thinking and independent problem-solving skills.

Keywords: Education, Employee Competency, Field Training, HR Management, PT. Kereta Api Indonesia.

JEL Codes: M41, M49, L25

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1. Introduction

In the context of modern business, organizations, whether engaged in goods or services, are primarily oriented towards profit generation. The intensity of competition among companies has surged in the era of globalization, necessitating the proactive development of Human Resources (HR) (Bustanto et al., 2024). Employees must embrace continuous learning and diligent work to unlock their full potential. HR plays a pivotal role in the success of an organization, with high-quality HR contributing optimally to the achievement of corporate goals, while subpar HR can impede progress. Effective HR management is essential for the smooth operation of all organizational activities, making it crucial to manage HR efficiently to ensure operational success (Gunawan & Hasanah, 2024).

The responsibility for maintaining quality HR lies significantly with educational institutions. To sustain HR quality, institutions must implement effective HR management strategies. HR management involves utilizing individuals to achieve organizational goals efficiently. Adequate and high-quality HR must be aligned with the workload to avoid both shortages and surpluses (Nasution et al., 2023). Furthermore, HR should meet the required qualifications to manage assets effectively and achieve the desired welfare. One concrete method to enhance HR productivity is through education and training, enabling employees to perform their tasks effectively (Handoko et al., 2021).

Education is a deliberate and planned effort to develop individuals' intellectual and emotional potential to achieve independence and meet life's demands. In Indonesia, citizens are mandated to complete a minimum of nine years of education, comprising six years of primary education and three years of secondary education, as stipulated in Article 6, Paragraph (1) of Law No. 20 of 2003 (Astari et al., 2022). However, many individuals pursue further education to enhance their knowledge and improve their employability in major companies. Education is a gateway to employment and an avenue for enhancing HR quality (Wakila, 2021).

Training and education are processes designed to improve employee competence. These processes involve organizing a series of activities aimed at achieving specific objectives. Competence encompasses the ability to perform tasks or duties, supported by skills, knowledge, and work attitudes required for the job (Pamungkas et al., 2022). Training and field education significantly influence employee competence, providing a cost-effective method to develop and enhance employee capabilities, thereby reducing expenses and improving job proficiency (Wahyuningsih, 2019).

PT. Kereta Api Indonesia (Persero), a state-owned enterprise in the railway transportation sector, aims to be the leading provider of railway services, focusing on passenger service and stakeholder satisfaction. The company's mission is to deliver high-value services and ensure environmental sustainability based on four main pillars: Safety, Timeliness, Service, and Comfort. The company's evolution from PJKA to PERUMKA and eventually to PT. Kereta Api Indonesia (Persero) has led to updated visions and missions, emphasizing values such as Trustworthiness, Competence, Harmony, Loyalty, Adaptability, and Collaboration. These values underscore the importance of skilled HR in achieving company goals and improving performance.

Data from PT. Kereta Api Indonesia (Persero) Divre III Palembang reveals the current educational background of its employees, highlighting a significant number of graduates. Despite this, formal education alone does not always equate to high-quality outcomes. The company's training data from 2021 to 2023 shows that training targets were not fully met, partly

due to a shortage of skilled trainers and aging instructors. This gap has resulted in new employees lacking the practical skills needed for their roles, affecting overall performance and adherence to company values. This highlights the need for targeted research on the impact of education and field training on employee competence.

Given these observations, this study aims to explore the influence of education and field training on employee competence at PT. Kereta Api Indonesia (Persero) Divre III Palembang. The research will examine how educational attainment and training programs contribute to improving employee skills and performance, thereby providing insights into enhancing HR management practices within the organization.

2. Literature Review

2.1 Education

According to Hidayat & Abdillah (2019), there are ten key characteristics of education. Firstly, holistic education encompasses intellectual, emotional, social, and spiritual development, addressing the whole student rather than just cognitive aspects. Education should also be relevant to real-life situations, bridging classroom learning with everyday experiences. Empowerment is crucial, as it enables students to actively participate in their learning, fostering confidence and success. Inclusivity ensures that educational environments accommodate diverse learners, making them feel valued and accepted. Character development goes beyond knowledge transfer to instill strong moral values and ethics. According to Andriani (2024), Collaborative education promotes interaction among students, teachers, parents, and the community. Skill-based education focuses on essential 21st-century skills, such as critical thinking, creativity, communication, and collaboration. Effective technology integration enhances accessibility and quality in learning processes. A critical approach to knowledge encourages students to question, analyze, and intelligently synthesize information. Lastly, sustainability in education emphasizes environmental and social responsibility, preparing future generations to be responsible change-makers.

2.2 Field Training

Field training is a process designed to enhance employee competence, involving the organization of a series of activities systematically arranged to achieve specific objectives (Sutrisno & Sunarsi, 2019). It represents a systematic effort by organizations to transfer knowledge, values, attitudes, and skills to specialists in the field. This structured approach aims to strengthen and develop individual potential and facilitate human change (Iswan, 2021).

2.3 Competence

According to Wibowo in Asmara (2021), competence is defined as the ability to perform tasks or duties based on a combination of skills, knowledge, and work attitudes required for the job. Furthermore, Indonesian Labor Law No. 13 of 2003 outlines that work competence encompasses an individual's capabilities in terms of knowledge, skills, and work attitudes in alignment with established standards. In essence, competence can be understood as a fundamental characteristic or deeply ingrained aspect of one's personality, which manifests in predictable behaviors across various situations and job tasks. This inherent trait drives an individual to achieve excellence and strive to perform tasks effectively (Fauziah, 2023).

2.4 Framework of Thought

The goal of the framework of thought is to assist researchers in methodically outlining the

primary issues in their work. The following graphic represents this conceptual framework:

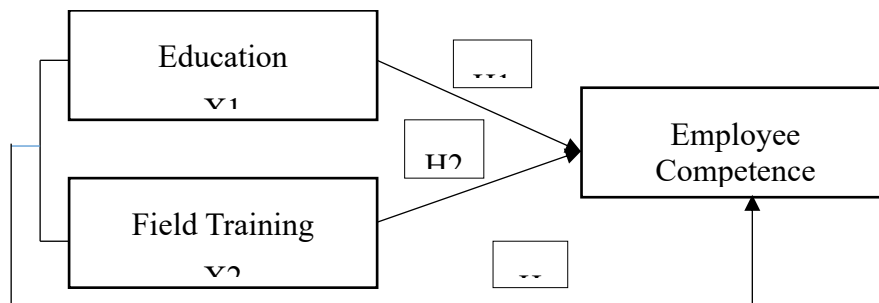


Figure 1. Framework of Thought

Source: Author data (2024)

Based on the conceptual framework shown in Figure 1, the present study endeavours to concentrate the discourse on the potential influence of service quality, trust, and satisfaction on customer loyalty. In the framework of thought, it is stated that the independent variable is Employee Competence (Y), while the dependent variables are Education (X1) and Field Training (X2). The following are the study's hypotheses:

2.5 Development Hypothesis

1. Hypothesis 1: Ho: Education has no effect on employee competence.
Ha: Education has an effect on employee competence.
2. Hypothesis 2: Ho: Field training has no effect on employee competence.
Ha: Field training has an effect on employee competence.
3. Hypothesis 3: Ho: There is no simultaneous effect of education and field training on employee competence.
Ha: There is a simultaneous effect of education and field training on employee competence.

3. Research Method

The research was conducted at PT Kereta Api Indonesia (Persero) Divre III Palembang, with the study focusing on the impact of education and field training on employee competence. The research employed an associative methodology, aiming to identify relationships or effects between the variables involved. Primary data was collected through direct observations, questionnaires, and field notes, while secondary data was gathered from relevant literature and previous studies. The population consisted of all 174 employees of PT Kereta Api Indonesia Divre III Palembang, and a sample size of 122 employees was selected using the Slovin formula for random sampling. Data collection methods included observations, where it was noted that the education levels among employees varied, with 42 employees having completed high school, 117 holding bachelor's degrees, and 15 with master's degrees. Questionnaires were distributed via Google Forms to collect employees' perspectives on education, field training, and competence. A literature review was also conducted to support the analysis, focusing on previous research related to the key variables of the study. The data were analyzed using

quantitative methods, including multiple regression analysis, to examine the factors influencing employee competence. Various statistical tests were employed to ensure the validity and reliability of the data, including validity tests, reliability tests using Cronbach's alpha, and classical assumption tests such as normality, multicollinearity, and heteroscedasticity tests. Hypothesis testing was conducted using t-tests and F-tests to evaluate the significance of the relationship between variables. Providing insights into how education and field training influence employee competence at PT Kereta Api Indonesia (Persero) Divre III Palembang.

4. Findings and Discussions

The paragraph afterward explains the study's conclusions and analysis. General respondent data, validity, reliability, normality, multicollinearity tests, regression analysis, and ANOVA test findings, including t-test- and f-test results, are all included in this conclusion.

4.1 Findings

4.1.1 General Information of Respondents

The demographic data presented in Table 1 provides a detailed profile of the employees, covering aspects such as gender, age, education level, and length of employment. A thorough understanding of this data helps contextualize the research sample and its relevance to the study's objectives. Firstly, the gender distribution reveals a slight majority of male employees at 53.3%, compared to 46.7% of female employees. This near balance suggests a relatively equitable gender representation within the office, which is crucial as diverse gender perspectives can influence the dynamics of training and competency development. Such diversity can enrich the training environment and potentially enhance the effectiveness of competency-building programs.

Table 1. Respondents Information

Variables	Unit	Percentage (%)
Gender	Male	53.3
	Female	46.7
Age	20-30 years	20.5
	31-40 years	50.0
	41-50 years	23.8
	>50 years	5.7
Education	Primary School	32.8
	Bachelor	61.5
	Master	5.7
Length of Employment	1-5 years	86.21
	6-10 years	21.3
	11-15 years	45.9
	>15 years	28.7

Source: Survey Author (2024)

Secondly, the analysis based on age shows that the largest age group is between 31-40 years, representing 50% of the employees. The 41-50 age group also has a significant proportion, accounting for 23.8%. Meanwhile, only 20.5% of the employees are in the 20-30 age range, and those over 50 years old accounted for just 5.7%. This data reflects that the majority of employees are in a mature career phase, likely with considerable work experience, yet still

within a productive age range that allows for continued learning and development through training.

Lastly, the data on length of employment reveals that a significant portion of employees have substantial experience, with 45.9% having worked for 11-15 years and 28.7% exceeding 15 years. This extensive tenure indicates a deep familiarity with the company and industry, likely facilitating the absorption and application of new knowledge gained through training. Additionally, 21.3% of employees with 6-10 years of service represent those in a mid-career phase, continuing to refine their skills and competencies. Overall, this diverse and experienced workforce provides a solid foundation for the development and implementation of effective education and training programs, crucial for enhancing employee competency at Kereta Api Indonesia (Persero) Divre III Palembang.

4.1.2 Validity Test

The below data in Table 2 presents the Pearson correlation coefficients for three variables: Education (X1), Field Training (X2), and Competence (Y), with each variable's sub-questions showing their correlation against a critical r-value of 0.178.

Table 2. Validity Test Result

Variable	Questions	Pearson Correlation	r table	Description
Education (X1)	My job in this company is in accordance with my educational background.	0.932	0.178	Valid
	The education that I have achieved makes it easier for me to understand the work given by the company.	0.944	0.178	Valid
	My educational background makes me able to understand the job.	0.934	0.178	Valid
	The company provides jobs according to the educational major taken.	0.923	0.178	Valid
Field Training (X2)	The type of training I took helped in completing the work.	0.679	0.178	Valid
	The type of training I received was relevant to the job.	0.642	0.178	Valid
	My skills increased with job training.	0.645	0.178	Valid
	The training I attended can increase my knowledge and skills in carrying out my work.	0.700	0.178	Valid
	The training I attended was in accordance with the competency requirements	0.565	0.178	Valid

	of my position.			
	The training materials are easy to understand and apply to the job.	0.510	0.178	Valid
Competence (Y)	I can think creatively in carrying out work.	0,559	0.178	Valid
	I am able to solve problems that occur at work.	0,619	0.178	Valid
	The knowledge I have affects my level of success in my work.	0,706	0.178	Valid
	I have sufficient knowledge to carry out the work.	0,581	0.178	Valid
	I am able to work in a team.	0,596	0.178	Valid
	I have the ability to communicate well with coworkers.	0,438	0.178	Valid
	I am a smart person in working.	0,488	0.178	Valid
	I am able to choose the right action.	0,544	0.178	Valid
	When deciding something, I am not easily influenced by anything.	0,456	0.178	Valid
	I can comply with guidelines and SOPs (standard operating procedures) in carrying out work.	0,468	0.178	Valid

For the Education variable, all sub-questions (X1.1 to X1.4) have high Pearson correlation coefficients, ranging from 0.923 to 0.944, indicating a strong and valid relationship between the sub-questions and the Education variable, well above the critical value. This suggests that the items used to measure Education are highly consistent and significantly related.

In the Field Training variable, sub-questions X2.1 through X2.6 show moderate to strong correlations, with coefficients ranging from 0.510 to 0.700. These values indicate that each aspect of Field Training is positively related to the variable itself, with all coefficients surpassing the critical r-value of 0.178, affirming the validity of these measurements. The moderate correlation strengths imply that while there is a positive relationship between field training aspects and the variable, the strength of the relationship varies across different sub-questions.

The Competence variable's sub-questions (Y.1 to Y.10) exhibit a range of Pearson correlation coefficients from 0.438 to 0.706, all of which are above the critical r-value of 0.178. This indicates that the sub-questions effectively measure different dimensions of competence, with varying degrees of strength. The highest correlations, such as Y.3 (0.706), show a robust relationship with the Competence variable, while lower correlations, such as Y.6 (0.438), still validate the measure but indicate a weaker relationship. Overall, the data supports the validity

of the constructs being measured, as all correlations are above the critical threshold, confirming the reliability of the measurement instruments used.

4.1.3 Reliability Test

Table 3 outlines Cronbach's Alpha values for three variables in a study examining the impact of education and field training on employee competency at PT. Kereta Api Indonesia (Persero) in the Divre III Palembang Office. Cronbach's Alpha is a critical indicator of reliability, measuring the consistency of items within a survey or questionnaire. The values range from 0 to 1, with higher values indicating better internal consistency among the items.

Table 3. Reliability Test of Variables X1, X2, and X3

Variable	Cronbach's Alpha	Standard	Description
Education (X1)	0,951	0,6	reliable
Field Training (X2)	0,685	0,6	reliable
Competence (Y)	0,723	0,6	reliable

For the Education variable (X1), the Cronbach's Alpha is 0.951, which is exceptionally high. This indicates that the measurement instrument for education has excellent internal consistency, meaning that the questions used to assess employees' education levels are very consistent in the responses they elicit. This high level of reliability is crucial for ensuring that the results related to the impact of education on employee competency are both dependable and valid.

The Field Training variable (X2) has a Cronbach's Alpha of 0.685, which, while lower than that of Education, still reflects an acceptable level of reliability. This suggests that the field training measurement instrument is consistent, though there may be some variability in responses. Meanwhile, the Competency variable (Y) shows Cronbach's Alpha of 0.723, indicating a moderate level of reliability. Although not as high as the Education variable, this value still supports the reliability of the competency data. Overall, these values affirm the validity of the instruments used in the study, providing a solid foundation for further analysis.

4.1.4 Normality Test Result

Table 4 presents the results of the normality test using the One-Sample Kolmogorov-Smirnov Test for unstandardized residuals in a study on the impact of education and field training on employee competency at PT. Kereta Api Indonesia (Persero). This normality test is essential for verifying whether the residuals follow a normal distribution, which is a fundamental assumption in many statistical analyses. The sample size (N) used for this test is 122, indicating that the analysis was conducted on 122 residuals from the model. The calculated normal parameters show that the mean of the residuals is 0, which is expected when the model fits well. The standard deviation of the residuals is 0.7453, reflecting the variability of the residuals around the mean, with a lower standard deviation indicating more consistency.

Table 4. Normality and Multi-collinearity Test Results

		Unstandardized Residual
N		122
Normal Parameters ^{a,b}	Mean	0E-7
	Std. Deviation	.74529551
Most Extreme Differences	Absolute	.106

	Positive	.106
	Negative	-.100
Test Statistic		.100
Asymp. Sig. (2-tailed)		.131 ^{c,d}

Note: a. Test distribution is Normal. b. Calculated from data.
c. Lilliefors Significance Correction. d. This is a lower bound of the true significance.

The next section of the table details the Kolmogorov-Smirnov test results, highlighting the most extreme differences between the cumulative distribution of the residuals and the theoretical normal distribution. The maximum absolute difference is 0.106, with positive and negative differences of 0.106 and -0.100, respectively. The Kolmogorov-Smirnov Z value is 1.167, which measures how much the residuals deviate from a normal distribution. This value provides insight into how much the residual distribution diverges from normality.

Finally, the Asymp. Sig. (2-tailed) value is 0.131, representing the probability associated with the test results. In the context of normality testing, this value helps determine the statistical significance of the residuals' deviation from a normal distribution. Since the p-value (0.131) is greater than the commonly used significance level of 0.05, the study fails to reject the null hypothesis that the residuals follow a normal distribution. This indicates that the residuals do not significantly deviate from normality, supporting the assumption that the model used in the study meets the normality requirement, allowing the research to proceed.

The statement below describes the visual characteristics of a normal distribution as represented in a histogram in Figure 2 where the data forms a symmetric bell-shaped curve. In a normal distribution, data points are evenly spread around the mean, with most values concentrated in the center and fewer values appearing as they move away from the mean in either direction. This bell-shaped curve indicates that the mean, median, and mode are aligned, and there is no skewness, meaning the distribution is balanced and symmetrical. This normal distribution is crucial in statistics because many hypothesis tests and statistical inferences are based on the assumption that data follows this pattern. When a histogram displays a perfect bell curve, it suggests that the data adheres to a normal distribution, allowing for effective use of the mean and standard deviation in further analysis. Additionally, normality in the data distribution simplifies the application of statistical models, such as linear regression, which assumes a normal distribution of residuals for more accurate results.

The statement in Figure 3 discusses the interpretation of normality testing through visual tools like the Q-Q (Quantile-Quantile) plot, which is used to determine if data follows a normal distribution. In a Q-Q plot, data points are plotted against the expected theoretical values if the data were normally distributed. If the data points closely align with the diagonal line on the plot, it suggests that the data approximates a normal distribution, as the observed values match the expected ones. The diagonal line represents the ideal normal distribution, and a close alignment of data points with this line indicates no significant deviations from normality.

This alignment suggests that the data does not exhibit significant skewness or kurtosis, meaning the distribution is symmetric and adheres to a normal pattern. Ensuring normality is crucial for many statistical tests, such as regression analysis or ANOVA, which assume that the data is normally distributed. By confirming that the data meets the normality assumption, the validity and reliability of the statistical analysis are enhanced, leading to more accurate and dependable conclusions.

Figure 2. Histogram Regression Standardized Residual

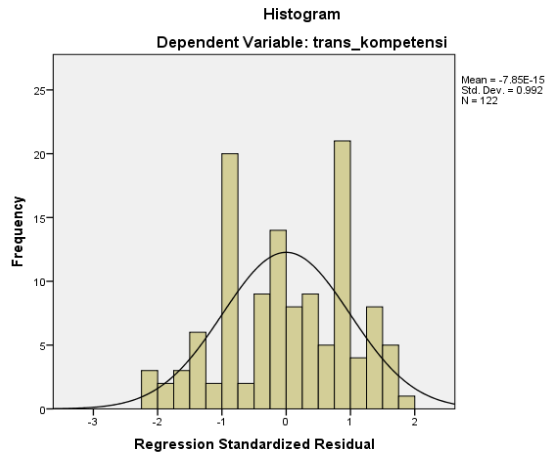
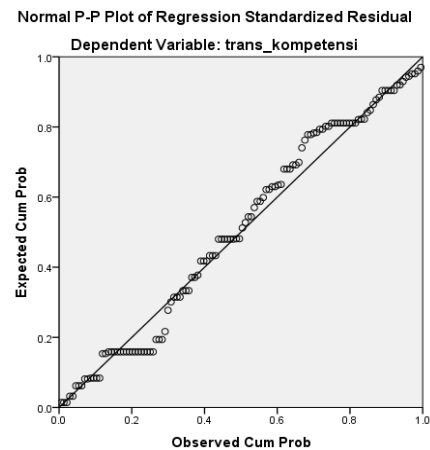


Figure 3. Normal P-Plot of Regression Standardized Residual Dependent Variable



The results of the multicollinearity test presented in Table 5 are crucial in ensuring that there is no excessively high linear relationship between the independent variables, specifically the education and field training variables, in the regression model. High multicollinearity can distort regression analysis results, leading to unstable regression coefficients and inaccurate model interpretation. In this context, two key indicators which are Tolerance and Variance Inflation Factor (VIF) are used to assess multicollinearity. The Tolerance values for both variables are 0.947, close to 1, indicating minimal correlation between the independent variables. Similarly, the VIF values for both variables are 1.056, well below the threshold of 10, confirming the absence of multicollinearity.

Table 5. Multi-Collinearity Test Results

Variable	Standardized Coefficients	Tolerance	VIF
Education (X1)	.327	.947	1.056
Field Training (X2)	.268	.947	1.056

The standardized beta coefficients indicate the extent of the influence each independent variable has on the dependent variable, in this case, employee competence. The beta value for the education variable (0.327) shows that education has a positive impact on improving employee competence, and the beta value for field training (0.268) also indicates that field training has a positive impact on improving employee competence.

Overall, the multicollinearity test results confirm that both education and field training can be used in the regression model without concerns about multicollinearity. This ensures that the regression analysis involving these variables will yield stable and reliable results in evaluating their impact on employee competency at PT. Kereta Api Indonesia (Persero) at the Divre III Palembang Office. These findings provide a solid foundation for further analysis, such as significance testing or multiple regression analysis, to gain a deeper understanding of how education and training influence employee competency.

4.1.5 Regression Analysis Tests Result

The data in Table 6 below presents the results of a multiple linear regression test conducted to assess the influence of independent variables, namely Education and Field Training, on the dependent variable, Employee Competence at PT. Kereta Api Indonesia (Persero) at the Divre III Palembang Office. This test aims to determine the extent to which education and field training impact the improvement of employee competence within the organization.

Table 6. Multiple Linear Regression

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	6.541	1.444		4.529	.000
Education (X1)	1.295	.330	.327	3.924	.000
Field Training (X2)	.286	.089	.268	3.225	.002

Note: a. Dependent Variable: TY

Based on the regression results, the constant (intercept) value of 6.541 indicates the baseline level of employee competence when the education and field training variables are zero. The coefficient for Education is 1.295, with a T-value of 3.924 and a significance level of 0.000. This means that education has a positive and significant influence on employee competence. Each one-unit increase in education will increase employee competence by 1.295 units, indicating that education is an important factor in the development of competence. Furthermore, the Field Training variable also shows a positive impact on employee competence, with a coefficient of 0.286, a T-value of 3.225, and a significance level of 0.002.

The T-test results show that the Education variable has a T-value of 3.924 with a significance level of 0.000. With this level of significance, it can be concluded that we reject the Null Hypothesis (Ho) and accept the Alternative Hypothesis (Ha). This means that there is a significant influence of education on employee competence. The unstandardized coefficient of 1.295 indicates that an increase in education positively contributes to the improvement of employee competence, suggesting that the education received by employees directly impacts their competence.

For the Field Training variable, the T-value obtained is 3.225 with a significance level of 0.002. This result also indicates that we reject the Null Hypothesis (Ho) and accept the Alternative Hypothesis (Ha), which means there is a significant influence of field training on employee competence. The unstandardized coefficient of 0.286 shows that field training has a positive impact on employee competence, although its effect is relatively smaller compared to education. These results emphasize the importance of the roles of education and field training in enhancing employee competence at PT. Kereta Api Indonesia (Persero).

4.1.6 ANOVA Test Results

The ANOVA Table 7 below presents the results of the simultaneous F-test to assess the combined effect of education and field training variables on employee competency. From the table, the calculated F-value is 16.678 with a significance value (Sig.) of 0.000. This indicates that the regression model used is statistically significant, meaning that there is a joint or simultaneous influence of the education and field training variables on employee competency. The high F-value suggests that the variability in the data explained by the regression model 18.839 is substantially greater than the variability unexplained by the model or error 67.211. Thus, this provides strong evidence that the factors of education and field training together

influence employee competency.

Table 7. ANOVAa Test Results

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.839	2	9.420	16.678	.000 ^b
	Residual	67.211	119	.565		
	Total	86.051	121			

a. Dependent Variable: TY

b. Predictors: (Constant), Employee Commitment, HR Competence

In the simultaneous F-test, the null hypothesis (H_0) states that there is no simultaneous influence of the independent variables (education and field training) on the dependent variable (employee competency). Conversely, the alternative hypothesis (H_a) asserts that independent variables have a simultaneous influence on the dependent variable. Based on the F-test results, where the significance value is 0.000 (less than 0.05), we reject the null hypothesis (H_0) and accept the alternative hypothesis (H_a). This means that education and field training have a significant simultaneous effect on employee competency.

In conclusion, these results indicate that the education and field training programs implemented by the company play an important role in enhancing employee competency. The significance of these results strengthens the argument that efforts to improve employee education and training can have a significant positive impact on their ability to perform work tasks. Therefore, company management should continue to develop and enhance more structured and relevant training and education programs to ensure continuous improvement in employee competency.

4.2 Discussions

After conducting several tests and data analyses and linking theories and previous research to outline the discussion, the researcher can obtain a scientific overview of the discussion.

4.2.1 The Influence of Education on Competence

The results obtained from Hypothesis 1, where H_0 states that there is no influence of education on employee competence, and H_a states that there is an influence of education on employee competence, show that the regression test results indicate that the coefficient of the education variable is 1.295 with a significance level of 0.000. Since this Sig. value is less than 0.05, the researcher rejects H_0 and accepts H_a . This is consistent with previous research by Asmara (2021), which provided similar results, showing that education has an impact on employee competence, with a value of 5.637 and a significance level of 0.000. It can be said that in the organizational commitment variable, the t-value is greater than the t-table or $5.637 > 2.042$, accompanied by a significance value less than 0.05 or $0.000 < 0.05$.

4.2.2 The Influence of Field Training on Competence

The data obtained from Hypothesis 2, where H_0 states that there is no influence of field training on employee competence, and H_a states that there is an influence of field training on employee competence, show that the regression results indicate that the coefficient for field training is 0.286 with a significance level of 0.002. The Sig. value, which is also less than 0.05, indicates that the researcher rejects H_0 and accepts H_a . This means there is a positive and significant influence of field training on employee competence. This is consistent with previous research by Barus et al., (2020) and Zuhendri & Henmaidi (2021), where the training variable partially

had a significant effect on the competence of agricultural extension workers, with a significance value of 0.000 or ($0.000 < 0.05$).

4.2.3 The Influence of Education and Field Training on Competence

For Hypothesis 3, the results show that H_0 states that there is no simultaneous influence of education and field training on employee competence, and H_a states that there is a simultaneous influence of education and field training on employee competence. The F-test results show that the calculated F-value is 16.678 with a significance level of 0.000. Since this Sig. value is less than 0.05, we reject H_0 and accept H_a . These results indicate that, simultaneously, education and field training have a significant influence on employee competence. These findings are consistent with research conducted by Barus et al., (2020), which indicates that the education and training variables can explain 49.1% of employee competence, while the remaining 49.1% can be explained by other factors not examined in this study. The ability of the dependent variable to explain the independent variables in this study is 21.9%, with 78.1% explained by other variables not examined in this study, such as work experience, personality characteristics, organizational culture, intellectual ability, and so on. The relationship interval in this study is categorized as low, with a range of 0.200 - 0.399.

5. Conclusion

To sum up, this study shows that both education and field training have a significant influence on employee competence, both individually and simultaneously. However, the direction of the influence of education differs from that of field training, indicating the complexity of how education and field training impact employee competence at PT. Kereta Api Indonesia (Persero) at the Divre III Palembang Office. This research is intended to serve as a reference for future studies, with the hope that more high-quality research can be presented. The following are some recommendations for the company:

1. The company should consider further evaluating job assignments, especially for employees who feel their work does not align with their educational background. By identifying and adjusting tasks to better match employees' education, the company can enhance job satisfaction and improve employee performance.
2. It is suggested that PT. Kereta Api Indonesia (Persero) at the Divre III Palembang Office further adjusts or differentiates the training materials to better meet the competency needs of each position. One approach could be conducting a more in-depth and specific training needs analysis for each position, ensuring the materials are more relevant and have a more significant impact on improving employee competence.
3. Strengthen training programs that focus on developing critical thinking and independent problem-solving skills. This could include simulations of complex situations that require quick and accurate decision-making, as well as providing greater recognition and rewards for the initiative and intelligence demonstrated by employees in the workplace. By doing so, employees will feel more valued and encouraged to continuously develop their competencies in various aspects of their work.
4. For future research, it is recommended to include additional variables that can provide a more comprehensive understanding of the factors influencing employee competence. Variables such as work experience, personality characteristics, organizational culture, and intellectual ability should be considered in the analysis.

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Assessing the Impact of Human Resource Competency and Employee Commitment on Performance at Urban Republic, a Member of the Erajaya Group, Palembang

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Abstract

Companies must innovate and improve employee performance in today's competitive business climate to maintain their market share. Urban Republic, a company headquartered in Palembang and part of the Erajaya Group, is the subject of this study, which examines the relationship between employee participation and HR competency and performance. Improving employee performance requires HR competency, including technical and non-technical skills, and employee commitment, characterized by loyalty and dedication. For Urban Republic to remain competitive, they must understand how these elements affect performance. This study aimed to assess the impact of employee commitment and HR competency on performance. Three sections of labor area heads, store leaders, and staff were given surveys as part of the quantitative approach. Multiple regression analysis was used to analyze the data, supported by validity, reliability, and classical assumption tests. The results showed that employee dedication showed almost significant significance, indicating a possible influence, while employee competence had a statistically significant impact on employee performance. Dedication and HR competency significantly impact performance when the two work together. This analysis emphasizes the importance of continuous HR development investment and the potential benefits of employee commitment. To reduce the risk of employee turnover, it is recommended that HR training programs be improved, employee recognition programs be strengthened, commitment issues be addressed, and staff well-being be monitored to avoid burnout. It is recommended that more research be conducted to examine the intricacies of employee dedication and how it impacts work outcomes. The study concluded that a balanced focus on HR competency and employee commitment is essential to optimize employee performance at Urban Republic.

Keywords: *Actionable Strategies, Employee Commitment, Employee Performance, Human Resources Competency.*

JEL Codes: *J10, K,12, M10*

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1. Introduction

Companies must innovate more and perform better in the current business climate if they want to be competitive in the global market. Employee performance is one of the key elements that determines a company's success. Employee dedication and human resource expertise are significant factors in this context that should be taken into account. Employee commitment relates to an employee's devotion, dedication, and motivation towards their organisation, whereas human resource competency refers to an employee's talents, skills, and knowledge to do their jobs effectively (Rohida et al., 2018a). This study aims to determine how employee dedication and human resource competency affect work performance at Urban Republic, an Erajaya Group company.

The capacity required of people to perform their jobs successfully and efficiently is known as human resource competency (Kusuma et al., 2016). This competency encompasses both non-technical abilities like leadership, teamwork, and communication in addition to technical abilities. Competency is a fundamental quality of a person that is closely linked to higher job performance, according to Rohida et al. (2018a). The study conducted by Schuler et al. (2002) is an example of human resource competency research, demonstrating a strong correlation between employee performance and competence across a range of industries.

On the other hand, employee commitment is the level of loyalty and dedication shown by employees towards their organization. Wood (1999) categorizes employee commitment into three components: affective commitment, continuance commitment, and normative commitment. Affective commitment refers to the emotional attachment employees have with the company, continuance commitment relates to the awareness of the costs associated with leaving the company, and normative commitment is the feeling of obligation to remain with the company. Research by Schuler et al. (2002b) shows that high employee commitment is associated with better performance and lower turnover rates.

Urban Republic, part of the Erajaya Group, operates in the electronics retail sector. Faced with intense competition in this industry, Urban Republic must have competent and highly committed employees. The Erajaya Group itself is known as one of the largest distributors and retailers of electronic products in Indonesia, making Urban Republic's success heavily dependent on its employees' performance.

The effect of employee dedication and human resource competency on work performance at Urban Republic will be investigated in this study. Work quality, work attitude, productivity, and target achievement will all be taken into account when evaluating an employee's performance. It is anticipated that the study's conclusions would offer guidance to Urban Republic management on how to create policies and training initiatives that will raise worker commitment and competency. The study by Chatzoglou et al. (2011), which examined the effect of staff competency and commitment on performance in the Greek banking sector, is one of the other pertinent case studies. The results of the study showed that both variables had a major impact on worker performance, which in turn enhanced organisational performance. Furthermore, Guest (2011) study in Jordan's hospitality industry demonstrated the beneficial effects of employee commitment and human resource competency on worker performance. The

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significance of ongoing training and development initiatives for enhancing dedication and expertise is shown by this study.

This study is significant because it pinpoints the precise areas of employee engagement and human resource competencies that require improvement in order to attain optimal performance within the Urban Republic environment. Through a better knowledge of these two aspects, Urban Republic may put more effective human resource management techniques into practice. To sum up, employee dedication and human resource expertise are significant variables that affect how well employees perform. This research offers valuable perspectives for Urban Republic and other businesses operating in related fields that want to enhance worker productivity by fostering greater proficiency and dedication.

2. Literature Review

2.1 Human Resource

An organization's human resources (HR), which includes the people who work there and help to achieve organisational objectives, are crucial (Guest, 2011). HR encompasses not just the amount of labour but also the calibre, aptitude, and potential of workers in accomplishing company objectives. Recruitment and selection, training and development, performance management, and remuneration are the key elements of human resources. The goal of recruitment and selection is to find people who are qualified for roles inside the organisation (Martín-Alcázar et al., 2008). In their research, Rohida et al. (2018) said that Human Resources competence has a significant positive influence on Employee Performance.

2.2 Employee Commitment

Employee commitment can be categorized into several dimensions, including affective commitment, continuance commitment, and normative commitment (Wartono, 2008). Affective commitment reflects employees' positive emotional attachment to the organization, motivating them to contribute maximally and feel personally invested in the organization's success. Continuance commitment relates to the perceived costs of leaving the organization, such as losing benefits or time investments (Sugiyono, 2019). The normative commitment represents a moral obligation or loyalty driven by personal values or social norms to remain with the organization. In their research, Kusuma et al. (2016) states that there is a positive and significant influence of HR competence and organizational commitment on employee performance.

2.3 Employee Performance

Employee performance is defined as the outcomes achieved over a specific period Fadhil (2011). It encompasses the accomplishments of an individual or group within an organization in completing their duties and responsibilities to achieve organizational goals, legally, morally, and ethically (Foster Curtis & Dreachslin, 2008). According to the Indonesian National Institute of Administration, employee performance is the achievement level in a job, program, or policy aligned with the company's goals, vision, and mission Ghozali, (2018). Performance reflects the results and behavior of an individual over a period, considering both quantity and quality while adhering to rules and ethical standards to fulfill the company's objectives. In his research, Ghozali (2018) explained that employee performance can be influenced by employee competence and organizational commitment together with an influence level of 39.8%.

3. Research Methodology

This research was conducted at the Urban Republic, a member of the Erajaya Group in Palembang, focusing on how employee competence and commitment affect employee performance. The study utilized quantitative data collected through questionnaires distributed online to the entire population of 30 employees, including area heads, store leaders, PICs, and staff members. The independent variable was Human Resources Competence (X1) and Employee Commitment (X2), while the dependent variable was Employee Performance (Y). The research employed several data collection techniques, including observation, interviews, questionnaires, and literature reviews. Observations provided direct insights, while interviews allowed for in-depth exploration of specific issues. Questionnaires, using a Likert scale, gathered structured responses on employee competence and commitment. Secondary data were sourced from journals, books, and online materials to supplement the primary data. Data analysis involved several steps. Validity and reliability tests were conducted with validity assessed through t-tests and reliability measured by Cronbach's Alpha. Descriptive statistics were used to summarize data distributions, while classical assumption tests, such as normality, multicollinearity, and heteroscedasticity, were performed to ensure the robustness of regression models. Finally, multiple regression analysis was employed to examine the relationships between competence, commitment, and performance, with hypothesis testing determining the significance of these relationships.

As for various research that has been carried out previously and based on a framework of thought, the author formulates the following hypothesis:

1. H1: It is suspected that Human Resource competence will have a partial effect on the employee performance at Urban Republic, a member of the Erajaya Group in Palembang.
2. H2: It is suspected that employee commitment will have a partial effect on the employee performance at Urban Republic, a member of the Erajaya Group in Palembang.
3. H3: It is suspected that Human Resource competence and employee commitment will have a simultaneous effect on the employee performance at Urban Republic, a member of the Erajaya Group in Palembang.

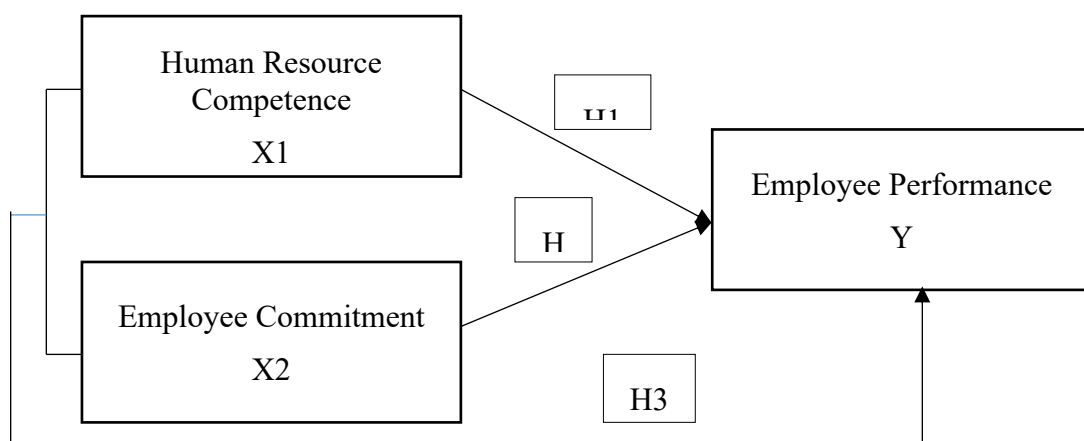


Figure 1. Research Framework
Source: Author data (2024)

4. Result and Discussion

4.1. Result

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4.1.1. General information of respondents

The study on the influence of Human Resource competence and employee commitment on employee performance at the Urban Republic, a member of the Erajaya Group in Palembang, reveals a balanced gender distribution among respondents. Table 1 shows that men constitute 43.3% of the total respondents, while women make up 45.7%. This nearly equal representation suggests an inclusive and non-discriminatory recruitment policy, reflecting a balanced gender involvement within the company. A diverse gender mix can enhance team dynamics, foster innovation, and bring various perspectives to problem-solving.

The majority of respondents are young, aged between 18-25 years, accounting for 74.1% of the total. Respondents aged 26-30 years make up 22.2%, while only 3.7% are over 31 years old. This age distribution indicates that Urban Republic primarily attracts younger employees, likely appealing to millennials and Generation Z. Younger employees are generally dynamic, energetic, and more adaptable to new technologies, which can benefit the company in addressing modern challenges and accelerating innovation. However, the company must address the challenge of retaining and motivating younger employees who may seek further growth opportunities.

Most respondents hold regular member positions, representing 86.21% of the total. This high percentage suggests that Urban Republic has many staff at the operational level, likely due to the company's need for direct involvement in daily operations. These roles involve routine tasks requiring efficiency and accuracy. The significant proportion highlights the importance of developing training and skill development programs to enhance operational performance, ultimately boosting productivity and efficiency.

In contrast, managerial and supervisory positions, such as Area Head, Store Leader, and PIC (Person in Charge), account for smaller percentages: 3.45%, 6.90%, and 3.45%, respectively. The lower percentage indicates a leaner hierarchical structure with a focus on execution rather than supervision. These positions are crucial for supporting the company's strategy and ensuring smooth operational tasks. Hence, HR competence at the managerial level is vital, as these roles involve guiding, motivating, and managing large teams primarily consisting of operational staff.

Table 1. General description of respondents

Variables	Unit	Percentage (%)
Gender	Male	43.3
	Female	45.7
Age	18-25 years	74.1
	26-30 years	22.2
	>31 years	3.7
Job Position	Area Head	3.45
	Store Leader	6.90
	PIC	3.45
	Member	86.21

Source: Results of field survey, (2024).

4.1.2. Descriptive Analysis of Customers about Human Resource Competence, Employee Performance, and Employee Commitment

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The data provided in Table 2 reflects the perceptions of employees at the Urban Republic, a member of the Erajaya Group in Palembang, regarding their skills, training, and the recognition they receive at work. A significant portion of respondents, 64.52%, strongly agree that the training they received improved their work skills, with an additional 29.03% agreeing, indicating a general consensus that the company's training programs are effective. In terms of skill adequacy, 61.29% of employees strongly agree they have the necessary skills to perform their jobs well, while 35.48% agree, showing confidence in their abilities. Furthermore, 67.74% of respondents strongly feel supported by the company in developing new skills, which suggests a strong emphasis on continuous professional development within the organization. Additionally, 61.29% of employees strongly agree that they are capable of completing their work efficiently and effectively, underscoring their confidence in applying these skills in practice. However, when it comes to recognition from superiors, only 35.48% of employees strongly feel their competencies are recognized and valued, and 45.16% agree, highlighting a potential area for improvement in acknowledging employee contributions. This data suggests that while the company excels in training and skill development, there may be a need to enhance recognition and appreciation of employee competencies to further boost morale and performance.

Table 2. Descriptive Analysis of Respondents' Answers to the HR Competence (X1) Variable

Nr	Question	STS (1)	TS (2)	N (3)	S (4)	SS (5)	Total (F)	Total (%)
1	Do you feel that the training you received improved your work skills?	1 3.23%	-	1 3.23%	9 29.03%	20 64.52%	31	100%
2	Do you feel you have the necessary skills to perform your job well?	-	-	1 3.23%	11 35.48%	19 61.29%	31	100%
3	Do you feel supported by the company in developing new skills?	-	-	1 3.23%	9 29.03%	21 67.74%	31	100%
4	Do you feel capable of completing your work efficiently and effectively?	-	-	2 6.45%	10 32.26%	19 61.29%	31	100%
5	Do you feel that your competencies are recognized and valued by your superiors?	1 3.23%	-	5 16.13%	14 45.16%	15 35.48%	31	100%

Source of data: *primary data processed (2024)*

The survey data in Table 3 provides insights into the emotional commitment and motivation levels of employees at the Urban Republic, part of the Erajaya Group in Palembang. When asked if they feel emotionally attached to the company, 51.61% of respondents were neutral, with 25.81% agreeing and 9.68% strongly agreeing, while 9.68% disagreed, suggesting a mixed level of emotional engagement among the workforce. In terms of motivation, 48.39% of employees strongly agree and another 48.39% agree that they are motivated to give their

best for the company, indicating a generally high level of motivation despite the varying emotional attachment.

When it comes to long-term commitment, 38.71% of respondents agree and 29.03% strongly agree that they plan to stay with the company for an extended period, while 25.81% remain neutral, and 6.45% disagree, reflecting a relatively positive outlook on job retention but also highlighting a segment that may be uncertain about their future with the company. Additionally, the willingness to sacrifice personal time for work shows that 41.94% of employees agree and 22.58% strongly agree, indicating a majority are willing to go beyond their work hours, although 35.48% are neutral on this matter.

Overall, the data suggests that while employees are motivated and generally committed to the company, there is variability in emotional attachment and long-term intentions, which could be areas for further exploration and development to enhance overall employee satisfaction and retention.

Table 3. Descriptive Analysis of Respondents' Answers to the Employee Competence (X1) Variable

Nr	Question	STS (1)	TS (2)	N (3)	S (4)	SS (5)	Total (F)	Total (%)
1	Do you feel emotionally attached to this company?	1 3.23%	3 9.68%	16 51.61%	8 25.81%	3 9.68%	31	100%
2	Do you feel motivated to give your best for this company?	-	-	1 3.23%	15 48.39%	15 48.39%	31	100%
3	Do you plan to stay with this company for a long time?	-	2 6.45%	8 25.81%	12 38.71%	9 29.03%	31	100%
4	Do you plan to stay with this company for a long time?	-	-	8 25.81%	14 45.16%	9 29.03%	31	100%
5	Are you willing to sacrifice your personal time to complete work?	-	-	11 35.48%	13 41.94%	7 22.58%	31	100%

Source of data: primary data processed (2024)

The data in Table 4 presents the perceptions of employees at Urban Republic, part of the Erajaya Group in Palembang, regarding their work performance, impact, and recognition within the company. The majority of respondents, 58.06%, agree that they always achieve their work targets, with 29.03% strongly agreeing, indicating a high level of confidence in meeting expectations. Similarly, 61.29% agree that their work has a positive impact on the department or company, with 29.03% strongly agreeing, suggesting a strong sense of contribution among employees.

When it comes to feedback from supervisors, 54.84% agree that it helps improve their performance, with 29.03% strongly agreeing, demonstrating that feedback is generally seen as beneficial. Regarding daily productivity, 58.06% of employees agree that they work with high productivity every day, and 29.03% strongly agree, which underscores a strong work ethic.

However, when it comes to feeling appreciated by the team and management, the responses are more varied. While 51.61% of employees agree that their contributions are appreciated, only 32.26% strongly agree, and 3.23% disagree. This indicates that while many employees feel valued, there is still a significant portion who may not feel adequately recognized, suggesting an area for potential improvement in employee appreciation and recognition practices.

Table 4. Descriptive Analysis of Respondents' Answers to the Employee Performance (X1) Variable

Nr	Question	STS (1)	TS (2)	N (3)	S (4)	SS (5)	Total (F)	Total (%)
1	Do you feel that you always achieve your work targets?			4 12.90%	18 58.06%	9 29.03	31	100%
2	Do you feel that your work has a positive impact on the department or company?			3 9.68%	19 61.29%	9 29.03%	31	100%
3	Do you feel that feedback from your supervisor helps improve your performance?			5 16.13	17 54.84	9 29.03	31	100%
4	Do you feel that you work with high productivity every day?			4 12.90	18 58.06	9 29.03	31	100%
5	Do you feel that your contributions are appreciated by the team and management?	1 3.23		4 12.90	16 51.61	10 32.26	31	100%

Source of data: primary data processed (2024)

4.1.3. Reliability, Normality, and Multi-Collinearity Test

a. Reliability Test

The table provides reliability and validity measures for three variables: HR Competence (X1), Employee Commitment (X2), and Employee Performance (Y). Cronbach's Alpha is used to assess the internal consistency or reliability of a set of scale or test items (Yam & Taufik, 2021). In this case, all three variables have Cronbach's Alpha values above 0.6, indicating that they are reliable according to the standard threshold of 0.6. The data also confirms that these variables are valid, meaning they accurately measure what they are intended to measure.

Cronbach's Alpha is a widely used measure of reliability in social science research (Pallant, 2022). A Cronbach's Alpha value above 0.6 is generally considered acceptable, indicating that the items within each variable are sufficiently correlated to be considered reliable. Reliability refers to the consistency of a measure; a reliable measure produces similar results under consistent conditions. Validity, on the other hand, refers to the accuracy of the measure—

whether it truly reflects the concept it is intended to measure.

The reliability analysis of the variables HR Competence (X1), Employee Commitment (X2), and Employee Performance (Y) shows that the instruments used to measure these variables are consistent and reliable, with Cronbach's Alpha values above the acceptable threshold of 0.6. This indicates that the results of the study are credible because the data gathered for these variables typically yield consistent results. Furthermore, because these variables are likewise regarded as valid, the study's conclusions about the influence of HR competency and employee commitment on employee performance are supported by the fact that they accurately capture the constructs that these variables are meant to evaluate.

Table 5. Reliability and Validity Test of Variables X1, X2, and X3

Variable	Cronbach's Alpha	Standard	Description
HR Competence (X1)	0,608	0,6	reliable Valid
Employee Commitment (X2)	0,658	0,6	reliable Valid
Employee Performance (Y)	0,660	0,6	reliable Valid

Sources: Data Processing

b. Normality and Multi-Collinearity Test

The statement discusses the results of the One-Sample Kolmogorov-Smirnov Test conducted to assess the normality of the unstandardized residual distribution in a regression analysis (Pallant, 2022), data provided in Table 6. The test was performed with 31 samples, showing a mean of 0.0000000 and a standard deviation of 1.64931622, indicating that the residuals do not significantly deviate from zero, which is a positive sign for normality. The most extreme differences were recorded at 0.129 (positive) and -0.119 (negative), with a test statistic of 0.129. The Asymp. Sig. (2-tailed) value was 0.200, greater than the 0.05 threshold, suggesting that the null hypothesis of normal distribution for residuals should not be rejected. The normality of the residuals in Figure 2 confirms that the regression model used in the study meets one of the classical assumptions, ensuring that the regression analysis results are reliable and valid. Consequently, the conclusions drawn about the impact of HR competence and employee commitment on employee performance are sound and can be confidently used for managerial decision-making aimed at enhancing employee performance.

Table 6. Normality Test Results

		Unstandardized Residual
N		31
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	1.64931622
Most Extreme Differences	Absolute	.129
	Positive	.129
	Negative	-.119
Test Statistic		.129
Asymp. Sig. (2-tailed)		.200 ^{c,d}

Note: a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

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

Sources: Data Processing

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When analysing a regression standardized residual plot in Figure 3, it is crucial to check if the residuals are randomly dispersed without showing any systematic patterns. Residuals that are evenly spread around zero indicate that the normality assumption is met. However, if the residuals exhibit specific patterns or are concentrated in certain areas, it may suggest issues with the normality assumption or the presence of outliers affecting the model.

In a Normal P-plot, if the residual points align along the diagonal line, it indicates that the residuals are normally distributed. Deviations from this diagonal, especially at the extremes of the distribution, suggest that the data may not fully adhere to a normal distribution. Such deviations are important to note as they can impact the regression analysis and the validity of the model. If significant deviations are observed, data transformation or considering an alternative model may be necessary to improve model fit.

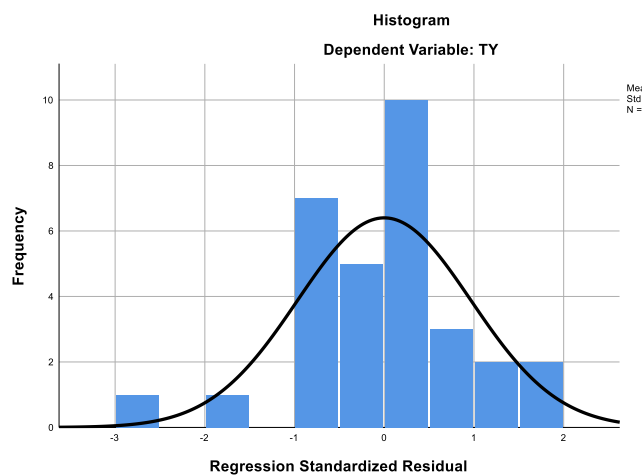


Figure 2. Histogram Regression Standardized Residual

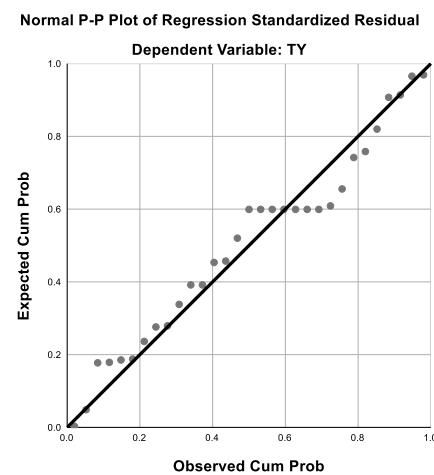


Figure 3. Normal P-Plot of Regression Standardized Residual Dependent Variable

Sources: Data Processing

In regression analysis, multicollinearity is defined as two or more independent variables having a very high linear relationship (Table 7). This condition can result in unstable regression results and inaccurate interpretation. To achieve reliable regression analysis results, it is crucial to verify for multicollinearity in the research of the relationship between HR competency and employee commitment and employee performance at Urban Republic, Erajaya Group Palembang. To evaluate multicollinearity, the methodology employs the Variance Inflation Factor (VIF) and Tolerance. There are no significant multicollinearity issues, as indicated by the tolerance values of 0.983 and X2 for HR Competency (X1) and Employee Commitment (X2). This suggests that each independent variable contributes uniquely to the model as the majority of its variability is not explained by the other.

Furthermore, both variables' VIF values are 1.018, which is very near to 1, indicating that there is no discernible multicollinearity. Values near to 1 suggest little correlation between the independent variables, whereas values below 10 indicate little discernible variance inflation. The analysis as a whole finds no evidence of a significant multicollinearity between employee commitment and HR competency. Because of this, researchers may confidently utilise these

variables in regression analysis to assess how they affect employee performance without having to worry about erroneous interpretations or unstable coefficient values.

Table 7. Multi-Collinearity Test Results

Variable	Tolerance	VIF
HR Competence (X1)	0.983	1.018
Employee Commitment (X2)	0.983	1.018

Sources: Data Processing

4.1.4. Regression Analysis

A statistical analysis method called multiple linear regression testing is used to determine how many independent variables have an impact on a single dependent variable (Pallant, 2022). Employee performance (employees) is the dependent variable in this study, and employee commitment and human resource competency (HR) are the independent variables. This test seeks to ascertain the relative contributions of each independent variable to the dependent variable as well as the significance of the relationship.

The regression equation that was derived is $TY = 4.729 + 0.529 (\text{HR Competence}) + 0.243 (\text{Employee Commitment})$, according to the findings of the multiple linear regression test. The constant value of 4.729 means that the expected employee performance is 4.729 when employee commitment and HR competence are both zero. The regression coefficient for HR Competence is 0.529, which means that, assuming all other variables stay constant, Employee Performance should rise by 0.529 units for every unit increase in HR Competence. Similarly, the regression coefficient for employee commitment is 0.243, meaning that, under the assumption that all other variables stay constant, employee performance should rise by 0.243 units for every unit increase in employee commitment. Table 8 provides more details.

Table 8. Multiple Linear Regression

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	4.729	3.557		1.329	.194
HR Competence (X1)	.529	.133	.569	3.971	.000
Employee Commitment (X2)	.243	.130	.269	1.879	.071

Note: a. Dependent Variable: TY

Sources: Data Processing

The partial T-test is used to assess the significance of each regression coefficient in a multiple linear regression model (Vini Tri Susanti & Rusman Frendika, 2022). According to Table 8, the t-value for Human Resource Competence (HR Competence) is 3.971 with a significance (Sig.) of 0.000. This value is much smaller than 0.05, indicating that the regression coefficient for HR Competence is statistically significant. This means that HR Competence significantly impacts Employee Performance at a 95% confidence level. In other words, the results suggest that improvements in HR Competence will significantly enhance employee performance at Urban Republic, a member of Erajaya Group Palembang. The company's management needs

to focus on developing HR Competence to boost overall employee performance.

The table also shows that the t-value for Employee Commitment is 1.879 with a significance (Sig.) of 0.071. This significant value is greater than 0.05, meaning that the regression coefficient for Employee Commitment is not statistically significant. Thus, at a 95% confidence level, there is not enough evidence to state that Employee Commitment has a significant impact on Employee Performance. However, the significance value of 0.071 is close to the 0.05 threshold, suggesting that there might be a near-significant effect. Therefore, although not significant at the 95% level, management should still consider the importance of employee commitment in a broader context and may conduct further research or use a more lenient significance level to examine its impact. In this study, HR Competence has been shown to have a significant effect on employee performance, whereas Employee Commitment does not exhibit statistically significant effects at the 95% confidence level. Management at Urban Republic, a member of Erajaya Group Palembang, should prioritize the development of HR Competence as a key factor in improving employee performance.

However, the results also indicate that Employee Commitment is close to being significant, suggesting it may still be an important factor to consider. Therefore, in addition to focusing on improving HR Competence, the company should also continue to support and enhance employee commitment to achieve optimal performance. Further research could investigate the role of Employee Commitment in the long term. For the Anova test results are shown in Table 9.

Table 9. ANOVAa Test Results

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63.102	2	31.551	10.825	.000 ^b
	Residual	81.607	28	2.915		
	Total	144.710	30			

a. Dependent Variable: TY

b. Predictors: (Constant), Employee Commitment, HR Competence

Sources: Data Processing

The simultaneous test, or F-test, in regression analysis, determines whether all independent variables significantly affect the dependent variable Schuler et al., (2002). In this study, the dependent variable is Employee Performance (TY), while the independent variables are Human Resource Competence (HR Competence) and Employee Commitment. Based on Table 4.9 ANOVA provided, the F-value from the simultaneous test is 10.825 with a significance (Sig.) of 0.000. The F-value of 10.825 indicates that the regression model used is a good fit in explaining the variation in Employee Performance (TY) based on HR Competence and Employee Commitment. This high F-value suggests that at least one of the independent variables significantly affects the dependent variable. This is supported by the very small significance value (Sig. = 0.000), which is well below the critical threshold of 0.05, indicating that the null hypothesis, which states that there is no significant effect of the independent variables on the dependent variable, can be rejected.

The significance value (Sig.) of 0.000 indicates that the probability of obtaining the results if there were no effects of HR Competence and Employee Commitment on Employee Performance is very low. In other words, we can conclude with a very high level of confidence that HR Competence and Employee Commitment together have a significant impact on

Employee Performance. This means that improvements in HR Competence and Employee Commitment are likely to enhance employee performance at Urban Republic, a member of Erajaya Group, Palembang.

The results of this simultaneous test have important implications for the management of Urban Republic, Member of Erajaya Group, Palembang. Management can focus on improving HR Competence through training and development, as well as increasing Employee Commitment through various motivation and engagement strategies. Knowing that these two variables significantly affect Employee Performance, the company can design more effective policies to improve overall productivity and performance. Additionally, this study provides a solid foundation for further research to explore other factors that may affect employee performance in this company.

4.2. Discussion

Descriptive Analysis of Human Resource Competence (X1) tell that the majority of employees view the training and support received positively, with 64.5% agreeing and 29% strongly agreeing that the training improved their work skills. Similarly, 67.7% strongly agree and 29% agree that the company supports the development of new skills, reflecting the company's commitment to empowering employees. Recognition of employee competence also plays a significant role in motivation and performance, with 48.4% strongly agreeing and 45.2% agreeing that their competencies are valued.

Then, descriptive Analysis of Employee Commitment (X2) shows that the survey indicates that 77.4% of employees feel emotionally attached to the company, suggesting a strong positive bond. Motivation is high, with 96.8% agreeing or strongly agreeing that they are motivated to perform well. However, 25.8% are neutral or disagree regarding their long-term commitment, pointing to potential turnover risks. Additionally, 64.5% agree or strongly agree to sacrifice personal time for work, which, while showing dedication, could also signal potential burnout if not managed properly.

Descriptive Analysis of Employee Performance (Y) in this research shows that most employees feel they consistently meet work targets, with 58.1% agreeing and 29% strongly agreeing. They also believe their work positively impacts the department or company, with 61.3% agreeing and 29% strongly agreeing. Feedback from superiors is deemed helpful by 54.8% and 29% strongly agree. Nonetheless, recognition from the team and management could be improved, as only 51.6% feel appreciated, and 32.3% feel very appreciated.

After that, the reliability tests indicate that all variables (Human Resource Competence, Employee Commitment, and Employee Performance) have Cronbach's Alpha values above 0.6, demonstrating that the instruments used are reliable. Furthermore, all variables are valid, indicating accurate measurement of the intended constructs. The Kolmogorov-Smirnov test shows that residual data follow a normal distribution, with a significance value of 0.200, exceeding the 0.05 threshold, thereby meeting the normality assumption. The multicollinearity tests show tolerance and VIF values close to 1, indicating no significant multicollinearity issues among the independent variables, ensuring their unique contribution to the regression model. The multiple linear regression results show that Human Resource Competence has a significant impact on employee performance with a t-value of 3.971 and a significance of 0.000. This suggests that improvements in Human Resource Competence will significantly enhance employee performance. In contrast, Employee Commitment does not show a significant impact

at the 95% confidence level, with a t-value of 1.879 and a significance of 0.071, though the value is close to the 0.05 threshold, indicating a potential near-significant effect that warrants further research. The F-test results in a value of 10.825 with a significance of 0.000, demonstrating that both Human Resource Competence and Employee Commitment together significantly influence Employee Performance. This indicates that while Employee Commitment alone may not be statistically significant, when combined with Human Resource Competence, both variables collectively have a significant impact on employee performance. To add more, the hypothesis testing results are explained in the next paragraph.

1. **Hypothesis 1 (H1):** Human Resource Competence significantly affects employee performance. The significant result supports H1. The analysis results confirmed this hypothesis, indicating that employees with higher competence are more likely to perform better. This significant relationship highlights the importance of investing in human resource development, as enhancing employee skills and abilities directly contributes to improved performance. Companies like Urban Republic can benefit from continuing to prioritize training and development programs to maintain high levels of competence among their employees.
2. **Hypothesis 2 (H2):** The second hypothesis (H2) suggested that Employee Commitment might not have a significant impact on employee performance at a 95% confidence level. The statistical analysis supported this, leading to the rejection of H2. Despite this, the results showed that the level of significance for Employee Commitment was close to the threshold for being considered significant. This near-significance suggests that while the current data does not provide strong evidence for a direct impact of commitment on performance, there may be underlying factors that require further exploration. It might be valuable for future research to delve deeper into how employee commitment influences performance, possibly by considering different contexts, and time frames, or using a more sensitive measurement approach.
3. **Hypothesis 3 (H3):** Both Human Resource Competence and Employee Commitment together significantly affect employee performance, supporting H3. The study's findings show that these two factors significantly affect employee performance when taken into account jointly. This result bolsters H3, which contends that while employee commitment by itself might not have a statistically significant impact, when paired with the Human Resources Committee, it has a major influence on performance results. This implies that in order to optimise staff performance, a comprehensive strategy that cultivates competence and dedication is necessary. Management at Urban Republic may want to take into account tactics like offering chances for professional development, fostering a supportive work environment, and recognising employee achievements in order to simultaneously improve employee abilities and cultivate a strong sense of commitment. The business may maximise employee performance and improve overall outcomes by addressing both factors.

5. Conclusion

To sum up, this study emphasises how critical it is to concentrate on HR competency in order to raise employee performance at Urban Republic. Employee commitment does not statistically significantly affect anything, but its nearly significant importance suggests that it may be useful and merits more research. The need for management to strike a balance between the two in order to enhance overall worker performance is also highlighted by this study. The following

list of recommendations, which are based on the aforementioned circumstances, can be implemented by the company:

1. **Enhance HR Competence Programs:** Continue to invest in training and skill development programs as they have a proven positive impact on employee performance. Regularly update and tailor training programs to ensure they meet the evolving needs of employees.
2. **Improve Employee Recognition:** Develop and implement more robust recognition and reward systems to ensure employees feel valued. Regular feedback and appreciation from both peers and management can further enhance motivation and performance.
3. **Address Commitment Concerns:** While Employee Commitment shows potential, the risk of turnover suggests the need for further investigation and action. Consider implementing strategies to improve long-term commitment, such as career development opportunities and better work-life balance initiatives.
4. **Monitor Employee Well-Being:** Given the high levels of willingness to sacrifice personal time for work, it's crucial to monitor and address potential burnout. Implement measures to support employee well-being, such as flexible working arrangements and mental health resources.
5. **Further Research:** Conduct additional studies to explore the nuances of Employee Commitment and its impact on performance. This could involve qualitative research or other factors influencing commitment and performance.

Urban Republic can enhance its overall employee performance and create a more supportive and productive work environment by focusing on these areas.

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Formulation of Business Development Strategy Through SWOT Approach and Business Model Canvas (Case Study on MSMEs in Padamulya Village)

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Abstract

This study highlights the important role of micro, small, and medium enterprises (MSMEs) in the local and national economy, especially in developing countries. It focuses on Padamulya Village in Pasirwangi District, Garut Regency. MSMEs in this village are the driving force of the regional economy through their ability to create jobs and adapt to technological changes. This study uses a qualitative approach to analyze MSME development strategies in Padamulya through SWOT analysis and Business Model Canvas (BMC). The purpose of the study is to identify the challenges faced by MSMEs, including limited capital, technology, and market access, and to formulate effective development strategies in the era of globalization. The study results indicate that MSMEs in Padamulya are in a growth phase focusing on increasing short- and medium-term profitability and product and technology innovation. Through product diversification, quality improvement, and the development of distribution channels, MSMEs in this village can strengthen their competitiveness in domestic and international markets. This study guides policymakers and MSME actors in optimizing local potential and strengthening the regional economy. It also underscores the need for further studies on implementing BMC in other MSMEs, highlighting the importance of continuous learning and improvement in the field of business development.

Keywords: UMKM, SWOT, Business Model Canvas, Economic Development, Padamulya Village.

JEL Codes: M20, M21

How To Cite

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1. Introduction

Micro, Small and Medium Enterprises (MSMEs) play a major role in improving the local and national economy, making them a major driving factor in economic development. Small and medium cooperatives (MSMEs) have led to economic growth and employment, especially in developing countries. MSMEs can produce a productive and innovative workforce, have a strong sensitivity to technological changes, and have advantages over large businesses in terms of flexibility.

To optimize the involvement of MSMEs in economic development, people who have potential in their areas, both from natural resources and other potentials, must be enthusiastic about utilizing and mobilizing all their abilities to develop the area's potential so that the potential can be converted into economic value that can meet their living needs. There is local potential that can become superior products in each region. This can be an important source of income for the community.

A good process is needed to develop MSMEs optimally to lead a nation towards prosperity. It is hoped that MSMEs will continue to develop to be able to create jobs and utilize local potential optimally, so that they can contribute to the regional and national economy. However, the current potential is not balanced with the challenges faced by MSMEs. Some of the problems often faced by MSMEs include limited capital, technological problems, lack of market information, weak business networks, an unfavorable business climate, and lack of facilities and infrastructure. This imbalance will cause MSME productivity to be low. Currently, the current of competition in the globalization era requires MSMEs to be able to face global challenges. As a result, MSMEs must continue to innovate in developing products, improving human resources and technology, and expanding their business networks (Lestari & Muttaqin, 2023). This is done to eliminate factors that make it difficult for MSMEs to develop their businesses.

One of them is Padamulya Village, Padamulya is a village located in the Pasirwangi sub-district, Garut Regency, West Java Province, Indonesia. This village makes the trade sector one of the mainstays of the community's economy, with the existence of MSMEs that have great potential as drivers of the regional economy in Padamulya Village. In addition, the Padamulya Village government helps build the village economy and its own community. To achieve this goal, a business unit called BUMDes (Village-Owned Enterprise) was established and is currently running well. BUMDes Padamulya Village runs several business units, including: fruit and vegetable farming, making paving blocks, processing plastic waste, and so on. By running this business unit, BUMDes Padamulya Village has the opportunity to empower the surrounding community.

For example, in the development of fruit and vegetable farming businesses, there are still many Padamulya MSME actors who have problems, both internally and externally. The marketing flow of fruits and vegetables in Padamulya MSMEs starts from the production stage, where fruit and vegetable plants are planted and maintained properly. After harvest, the products are

then packaged according to the standards and quality set by Padamulya MSMEs. Furthermore, the fruit and vegetable products are distributed to traditional markets such as Samarang Market, Ciawitali Market, and Guntur Market, Garut Regency. In these markets, Padamulya products will be sold to retailers or traders who will then sell them to end consumers. In this marketing flow, several problems may occur, including Padamulya MSMEs facing limitations in distribution channels, especially in reaching a wider market outside traditional markets. This can hinder their sales potential and limit access to new consumers. Then Padamulya MSMEs are too dependent on traditional market retailers as their main sales channel. This can make them vulnerable to price fluctuations and competition at the retailer level, as well as reduce control over the selling price of their products. In addition, the lack of effective promotion and marketing can hinder Padamulya MSMEs' efforts to increase consumer awareness of their products. This can lead to low sales and difficulty competing with competitors in the market (Lestari & Muttaqin, 2022).

To overcome these problems, Padamulya MSMEs need to make improvements in distribution strategies, improve product quality, diversify marketing channels, and invest in promotion and branding. Based on the problems that exist in Padamulya MSMEs, it is an interesting thing to study because this business is the mainstay of the economic sector of the Padamulya community. In order for MSMEs to be able to contribute to the regional and national economy, efforts are needed to identify and overcome the obstacles faced by MSME actors, both solutions from related agencies or ministries, solutions from the local village government and solutions from the MSMEs themselves and solutions to develop MSMEs in Padamulya in the era of globalization.

2. Literature Review

2.1 Corporate Strategy

Strategy is a series of integrated and coordinated commitments and actions, designed to exploit core competencies and achieve competitive advantage. (Muttaqin, 2020). In choosing a strategy, a company makes decisions from various alternatives to determine the path to strategic competitiveness. The approach chosen reflects what the company will do and not do (Yanto et al., 2021).

According to Porter (in David et al., 2020), three generic strategies can be applied by companies in various industries to gain competitive advantage, namely:

Cost Leadership: This strategy focuses on achieving the lowest costs compared to other companies in the industry. Cost advantages can be obtained through economies of scale, the application of efficient production technology, or access to more profitable raw materials.

Differentiation: In this strategy, the company tries to create uniqueness in certain dimensions of the product that consumers consider valuable. This uniqueness meets consumer needs with attributes that are considered important by buyers in the industry.

Focus: The company chooses one or several market segments to develop with a strategy that is different from competitors with wider market coverage. By optimizing this strategy, the company can gain a competitive advantage in certain market segments, although not overall in the industry.

A. SWOT Analysis

SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis is the process of assessing the strengths, weaknesses, opportunities, and threats within an organization. Boseman (in Yusuf et al., 2013) states that SWOT analysis is a method for assessing strengths, weaknesses, opportunities, and threats in the business world. According to Jogiyanto (in Widharta, 2013), SWOT analysis helps organizations exploit strengths and opportunities and address weaknesses and threats.

B. Internal Environmental Analysis

A company is an open system that is influenced by and affects its internal and external environment. According to Osterwalder, A.; Pigneur, 2017, A good understanding of the business environment helps create a stronger and more competitive business model. The internal environment includes variables such as the organization's structure, culture, and resources that influence the formulation of the company's mission and goals (Wheelen, Thomas L. & Hunger, 2012).

C. External Environment Analysis

The external environment is everything outside the boundaries of the organization that can affect the sustainability of the company. The external environment can be a threat or an opportunity that can be exploited to gain profit (Griffin, R W., & Ebert, 2006). According to (David et al., 2020), External environmental analysis considers economic, social, cultural, demographic, environmental, political, legal, technological, and competitive factors that may affect the organization in the future.

D. IE (Internal-External) Matrix

The IE Matrix is a strategic management tool that combines analysis of internal and external business factors to determine the strategic position of a business. It plots the scores from the EFE and IFE matrices on the Y and X axes, respectively, to determine the position of various divisions within an organization (David et al., 2020). The IE Matrix identifies major strategies based on a division's position in nine strategy cells, such as grow and build, sustain, or harvest and divest (Rangkuti, 2015).

E. SWOT Matrix

The SWOT matrix is used to organize a company's strategic factors by describing how external opportunities and threats can be matched with internal strengths and weaknesses. Strategies resulting from the SWOT matrix include:

SO strategies: Leveraging strengths to take advantage of opportunities.

ST strategies: Using strengths to avoid threats.

WO strategies: Overcoming weaknesses by taking advantage of opportunities.

WT strategies: Minimizing weaknesses and avoiding threats.

2.2 Business Model

A business model is a framework for thinking about how an organization creates, delivers, and captures value. (Osterwalder, A.; Pigneur, 2017) A business model is a model that describes the rationale for how an organization captures, delivers, and creates value. (Viljakainen et al., 2013) Adding that the business model includes interrelated strategic decisions in business strategy,

architecture, and economics to create competitive advantage. The following are 9 blocks of the Business Model Canvas, including:

Business Model Canvas (BMC) is a strategy tool used to describe and illustrate a business model with nine key elements (Osterwalder, A.; Pigneur, 2017). The nine elements are:

1. Customer Segments: identify the parties who use the service or product.
2. Value Propositions, a unique offering that meets customer needs.
3. Channels: How an organization communicates and delivers its value proposition to customers.
4. Customer Relationships: Types of relationships it has with customers, such as acquisition, retention, upsells.
5. Revenue Streams: Sources of revenue received from customers, such as asset sales, usage fees, subscriptions, rent, licenses, intermediary fees, advertising, and donations.
6. Key Resources: Resources required to run the business model, such as facilities, intellectual, human, financial, and technological resources.
7. Key Activities: Key activities that must be performed to add value, such as production, problem solving, and platforms.
8. Key Partnerships: Strategic partners that help operate the business model, such as strategic alliances, coopetition, joint ventures, and buyer-supplier relationships.
9. Cost Structure: Cost components involved in running the business model, including cost-driven and value-driven.

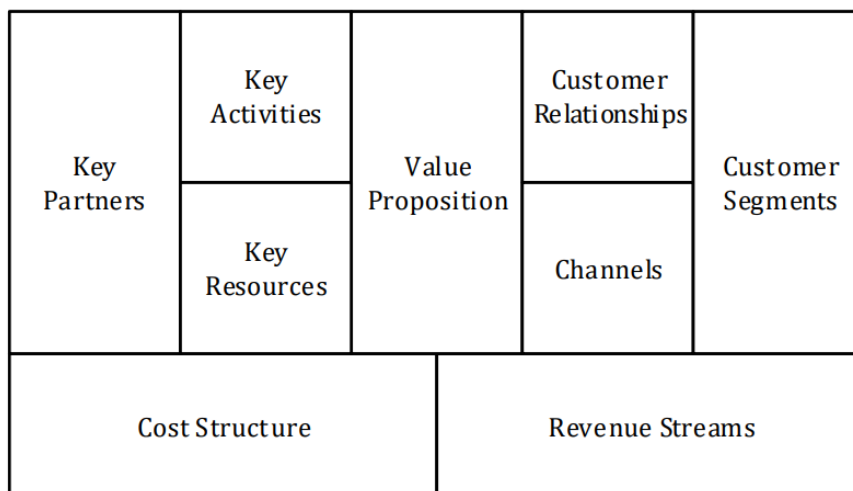


Figure 1 Business Model Canvas

3. Research Method

3.1 Research Approach and Design

This study uses a qualitative approach with a descriptive analytical design. This approach aims to investigate the condition of the object naturally with the researcher as the main instrument (Sugiyono, 2021). The research was conducted at UMKM Padamulya, a village in Pasirwangi District, Garut Regency, West Java Province, from February 2024 to June 2024, with purposive location selection.

3.2 Data collection

Published by:

The data consists of primary and secondary data: Primary Data was collected through interviews with MSME owners to answer the problem formulation and identify the Business Model Canvas (BMC) and SWOT analysis. While Secondary Data was obtained from documents, archives, social media, websites, and related literature.

3.3 Data collection technique

Interviews: Conducted with owners, employees, and consumers of Padamulya UMKM to obtain in-depth data.

Observation: Direct observation of the research object to obtain detailed data on activities and events.

Documentation: Collecting notes, pictures, and related documents to support data from interviews and observations.

3.4 Data Analysis Techniques

Data analysis follows the Miles and Huberman (1984) model, which includes:

Data Reduction: Summarizing and focusing data on important things.

Data Presentation: Presenting data in the form of narrative descriptions supported by documents and images.

Conclusion Drawing: Continuous verification of findings throughout the research process to ensure accuracy.

3.5 Validity of Data

Several data validation techniques were used, including:

Observation Diligence: Ensuring consistency in data interpretation.

Triangulation: Checking data from multiple sources, methods, and time periods to ensure validity.

Reference Material: Supporting data with evidence such as interview recordings and photographs.

Member Check: Verifying data with the data provider to ensure accuracy.

4. Findings and Discussions

For the preparation of strategies using SWOT analysis, the internal environmental data will be analyzed, which is the environment within Padamulya UMKM which is very influential and determines the strategic planning that will be formulated, and external environmental data are factors that are beyond the control of the company's environment. External factors greatly influence the condition of the company both directly and indirectly, therefore external conditions must be considered in determining business strategies in developing market mixes.

Internal Factor Analysis (VRIO Analysis)

The Value, Rarity, Imitability, and Organization (VRIO) framework is compiled with a number of questions regarding the business activities of Padamulya MSMEs, namely regarding values, rarity, imitability (possibility of imitation) and organization. (Muttaqin et al., 2023). All answers will determine whether a resource or capability possessed by the Group is a strength or a

weakness. (Barney, 1991).

A. Strengths

1. Has 102.51 Ha of plantation land area
2. Padamulya UMKM currently has 102.51 Ha of plantation land area, which is a good potential for the Group's future development.
3. Availability of land and suitable agroclimate, especially the development of fruit and vegetable plantations.
4. Because it is at an altitude of 1244.58 meters above sea level which is very suitable for planting fruit and vegetable plantations.
5. Farmers' enthusiasm in developing Agribusiness
6. Seeing the fighting spirit of farmers in developing Agribusiness is the basic capital to change the paradigm of fruit and vegetable farmers.
7. Farming experience
8. For a long time engaged in vegetable plantations and has been a source of family income since several generations above them. This knowledge is the basis for farmers to learn farming.
9. The location of the Padamulya UMKM Group is very strategic.
10. Because it is not far from the center of Bandung City, which is around 10 - 15 km from the center of Garut.

B. Weaknesses

1. Low quality of fruits & vegetables
Lack of understanding of maintenance Plant management methods, including selection of appropriate varieties, proper fertilization, effective pest and disease control, and sufficient irrigation, greatly affect the quality of the harvest, making the quality of fruits and vegetables still relatively low.
2. Application of technology (agronomy, post-harvest and processing) which is still very limited
Padamulya MSMEs do not yet understand the fields of education and technology, because all processing processes are still manual.
3. Limited or weak farmer institutions in a position to seize the market (bargaining position).
The absence of optimal strategic partnerships from each stakeholder ranging from farmer groups, traders, exporters, research institutions, and the government.
4. Use of traditional equipment
Padamulya MSME Farmer Groups still use traditional equipment. This is influenced by several factors such as the high price of agricultural equipment that already utilizes current technology.
5. Access to business capital is still low
Limited capital in farming is a classic problem in almost all agricultural areas, especially fruit and vegetable farming. With limited capital, it is very difficult for farmers to manage their farming businesses, let alone to increase their agricultural land. According to farmers, this is because the results of fruit and vegetable farming are often only

enough to meet the needs of the family so that there is not enough left for efforts to increase fruit and vegetable farming results.

6. Managerial ability / Strategic planning process

The current managerial system still needs to be updated regarding the dissemination of information regarding the group's targets and objectives which are still centralized so that they have not been evenly distributed to all members. Strategic planning is an important internal factor to consider in planning and decision making. Information regarding the targets and objectives of Padamulya's MSMEs to be achieved has not been administratively structured so that information has not been fully distributed to all members.

7. Competitiveness is still weak

Padamulya's MSMEs have not been able to compete with farmers from other regions, because this group has just been established and does not yet have superior products.

External Factor Analysis (PESTLE Analysis)

PEST analysis is an analysis of political, economic, social and technological conditions that can affect the activities and performance of Padamulya UMKM. While the PESTLE model includes environmental and legal aspects as external factors that may have an impact on the company. (Rothaermel, 2012).

A. Opportunities

1. The harvest of fruit and vegetables is not proportional, while the demand for fruit and vegetables is very large.
This is a great potential for Padamulya MSMEs in increasing their agricultural output.
2. The government through the Coordinating Ministry for Economic Affairs noted that the demand for fresh fruit exports has increased quite significantly. A significant increase in demand for fresh fruit exports is good news for a country's economy. This shows that fresh fruit products from our country are in demand by the international market. Global demand for fruits and vegetables continues to increase due to awareness of the importance of a healthy diet. This creates opportunities for producers to expand their markets abroad.
3. With the growing local trends and sustainability, there are opportunities for local fruit and vegetable producers to market their products with an emphasis on aspects such as quality, cleanliness, and low carbon footprint.
4. Development of Information and Communication Technology.
The use of e-commerce and technology in the fruit and vegetable supply chain can increase the efficiency and accessibility of products for consumers. Online sales also open the door for small producers to reach a wider market.
5. Emphasis on Health and Lifestyle: Consumers are increasingly concerned about health and lifestyle, so there is an opportunity to market fruits and vegetables as an integral part of a healthy lifestyle.

B. Threats

1. The spread of plant diseases can destroy fruit and vegetable crops en masse, reducing production and causing major losses for farmers and businesses.
2. Climate change can result in extreme weather such as floods, droughts, or storms that can damage fruit and vegetable crops, disrupting supply and causing price increases. Limited understanding of technology in processing fruit and vegetable gardens.
3. Fruit and vegetable markets are often affected by global competition from other countries that may have lower production costs or other competitive advantages.
4. Uncertainty in international trade policies, such as changing import tariffs or protectionist policies, can affect the flow of fruit and vegetable trade between countries and complicate business planning.
6. Dependence on fruit and vegetable imports from other countries can increase the risk of supply disruptions, such as political conflict or emergencies in the supplier country.
7. agricultural technology and innovation developments can change market dynamics by enabling more efficient production or driving demand for new types of fruit and vegetables that can displace existing product markets.

IFE and EFE Matrix of Padamulya MSMEs

The IFE matrix was obtained from direct interview techniques with Padamulya UMKM by asking questions according to the discussion topic, the list of questions is attached. Based on the results of in-depth interviews with resource persons Mr. Saepullah as the Government Kaur Operator and the RW Chairmen in Padamulya Village, Garut Regency and several members of the Padamulya UMKM group, the weighting was given according to the level of ease to difficulty in each question asked.

The Internal Factor Evaluation Matrix (IFE) was obtained with an IFE matrix score of 2.31. This indicates a moderate/average internal position in Padamulya UMKM.

Meanwhile, the results of the External Factor Evaluation (EFE) matrix are shown in Table 4.2, the EFE matrix score is 1.97. This shows that Padamulya UMKM is weak in responding to external opportunities and threats.

Padamulya UMKM IE Matrix

The IE (Internal-External) Matrix positions various divisions of an organization in a nine-cell display. The IE matrix is based on two key dimensions: the total IFE weighted score on the x-axis and the total EFE weighted score on the y-axis. Based on the results of the IFE and EFE analysis, the IFE Matrix of Padamulya UMKM has a total score of 2.31, while the EFE Matrix of Padamulya UMKM has a total score of 1.97. The position of Padamulya UMKM in the IE Matrix can be described as follows:

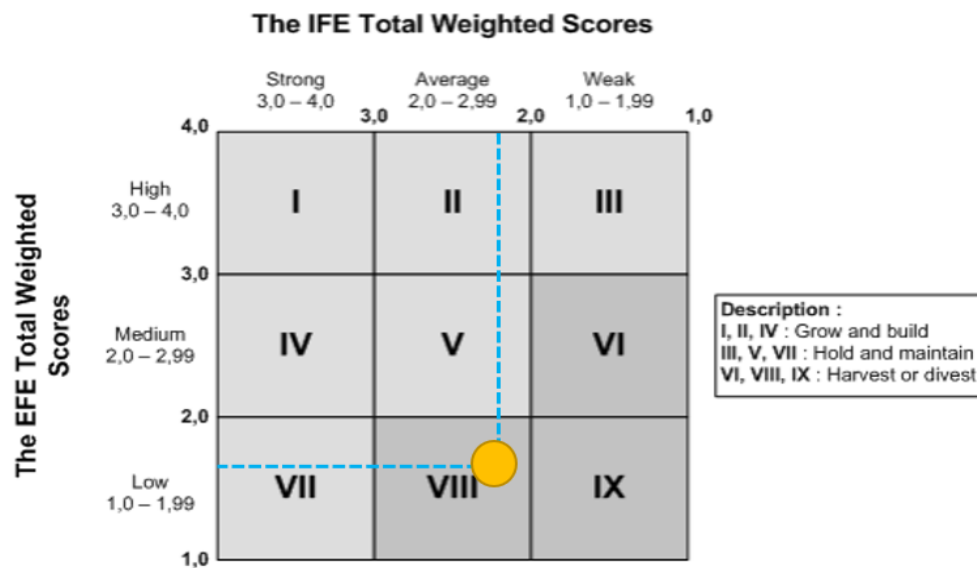


Figure 2 Padamulya UMKM IE Matrix

According to the IE Matrix, the position of the Padamulya UMKM Group is in quadrant VIII, this position indicates that Padamulya UMKM is in a growth position. The right strategy for the condition of Padamulya UMKM Harvest strategy or result strategy, which is a strategy that emphasizes maximizing profitability and cash flow in the short to medium term, willing to sacrifice market share if necessary. Divestiture Strategy: this strategy is carried out by selling divisions or parts of the organization. This strategy is also often used in order to increase capital from an investment plan or to follow up on an acquisition strategy that has been decided for the next process. SO (strength-opportunity) strategy utilizes internal strengths to take advantage of external opportunities.

Table 1 SO Strategy (Strengths - Opportunities)

No	Strengths	No	Opportunities
1	Plantation in Padamulya has 102.51 Ha of plantation land area	1	The disproportionate harvest of fruit and vegetables, while the demand for fruit and vegetables is very large.
2	Availability of land and suitable agroclimate, especially for the development of fruit and vegetable plantations	2	Global demand for fruit and vegetables continues to increase due to awareness of the importance of a healthy diet.
3	Farmers' enthusiasm in developing agribusiness	3	The growing trend of local and sustainability, there is an opportunity for local fruit and vegetable producers to market their products with an emphasis on aspects such as quality, cleanliness, and low carbon footprint.
4	Farming experience	4	Development of Information and Communication Technology
5	The location of the Padamulya UMKM Group is very strategic	5	Opportunities to market fruit and vegetables as an integral part of a healthy lifestyle.

S-O Strategy:

No	Strengths	No	Opportunities
a.	Develop new innovative and high-quality products, such as fresh-cut fruit or organic vegetables in environmentally friendly packaging. (S: 1,2,3,4 & O: 1,2,3,5)		
b.	Expand distribution networks by utilizing online platforms and strengthening partnerships with local stores to reach consumers more widely. (S: 2,5 & O: 2,4,5)		
c.	Increase investment in R&D to develop more efficient and environmentally friendly agricultural technologies. (S: 1,2,5 & O: 3,4,5)		
d.	4. Intensify partnerships with local farmers and take concrete steps in supporting sustainable agriculture and local communities. (S: 3,4 & O: 3,4)		

ST Strategy (*Strengths – Threats*)

ST (strength-threat) strategy uses a company's strengths to avoid or reduce the impact of external threats.

Table 2 ST Strategy (*Strengths – Threats*)

No	Strengths	No	Threats
1	Plantation in Padamulya has 102.51 Ha of plantation land area	1	The spread of plant diseases can destroy fruit and vegetable crops en masse, reducing production and causing significant losses for farmers and businesses
2	Availability of land and suitable agroclimate, especially for the development of fruit and vegetable plantations	2	Climate change can lead to extreme weather events such as floods, droughts or storms that can damage fruit and vegetable crops
3	Farmers' enthusiasm in developing agribusiness	3	Fruit and vegetable markets are often affected by global competition from other countries that may have lower production costs or other competitive advantages.
4	Farming experience	4	Uncertainty in international trade policies, such as changing import tariffs or protectionist policies, can affect the flow of fruit and vegetable trade between countries and complicate business planning.
5	The location of the Padamulya UMKM Group is very strategic	5	Dependence on fruit and vegetable imports from other countries can increase the risk of supply disruptions, such as political conflict or emergencies in the supplier country.
		6	Advances in agricultural technology and innovation can change market dynamics by enabling more efficient production or driving demand for new types of fruit and vegetables that can displace existing product markets.

ST Strategy:

1. Monitor market trends and conduct regular risk analysis to anticipate potential market changes. (S: 2,3,4 & T: 3,4,6)

Portrait of Padamulya UMKM Business Model Canvas

Published by:

The current portrait of the Padamulya UMKM Business Model Canvas was obtained from the results of interviews with Padamulya UMKM and several stakeholders from Padamulya UMKM, the following is a portrait of the current business model canvas at Padamulya UMKM:

1. Customer Segment: Knowing the Customer

Customer segment at Padamulya UMKM that sells fruit and vegetable products to traditional market retailers at Samarang Market, Ciawitali Market, and Guntur Market, Garut Regency until the product finally reaches the hands of consumers.

2. Value Proposition: What is offered

Diversity of products on Tomato, Sosin, Scallion, Water Spinach, Cayenne Pepper, Red Chili, Jengkol, Orange, Guava, etc. Plantations in Padamulya Village, Garut Regency. With this value proposition, plantations in Padamulya Village can attract the attention of consumers who care about the quality, health, sustainability, and uniqueness of local products. This can also help strengthen the image and reputation of products from the area in the local and regional markets.

3. Channel: Distribution Channel

The current distribution channel or channels in Padamulya UMKM are Direct Sales to Consumers: Through Traditional Markets. This process reflects a direct and efficient distribution channel, allowing Padamulya UMKM products to reach end consumers quickly and in good condition. By maintaining good relationships with retailers and ensuring consistent product quality, Padamulya UMKM can expand its market share and build consumer trust.

4. Customer Relationship: Marketing

Padamulya UMKM's way of maintaining relationships with its customers is simply by discussing or exchanging knowledge and maintaining good communication, in order to build long-term relationships with retailers. It is important for Padamulya UMKM to listen to input from retailers about product quality, market demand, and changing trends. By understanding the needs and desires of retailers, they can adjust their production and marketing strategies to better meet market demand.

5. Revenue Stream: Source of Income

Padamulya UMKM's source of income is from selling fruits and vegetables. UMKM Padamulya sells fruit and vegetable products directly to retailers operating in traditional markets such as Samarang Market, Ciawitali Market, and Guntur Market, Garut Regency. Revenue is obtained from sales in large quantities to retailers at agreed prices.

6. Key Partner: Main Partner

UMKM Padamulya's current business partners are fertilizer suppliers. One very important aspect of cooperation with fertilizer suppliers is the quality of the products provided. Good quality fertilizer will help increase crop yields and plant health, thus contributing to the overall success of UMKM Padamulya.

7. Key Activities: Business Activities

The activities carried out in UMKM Padamulya's current business activities include plant maintenance, harvesting, distribution and marketing. In carrying out these

activities efficiently and effectively, UMKM Padamulya can ensure stable production, high product quality, and satisfactory service to customers. This will help them build a good reputation, increase sales, and expand their market share.

8. Key Resources : Main Resources

The important resources needed by Padamulya MSMEs are good mountainous land, strategic location, agricultural equipment, and the number of Fruit & Vegetable MSMEs is 80 people. By utilizing these resources efficiently and effectively, Padamulya MSMEs can increase their productivity, product quality, and competitiveness in the market. Collaboration with other Fruit & Vegetable MSMEs can also open up opportunities for the exchange of knowledge and experience, as well as synergy in product marketing and distribution.

9. Cost Structure : Cost Structure

The costs incurred by Padamulya MSMEs currently are the purchase of fertilizer, farm laborers, and other operational costs. A good understanding of these costs allows Padamulya MSMEs to manage their finances more efficiently and take them into account in determining product prices. By carefully monitoring and managing costs, Padamulya MSMEs can increase the profitability of their businesses and achieve greater success in the long term.

With the Business Model Canvas concept approach in Padamulya UMKM, several aspects that need to be improved in order to increase the efficiency and competitiveness of their business are identified. First, an in-depth analysis of the targeted market segment is needed, including a better understanding of consumer preferences and needs. Furthermore, optimization of distribution and marketing channels can be the main focus, by ensuring wider access to the market and more effective marketing strategies. In addition, resource management such as stock management, cost control, and resource allocation also need to be considered so that the business can operate efficiently.

5. Conclusion

The right strategy for the current condition of Padamulya MSMEs consists of a Harvest strategy or yield strategy, which is a strategy that emphasizes maximizing profitability and cash flow in the short to medium term, willing to sacrifice market share if necessary. Or Divestiture Strategy, this strategy is carried out in order to add capital from an investment plan or to follow up on an acquisition strategy that has been decided for the next process. Innovation, technology and development need to be carried out to respond to the dynamic fruit and vegetable market. This also aims to answer the challenges of global economic competition, where currently barriers to trade access between countries are increasingly eroded.

This phenomenon must be answered by domestic farmers properly in order to be able to maintain the existence of fruits and vegetables in the international market. Padamulya MSMEs need to establish a partnership or cooperation with various parties in achieving the roadmap that has been prepared. Fruit and vegetable farmers must be encouraged to utilize organic waste that can be used as fertilizer in maintaining soil structure and fertility, thereby reducing the use of chemicals that pollute the environment. Padamulya MSMEs can consider diversifying their

products by adding variations of the fruit and vegetable products offered.

This can include developing processed products, such as fruit juice, tomato sauce, or snacks that use their main raw materials from their agricultural products. It is important for Padamulya MSMEs to build strong branding and communicate the unique values of their products to consumers. An effective branding strategy can help differentiate Padamulya products from competitors, improve brand image, and build stronger relationships with consumers. Focusing on improving the quality of fruit and vegetable products is key to maintaining consumer satisfaction and building a good reputation in the market.

Padamulya MSMEs need to continue to improve their agricultural practices, ensure consistent product quality, and pay attention to food hygiene and safety standards. Diversification of distribution channels can open access to a wider market and increase sales.

The following are some suggestions and considerations that can be considered in this study, including:

Padamulya Village should focus on improving the quality of fruit and vegetable products produced, including cleanliness, freshness, and authenticity of the product. Examples include the use of agricultural applications for plant monitoring or online marketing to reach a wider consumer base. Further research is recommended to examine the application of the business model canvas to other MSME objects. In order to find out whether the business model canvas study can be applied by micro, small and medium scale businesses.

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The Effect of Implementing the Balanced Scorecard on the Management Performance of PT YKK AP Indonesia

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Abstract

This study aims to determine the effect of a balanced scorecard on the management performance of PT. YKK AP Indonesia. This study used 40 employees of PT. YKK AP Indonesia, who met the criteria to be respondents. This study was conducted using the conventional sampling method on PT employees. YKK AP Indonesia and analyzed using multiple linear regression. The first stage tested the validity and reliability of questions for each variable. The second stage conducted a classical test, and the third stage conducted an F test, t-test, and determination coefficient test. The results of the t-test study showed that the variables of financial perspective, customer perspective, internal business process perspective, and growth and learning perspective had a partial effect on management performance. In the F test, all independent variables simultaneously affected the dependent variable. Meanwhile, the determination coefficient value shows that the independent variables of financial perspective, customer perspective, internal business process perspective, and growth and learning perspective contributed to the dependent variable, namely management performance, by 49%, while other factors outside the model influenced the remaining 51%.

Keywords: Corporate Management, Balanced Scorecard, Financial Perspective, Customer Perspective, Internal Business Process Perspective, Growth and Learning Perspective

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JEL Codes: F43, G23, P34

1. Introduction

As time goes by, competition in the world of industry and organizations is growing rapidly. The success of a company depends on the financial and non-financial performance of the company. So, the key to the company's success is to continuously improve the company's efficiency and performance by maintaining customer satisfaction. What is necessary to achieve

the intended targets is that the company must be able to develop human resources and work satisfaction. Companies that are only oriented toward financial aspects and ignore non-financial aspects will, in time, be left behind by increasingly fierce competition. Because of this, companies must try to formulate and perfect their business strategies to win increasingly fierce competition. To find out how effective the implementation of this strategy is, the company must create a performance measurement system that is better than the system used according to traditional views.

The concept of measurement according to the traditional view only uses financial performance measures such as liquidity (Cash Ratio, Current Ratio, etc.) solvency, profitability, or profitability (Return of Investment - ROI, Return of Equity - ROE, Return of Assets - ROA, etc.) has begun to be abandoned (Kaplan and Norton, 1996:7). Because this measurement only provides an overview of the financial resources that have been used by the company and sources in the financial aspect are more useful for internal parties in the company such as company management and shareholders. Meanwhile, external parties such as the wider community who are users of products or services require more non-financial measurements.

According to Kaplan and Norton (1996), financial aspects alone cannot fully move a company in a better direction, because non-financial aspects enable companies to: 1) Develop relationships with customers to maintain their loyalty to the company. 2) Introducing innovative products and services desired by the target segment. 3) Produce high-quality products and services according to customers' wants at low prices and short lead times. 4) Mobilize the ability and motivation of workers to continuously improve process capability, quality, and response time. 5) Develop information technology, databases, and systems.

According to Kaplan and Norton (1996), the Balanced Scorecard is: "... a set of measures that gives top managers a fast but comprehensive view of the business ... includes financial measures that tell the results of actions already taken ... complements the financial measures with operational measures on customer satisfaction, internal processes, and the organization's innovation and improvement activities – operational measures that are the drivers of future financial performance."

Thus, the Balanced Scorecard is a management, measurement, and control system that can quickly, precisely, and comprehensively provide managers with an understanding of business performance. Performance measurement with the Balanced Scorecard looks at business units from four perspectives, namely the financial perspective, customers, business processes within the company, and learning and growth processes. Through a cause-and-effect mechanism, the financial perspective becomes the main benchmark which is explained by operational benchmarks in the other three perspectives as drivers (lead indicators).

Balanced Scorecard comes from two words, namely Balanced and Scorecard. Balanced means there is a balance between financial and non-financial performance, short-term performance, and long-term performance, and between short-term internal performance and external long-term performance. Meanwhile, Scorecard is a card used to plan scores. that someone wants to realize in the future (Mulyadi, 2001).

Initially, the Balanced Scorecard was used to improve the executive performance measurement system. Initially, executive performance was measured only in financial terms. Then it developed into a broad four perspectives, which were then used to measure the performance of the organization. The four perspectives are finance, customers, internal business processes, and learning and growth. The Balanced Scorecard is a management system mechanism that can

translate the organization's vision and strategy into real action in the field. The Balanced Scorecard is a proven management tool that has helped many companies implement their business strategies.

Therefore, to be able to determine performance, companies can apply the Balanced Scorecard as a strategic-based measuring tool, such as financial perspective, internal business process perspective, customer perspective, and learning and growth. The advantage of implementing the Balanced Scorecard is that it can provide measurements that can be used as a basis for strategic improvement. According to Sri Wahyuni's research (2011), it was explained that performance assessment using the balanced scorecard method can determine company success is not only an internal aspect in this perspective financial aspects, but all aspects, be it financial aspects, processes, growth, and customers. Research by Hersinta Pusdika (2016), explains the influence of implementing the Balanced Scorecard on management performance. The result is that the variables financial perspective, customer perspective, and internal business process perspective have a positive effect. The financial perspective is the most dominant variable influencing management performance.

2. Literature Review

2.1 Management Performance Measurement

The definition of performance is a description of the level of achievement of an activity program or policy in realizing an organization's goals, objectives, vision, and mission as outlined through strategic planning or an organization (Moeheriono, 2010:60).

According to The Scribner-Bantam English Dictionary, published in the United States and Canada, in 1979, (Prawirosentono, 1999, pp. 1-2) "to perform" quoted by Rianto Rahadi (2010) has several "entries" as follows:

- a. to do or carry out; executive (carry out, carry out, carry out)
- b. to discharge or fulfill, as a vow (Fulfill or carry out the obligations of a vow)
- c. to party, as a character in a play (Depicting a character in a game)
- d. to render by the voice or musical instrument (Depicting it with a voice or musical instrument)
- e. to execute or complete an undertaking (Carry out or complete responsibilities)
- f. to act a part in a play (Carry out an activity in a game)
- g. to perform music (Play music performances)
- h. to do what is expected of a person or machine (Do something that is expected by a person or machine).

2.2 Financial Perspective

Financial measures are very important in providing a summary of the economic consequences of actions that have been taken. Financial measures provide clues as to whether the company's strategy and its implementation contribute or not to increasing company profits. Financial benchmarks are very important, but they are not enough to direct performance in creating value for the company.

According to Kaplan (Kaplan, 1996) when a company carries out financial measurements, the first thing it must do is detect the existence of the industry it owns. Kaplan classifies three stages of industrial development, namely: growth, sustain, and harvest. From these stages of industrial development, different strategies will be required.

Kaplan and Norton (2000: 42) identify the stages in the business life cycle as follows:

- a. Growth
- b. Survive/ Sustain
- c. Harvest

2.3 Customer Perspective

Recent management philosophies have shown increasing recognition of the importance of customer focus and customer satisfaction. This perspective is a leading indicator. So, if customers are not satisfied then they will look for another manufacturer that suits their needs. Poor performance from this perspective will reduce the number of customers in the future even though current financial performance looks good.

By Kaplan and Norton (2001) customer perspectives are divided into two groups of measurements, namely: customer core measurements and customer value prepositions. Customer Core Measurement has several measurement components, namely:

- a. Market Share (market share)
- b. Customer Retention (customer retention)
- c. Customer Acquisition (customer acquisition)
- d. Customer Satisfaction (customer satisfaction)
- e. Customer Profitability (customer profitability)

Meanwhile, the Customer Value Proposition is a performance trigger contained in the core value proposition which is based on the following attributes:

- a. Product or service attributes
- b. Consumer relationships
- c. Image and reputation

2.4 Internal Business Perspective

Analysis of the company's internal business processes is carried out using value chain analysis. Here management identifies critical internal business processes that the company must excel at. Scorecards in this perspective allow managers to know how well their business is running and whether their products and/or services meet customer specifications. This perspective must be carefully designed by those who know the company's mission best in a way that outside consultants may not be able to do.

Kaplan and Norton (1996) divide internal business processes into three stages, namely:

- a. Innovation process
- b. Operation process
- c. After-sales service process

2.5 Growth and Learning Perspective

This process identifies the infrastructure that a company must build to improve long-term growth and performance. This growth and learning process originates from human resource factors, systems, and organizational procedures, which are included in this perspective are employee training and company culture which are related to individual and organizational improvement.

The results of measuring the three previous balanced scorecard perspectives will usually show a large gap between the current capabilities of people, systems, and procedures and those

needed to achieve the desired performance. This is the reason why companies must invest in these three factors to encourage the company to become a learning organization.

In this perspective, there are important factors that must be considered, namely:

- a. Worker capabilities
- b. Information system capabilities
- c. Motivation, power, and alignment

3. Research Method

Based on the type, the variables in this research are divided into:

Independent Variables

In this research, the independent variables are the financial, customer, internal business, and growth and learning perspectives.

Dependent Variable

In this research, the dependent variable is Management Performance.

The conceptual framework used to describe the relationship between financial perspective, customer perspective, internal business perspective, and growth and learning perspective on a management performance measurement is as follows:

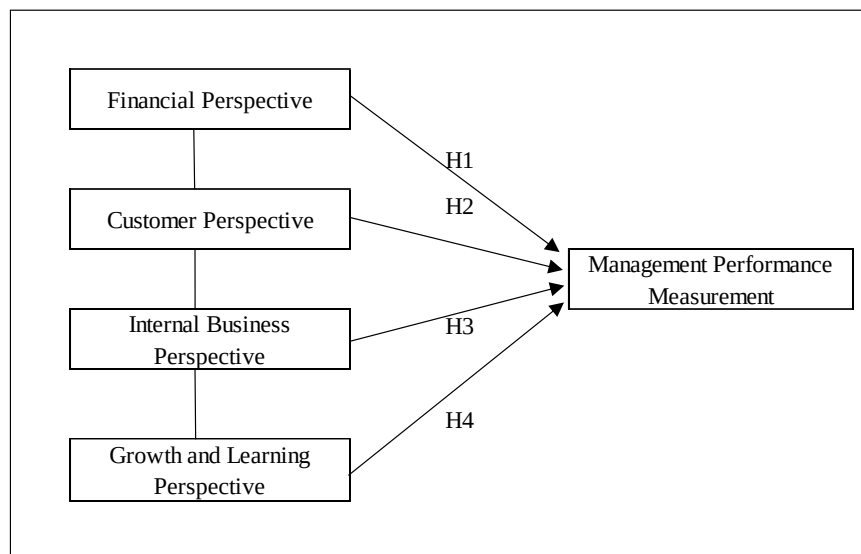


Figure 1.1. Research Model

This research used convenience sampling, which is generally used in situations where other sampling methods are not possible.

4. Findings and Discussions

4.1 Findings

1. Reliability Test

In this research, reliability testing is a tool for measuring a questionnaire, which is an indicator

of a variable or construct.

Table 1. Reliability Test Results

Variable	Number of Question Items	Cronbach Alpha	Remark
Financial Perspective (X ₁)	6	0,695	RELIABLE
Customer Perspective (X ₂)	8	0,730	RELIABLE
Internal Business Perspective (X ₃)	6	0,664	RELIABLE
Growth & Learning Perspective (X ₄)	8	0,748	RELIABLE
Management Performance (Y)	4	0,628	RELIABLE

Source: Analyze results from primary data

Based on the table above regarding the results of the reliability test, shows that the Cronbach Alpha value for the Financial Perspective variable is 0.695, the Cronbach Alpha value for the Customer Perspective variable is 0.730, the Cronbach Alpha value for the Internal Business Process Perspective is 0.664, the Cronbach Alpha value for the Growth and Learning Perspective variable is 0.748, and the Cronbach Alpha value for Performance Management is 0.628. From the results of this research, it can be concluded that the instrument for the reliability test is declared reliable because the Cronbach alpha value is > 0.60.

2. Validity Test

Table 2. Financial Perspective Validity Test Results

No.	Indicator	r _{count}	r _{table}	Remark
1	Increase operation capabilities	0,602	0.2638	VALID
2	Nurture and build relationships with customers	0,642	0.2638	VALID
3	Able to generate quite high returns on capital	0,625	0.2638	VALID
4	Maintain the market share you already have	0,726	0.2638	VALID
5	Efforts to increase profits	0,728	0.2638	VALID
6	Maintain facility improvements	0,401	0.2638	VALID

Source: Analyze results from primary data

The validity test results of the Financial Perspective variable in Table 4.2 above show good results. This is said to be because the calculated r-value is greater than the r-table value (0.2638), which means that the questions or indicators on the Financial Perspective variable are declared valid.

Table 3. Customer Perspective Validity Test Results

No.	Indicator	r _{count}	r _{table}	Remark
1	Try to provide customer satisfaction	0,522	0,2638	VALID
2	Maintain good relationships with customers	0,302	0,2638	VALID
3	Try to provide fast service to consumers	0,347	0,2638	VALID

Source: Analyze results from primary data

The validity test results of the Customer Perspective variable in Table 4.3 above show good results. This is said to be because the calculated r-count is greater than the r-table value (0.2638), which means that the questions or indicators on the Customer Perspective variable are declared valid.

Table 4. Internal Business Process Perspective Validity Test Results

No.	Indicator	r _{count}	r _{table}	Remark
1	New products developed	0,714	0,2638	VALID
2	The length of time needed to develop a product	0,382	0,2638	VALID
3	Many customer requests cannot be fulfilled	0,634	0,2638	VALID
4	Raw materials used	0,743	0,2638	VALID
5	The period required to fulfill product maintenance requests	0,697	0,2638	VALID

Source: Analyze results from primary data

Based on the results of the validity test of the Internal Business Process Perspective variable in Table 4.4 above, shows good results, it is said that because the calculated value is greater than the r-table value (0.2638), which means that the questions or indicators on the Internal Business Process Perspective variable are declared valid.

Table 5. Growth and Learning Perspective Validity Test Results

No.	Indicator	r _{count}	r _{table}	Remark
1	Employee satisfaction level	0,757	0.2638	VALID
2	Providing results to the company	0,452	0.2638	VALID
3	Level of precision/accuracy of information.	0,643	0.2638	VALID
4	Understanding the company's vision and mission	0,639	0.2638	VALID

5	Training provided by the company	0,454	0.2638	VALID
6	Condition of the work environment.	0,607	0.2638	VALID

Source: Analyze results from primary data

Based on the results of the validity test of the Growth and Learning Perspective variable in Table 4.5 above, shows good results, it is said that because the calculated value is greater than the r-table value (0.2638), which means that the questions or indicators on the Internal Business Process Perspective variable are declared valid.

Table 6. Management Performance Validity Test Results

No.	Indicator	r _{count}	r _{table}	Remark
1	Obedience	0,698	0.2638	VALID
2	Loyalty	0,765	0.2638	VALID
3	Manners	0,668	0.2638	VALID
4	Results obtained or achieved by employees	0,611	0.2638	VALID

Source: Analyze results from primary data

Based on the results of the validity test of the Financial Perspective variable in Table 4.6 above, show good results, it is said that this is because the calculated r-count is greater than the r-table value (0.2638), which means that the questions or indicators on the Financial Perspective variable are declared valid. Of the five variables in the table above, the validity test results were obtained with a calculated r value greater than r-table (0.2638) where all of them had valid value results for questions or indicators.

Classic Assumption Test

Normality Test

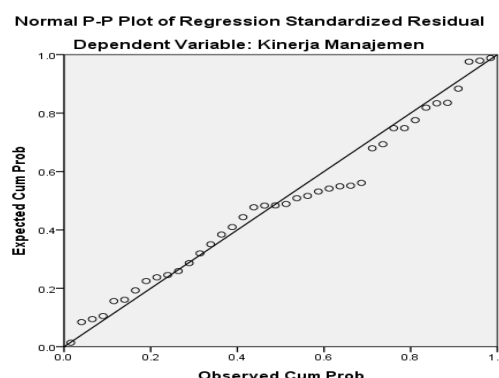


Figure 1. Normality Test Results

Source: Analyze results from primary data

The picture above shows that the research data has a normal spread and distribution. The P plot value is located on a diagonal line, so the data is normally distributed.

Multicollinearity Test

Table 7. Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Financial Perspective	.970	1.031
Customer Perspective	.955	1.047
Internal Business Perspective	.851	1.175
Growth & Learning Perspective	.846	1.182

a. Dependent Variable: Management Performance

Source: Analyze results from primary data

Based on the results of the multicollinearity test in Table 4 above, each variable has a Tolerance value of not less than 0.10 and a VIF value of no more than 10, so it can be concluded that there is no or no multicollinearity between independent variables. So, the regression model is good and can be continued as research.

Heteroscedasticity Test

The following are the results of the heteroscedasticity test:

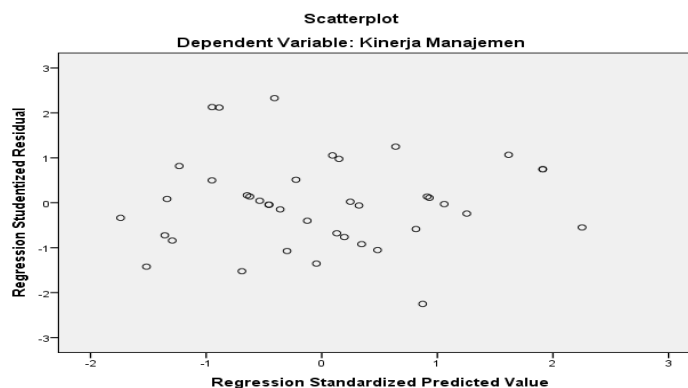


Figure 2 Heteroscedasticity Test

Source: Analyze results from primary data

Based on the results of the scatterplot graph in Figure 2 above, the points are spread randomly and are distributed well above and below the number 0 on the Y-axis. It can be said that there is no heteroscedasticity in the residual data.

2. Hypothesis Testing

The following are the results of the hypothesis test:

1. t-test (Partial Test)

The following are the results of the t-test:

Table 8 T-Test Results.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	8.777	5.252		1.671	.104
Financial Perspective	.268	.097	.322	2.769	.009
Customer Perspective	.320	.085	.439	3.754	.001
Internal Business Perspective	.577	.131	.547	4.416	.000
Growth & Learning Perspective	.256	.092	.347	2.790	.008

a. Dependent Variable: Management Performance

Source: Analyze results from secondary data

Regression equation:

$$Y = 8.777 + 0.268X_1 + 0.320X_2 + 0.577X_3 + 0.268X_4$$

Based on the results of the t-test in the table above, each variable shows different significance values, so the regression equation can be explained as follows:

1. The constant 8.777 means that if the variables Financial Perspective (X_1), Customer Perspective (X_2), Internal Business Process Perspective (X_3), and Growth and Learning Perspective (X_4), have a regression coefficient (B) of 0 then the Management Performance variable (Y) will have a value as large as the constant itself, namely 8.777.
2. The regression coefficient (B) of the Financial Perspective variable (X_1) has a value of 0.268, meaning that an increase in the value of the Financial Perspective variable (X_1) by 1 will increase the Management Performance (Y) value of 0.268.
3. The regression coefficient (B) of the Customer Perspective variable (X_2) has a value of 0.320, meaning that an increase in the value of the Customer Perspective variable (X_2) by 1 will result in an increase in the value of the Management Performance variable (Y) by 0.320.
4. The regression coefficient (B) of the Internal Business Process Perspective variable (X_3) has a value of 0.577, meaning that an increase in the value of the Internal Business Process Perspective variable (X_3) by 1 will result in an increase in the value of the Management Performance variable (Y) by 0.577.
5. The regression coefficient (B) of the Growth and Learning Perspective variable (X_4) has a value of 0.268, meaning that an increase in the value of the Growth and Learning Perspective variable (X_4) by 1 will result in an increase in the value of the Management Performance variable (Y) by 0.268.

2. F-Test (Simultaneous)

The following are the results of the F statistical test in Table 4.9 as follows:

Table 9 F-Test Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.708	4	16.677	10.351	.000 ^b
	Residual	56.392	35	1.611		
	Total	123.100	39			

a. Dependent Variable: Management Performance

b. Predictors: (Constant), Growth & Learning Performance, Financial Perspective, Customer Perspective, Internal Business Perspective

Source: Analyze results from secondary data

From the table above or the F-test above, it can be seen that the calculated F-value is 10,351 with a significance level of 0.000 which is smaller than 0.05, so the regression model can be used to predict the Management Performance variable (Y) or it can be concluded again that the independent variables are Financial Perspective, Customer Perspective, Internal Business Process Perspective, and Growth and Learning Perspective together can influence the dependent variable, namely Management Performance. This indicates that the regression model in the research is a fit.

3. Coefficient of Determination Results

The following are the results of the hypothesis test:

Table 11. Coefficient of Determination Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.736 ^a	.542	.490	1.269

a. Predictors: (Constant), Growth and Learning Perspective, Financial Perspective, Customer Perspective, Internal Business Perspective.

b. Dependent Variable: Management Performance

Source: Analyze results from secondary data

From the test results table above using multiple linear regression analysis, it can be seen from the Adjusted R Square value of 0.490, which means that the variations in the independent variables, namely the financial perspective, customer perspective, internal business process perspective, and growth and learning perspective can explain the variations in the variables. dependent, namely management performance of 49% while the remaining 51% is explained by other factors not included in this research.

4.2 Discussion

The Influence of Financial Perspective on Management Performance

The Financial Perspective variable can have a positive effect on Management Performance. The results of this research are appropriate and in line with the theory developed by Tunggal (2002), which states that financial benchmarks are important but are not sufficient to direct performance in creating value for existing organizations.

The Influence of Customer Perspective on Management Performance

The Customer Perspective variable can have a positive effect on Management Performance. The results of this research are appropriate and in line with the theory developed by Denton and White (2000), namely that increasing commitment and productivity within the company will be able to improve the quality of the customer service process and ultimately create trust in customers.

The Influence of Internal Business Perspective on Management Performance

The Internal Business Process variable can have a positive effect on Performance Management. The results of this research are appropriate and in line with research conducted by Budiarti (2004), which states that the Balanced Scorecard is a management system that describes the vision and strategy of a company into operational goals and benchmarks, goals and benchmarks are developed for each measurement perspective. for each perspective, it depends on the strategy that the company has previously set.

The Influence of Growth and Learning Perspective on Management Performance

The Growth and Learning variable have a positive effect on Management Performance. The results of this research are in line with the theory developed by Kaplan and Norton (2000), revealing how important it is for an organization or business company to continue to pay attention to its employees, monitor employee welfare, and increase employee knowledge because increasing employee knowledge will increase the employee's ability to participate in achieving the results of the other three perspectives and will influence the company.

5. Conclusion

Based on the research results and results of data analysis testing in the previous chapter, it can be concluded as follows:

1. The financial perspective influences the management performance of PT YKK AP Indonesia. Based on the results of the t-test, the resulting significance value is 0.009, which is smaller than 0.05 or the t-count result of 2,769 is greater than t-table 2,030.
2. The customer perspective influences the management performance of PT YKK AP Indonesia. Based on the results of the t-test, the resulting significance value is 0.001, which is smaller than 0.05 or the t-count result of 3,754 is greater than t-table 2,030.
3. Internal Business Process Perspective and influences the management performance of PT YKK AP Indonesia. Based on the results of the t-test, the resulting significance value is 0.000, which is smaller than 0.05 or the t-count result of 4,416 is greater than t-table 2,030.
4. The Growth and Learning Perspective influences the management performance of PT YKK AP Indonesia. Based on the results of the t-test, the resulting significance value is 0.008, which is smaller than 0.05, or the t-count result is 2,790, which is greater than the t-table. 2,030.
5. The results of multiple linear regression tests show that the financial perspective, customer perspective, internal business process perspective, and learning & growth perspective simultaneously influence management performance. Based on the results of the F test (ANOVA), the resulting F-count value of 10,351 is greater than the F-table of 2.64 with a significance level of 0.000, which means it is smaller than 0.05.

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