The Impact of Top-Tier Management Diversity on Banks' Bottom Line Employing Operational Performance

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Abstract: - The purpose of this study is to examine the impact of diversity (age, gender, experience, and education) on the bottom line of banks through operational performance in commercial banks in Indonesia. Profitability, as measured by Return on Assets (ROA), is used to approximate the bank's bottom line. Meanwhile, the bank's operational performance is measured by the Operational Efficiency Ratio (OER), Net Interest Margin (NIM), and Non-Performing Loan (NPL). This study employs a purposive selection technique with an observation period of 53 banks' annual banking reports from 2021-2022 Commercial Banks. The data analysis methods used are descriptive statistical analysis, moderation regression analysis, and hypothesis testing. The outcome of the bottom line is significantly impacted by Top-tier Management or TTM (age), which has a considerable impact on operational performance. The bottom line is also significantly impacted by TTM diversity, which is mediated by operational performance. The bottom line is significantly impacted by operational performance as well. Gender, experience, and educational diversity in TTM are not significant.

Key-Words: - Diversity, Top-tier Management, Bottom line bank, Operational performance, Strategic Management, Indonesia.

1 Introduction

Understanding the elements that drive corporate success has long been a cornerstone of academic and practical research in strategic management. This field of study is critical because it influences the strategies and decisions that determine the performance of businesses across a variety of sectors. Recent advances in this discipline have highlighted the importance of internal resources and talents, notably the strategic role of a company's top-tier management (TTM) in determining organizational outcomes. The notion of TTM, which includes the Boards of Commissioners and Directors, has emerged as a significant component in this debate. According to studies, the composition and diversity of TTM—in terms of demographics, educational background, experience, and other characteristics—have a significant impact on a firm's strategic direction and operational success. This research is especially significant in industries such as banking, where the complexity and opacity of processes highlight the need for competent top-tier management. This study aims to provide novel insights into the optimal

composition of TTM and its impact on firm performance by investigating the influence of TTM characteristics such as age, education, experience, and gender diversity on key performance indicators such as non-performing loan (NPL), operational efficiency ratio (OER), net interest margin (NIM), and overall profitability.

Many academics, particularly those in the field of strategic management, have discovered characteristics that can influence firm performance. Some analysts feel that external circumstances play a significant part in determining a company's success. Other studies, such as those based on resource-based perspectives, are more focused on internal issues influencing firm performance. According to the resources-based theory, company resources are heterogeneous, not homogeneous, and the productive services available come from company resources that give a unique character to each company, so it is a source of good performance for the company, [1].

In this study, the Board of Commissioners and Board of Directors are members of a company's Top-tier Management (TTM) and are key resources in building performance, [2], [3]. TTM is said to be reflective of organizational performance even in upper-echelon theories, [2]. TTM plays a critical function in the corporation in formulating corporate strategies that affect company performance, [4]. As a result, the composition of TTM will have an impact on firm performance.

TTM diversity describes variations in the composition of Commissioners and Directors based on traits. This diversity may depend on demographics like nationality, gender, age, education, race, and background or work history, [5], [6].

The greatest team members make up the best TTM composition, which generates added value from a combination of diverse individuals. Of course, a TTM composition made up of a group of people with comparable backgrounds and abilities will be profitable. However, there will be more opportunities if information is gathered in a diversified way since it has a better possibility of having a good effect that is far more than the sum of its parts. Several studies have demonstrated that TTM diversity influences its members' cognition, behavior, and decision-making, which in turn influences firm outcomes such as company success, [7].

Existing research indicates that the impact of TTM composition on performance provides variable results. Some studies discovered a positive interaction, others found a negative relationship, and still others found no relationship. Based on the level of efficiency of female leaders in firms and how it affects profitability, revealed that greater profitability in family businesses will have a detrimental influence on non-family businesses, [8].

The influence of diversity on business accomplishment is more important for operational effectiveness than financial performance, which is the bottom line of business achievement), [4]. There are numerous operational performances in the banking business, such as Non-Performing Loan (NPL), Operational Efficiency Ratio (OER), and Net Interest Margin (NIM). Whereas the bottom line or profit measure is usually Return on Assets (ROA) and Return on Equity (ROE) as the final performance, including banking.

One of the most crucial aspects of TTM is its makeup. Indeed, some academics investigate the best properties that a TTM must have. For instance, whether TTM should be internal or external, or whether schooling should be at least an Undergraduate Degree or Graduate Degree. On the other hand, other academics are more focused on researching the makeup of the board of directors or the best combination of directors. The composition has been the subject of additional research, [4]. The board of directors' makeup rather than one of its members' competencies is, therefore, the subject of this investigation.

While examining the composition of TTM, one of the intriguing aspects to investigate is the diversity of TTM. TTM diversity has been widely explored and provided varied and confusing results therefore it is still extremely fascinating to be researched further, [9].

For a variety of reasons, we have chosen to focus on the banking business in our study. The opacity and complexity of bank operations make monitoring bank activities difficult for external stakeholders. As a result, bank TTM plays an even more important monitoring role than the non-financial sector.

Moreover, this study utilizes an innovative approach, using current data from 2021 to 2022, to evaluate the influence of TTM diversity on Indonesian commercial banks' operational and financial performance, with a focus on the moderating function of operational measures such as NPL, OER, NIM, and LDR. It stands out for its complete analytical model, which takes non-banking experience into account as part of TTM diversity and

recognizes the multifaceted implications of diversity, including possible dangers. This study's novel viewpoint on the delicate interplay between TTM diversity and bank performance, particularly during a moment of global upheaval, is an important contribution to the area of strategic management.

This study aims to investigate how age, education level, experience, and gender diversity affect TTM's operational success in terms of profit generation. Experience in non-banking enterprises is a part of the diversity of experience. Meanwhile, NPL, OER, NIM, and bottom line (ROA) represent operational performance.

2 Literature Review

2.1 Diversity of Top-tier Management (TTM)
TTM diversity denotes differences in the composition of Commissioners and Directors based on characteristics. Several research has used that property to characterize TTM diversity. TTM diversity utilizes observable variables such as country, age, and gender, as well as invisible criteria such as education and occupational history, [5]. Socioeconomic origin, citizenship, age, sex, academic achievement, and employment all play a role in variability, [6].

TTM variety will be a source of creativity and varied viewpoints, [4]. Diverse TTM members will have different understandings and points of view while assessing a problem. Diversity can assist companies in identifying and capitalizing on opportunities to improve production, provide services, attract, retain, motivate, and effectively use human resources, improve decision-making processes at all organizational levels, and a variety of other benefits obtained as organizations with social and modern awareness, [10].

2.2 Diversity of Gender
Many studies have been undertaken to investigate the impact of gender diversity on businesses. According to theoretical study, the upper echelon theory benefits from gender diversity, [11]. When using theoretical perspectives on social identity, researchers have found negative effects of gender diversity, [7]. Due to these theories, gender diversity may result in decreased stock values, [12].

2.3 Diversity of Experience
Beyond gender diversity, TTMs' knowledge and previous experience will have an impact on the firm. TTM variety will be a source of creativity and varied viewpoints, [4]. TTMs with a wide range of experience might bring their previous experience to their new companies.

TTMs with a wide range of experience might bring their previous experience to their new companies. TTM at a Banking company, for example, who has expertise as a TTM in the manufacturing industry, will be able to apply the success of operational management in manufacturing to banking.

On the other hand, diversity of experience produces effects that are as diverse as gender diversity. Diversity carries dangers that might affect businesses, [4]. If the amount of TTM variety is high, the possibility for conflict and inadequate communication quality owing to differences in viewpoints and opinions stemming from the diversity of skill and experience possessed may induce unwillingness to cooperate.

2.4 Diversity of Age
Businesses also gain from it in terms of creativity and innovation, which improves the organization's success. Age diversity contributed to the experimental firms' low performance using data from 128 German enterprises, [13]. The bank's risk-taking decreased with the size of the age gap between the chairman and the CEO, [14]. Their findings are attributed to the cognitive conflict between the CEO and chairman, which makes the chairman more autonomous.

2.5 Diversity of Education
Diverse knowledge and abilities on a board will result in higher-quality decisions than decisions made by people with identical histories, [15]. As indicated by earlier studies, highly educated people from all different types of educational backgrounds had an increased possibility of innovating, [16]. A board of directors (BOD) members are expected to contribute their varied experience during board discussions and this information can be translated into enhanced goods, procedures, and offerings that will boost the business's financial performance, [15]. No statistically significant link between educational diversity and a company's financial performance was found, [17].

The impact of TTM gender diversity on operational performance is more appropriate than directly affecting banks' bottom line or profit level, [4]. As a result, the research intended to determine the impact of TTM diversity on bank operational performance. The operational performance measures used are NPL, OER, and NIM.
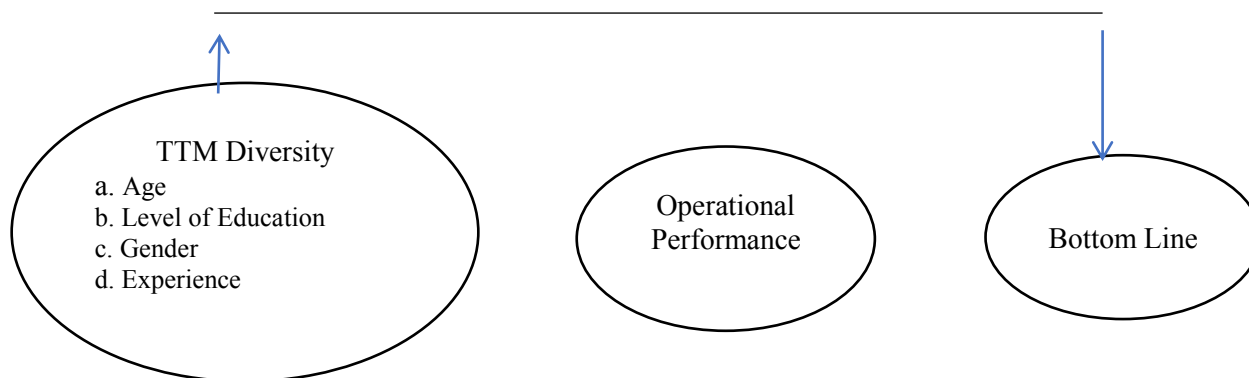
3 Research Method

Fig. 1: Conceptual Model of Research
Source: Adapted from [5] and [6]

This research is inextricably linked to previous empirical studies, but this analysis uses the most recent data from 2021 and 2022, along with a more thorough model. This study examines the influence of diversity on the bottom line, ROA, and regulating operational performance such as NPL with operational performance such as OER, NPL, NIM, and LDR. The purpose of this study was to determine the impact of gender diversity and TTM experience on the bank's bottom line through operational performance. The effect of diversity on the bottom line will be moderated by each operational performance. Figure 1 summarizes the operationality of the research variables.

3.1 Operational Research Variables

In this study, associative research will be used. The attempts to determine the influence or relationship between two or more components, [18]. This research will be able to generate hypotheses that will aid in the explanation, prediction, and management of symptoms. Associative research distinguishes three types of relationships: symmetric, causal, and interactive/reciprocal. NPL, OER, and NIM are used as factors mediating the link between the two to

examine the influence of gender diversity on bank performance in this study. Table 1 summarizes the operationality of the research variables.

Table 1. Research Variables

Construct	Indicator	Operational
TTM Diversity	Age	$\frac{TTM\ aged\ \geq 45\ years}{TTM}x100$
	Gender	$\frac{TTM\ male}{TTM}x100$
	Education	$\frac{TTM\ has\ an\ undergraduate\ and\ postgraduate\ along\ with\ doctoral\ degree}{TTM}x100$
	Experience	$\frac{TTM\ banking\ experiences}{TTM}x100$
Operational Performance	OER	$\frac{Operating\ Costs}{Operating\ Income}x100$
	NIM	$\frac{Net\ Interest\ Income}{Total\ Productive\ Assets}x100$
	NPL	$\frac{Non\ Performing\ Loans}{Total\ Loans}x100$
Bottom line	ROA	$\frac{Net\ profit\ after\ tax}{Total\ assets}x100$

Source: Adapted from [22] and [23]

3.2 Population and Research Sample

The study population consists of 106 commercial banks in Indonesia, 92 of which are conventional banks and 14 of which are Islamic banks. There are 8 foreign bank branch offices within a conventional bank. During 2021 through 2022 the research sample available data is consistently 53 conventional commercial banks, omitting international bank branches. Table 2 (Appendix) contains a list of banks included in this study.

3.3   Research Data Collection Techniques

This study focuses on commercial banks. The analysis unit must have published an annual report for the 2021 to 2022 review period, as well as provided information on the personal information of directors and commissioners (TTM) for the 2021-2022 review period. Plenty of instances of bank data can be regarded as secondary data because they were obtained from regulatory websites and bank documents in the form of Bank Annual Reports. This information is regarded as reliable and accurate. The two-year time range is from 2021 to 2022.

3.4   Research Data Processing Methods

The analytical method employs SEM-PLS with the assistance of the SmartPLS 3.0 software. There are two analyses in SEM-PLS: the inner model and the outer model. The outer model establishes the relationship between the latent variables and the observed indicators (validity and reliability), whereas the inner model establishes the relationship between the independent and dependent latent variables.

The following is utilized in the PLS-SEM outer model to infer correlations between variables and indicators in studies. Two tests, namely a validity test, and a reliability test, are run on this outer model. To guarantee that the data obtained is legitimate, exact, and correct, the determining signs associated with the study's variables will first be tested. The validity and reliability of the indicators utilized in this study will then be tested based on the research that has been done, [19].

The result will be utilized to establish the correlation between the independent, dependent, and moderating variables in the inner PLS-SEM model. By employing bootstrapping, each variable's impact on its value may be examined. By substituting the initial sample, the sample size can be raised to 5000 samples, giving the bootstrap more room for error or standard deviation. This affects how the structural path test's predicted t-value is calculated. The t-test is then used to assess how each variable differs from the others in terms of its relationship. To make the generated data more stable and simpler to analyze in the future, these results will be close to the normal value, [20].

4 Results and Discussion

4.1 Descriptive Statistics

Table 2. Results of Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
Age	.20	1.00	.9414	.12494
Gender	.40	1.00	.8394	.14704
Education	.00	1.00	.5962	.23911
Experience	.25	1.00	.7790	.19222
NPL	.01	14.09	2.6400	1.91785
NIM	-2.33	10.42	5.3484	1.94023
OER	46.50	237.74	84.8960	27.50232
ROA	-10.36	4.74	1.3765	2.15115

Source: Processing results with Smart PLS

The descriptive data for research indicators are shown in Table 3. The proportion of TTM over 45 years old ranges from 20% to 100% for each bank, with an average of 94.14% of TTM over 45 years old. This predominance implies a preference for experienced banking leaders. In terms of gender makeup, the numbers show a majority of male members in TTM, indicating possible gender imbalances at the leadership level. Educationally, a significant proportion of TTM members have at least a master's degree, demonstrating the banking sector's emphasis on higher education. Each bank's male TTM proportion spans from 40% to 100%, with an average of 83.94%. TTM with a minimum master's degree ranges from 0% to 100%, with an average of 59.6%; the remainder are TTM with bachelor's degrees. The proportion of TTM having banking experience ranges from 25% to 100%, with an average of 77.9%, while the remainder has never worked in banking, with the majority working in regional development banks and state-owned firms.

TTM members have extensive banking expertise, demonstrating the industry's preference for seasoned experts who understand the complexity of the financial market. It is worth noting that, while many TTM members have direct banking expertise, there are also representatives from regional development banks and state-owned corporations. This diversity of experience may contribute to a larger range of viewpoints and knowledge among the bank's executives.

The sample banks' NPL value varies between 0.01% and 14.09%, with a mean of 2.64%. NIM values range from -2.33 to 10.42, with a mean of 5.35%. OER results range from 46.5 to 237.74, with

a mean of 84.90%. ROA values range from -10.36% to 4.74%, with a mean of 1.376%. Financial performance in 2022 has been improved than in 2021 since the COVID-19 pandemic remains to have an impact in 2021.

Operational performance measures such as NPL percentages and NIM exhibit a range indicating variability in bank asset quality and interest revenue management. The OER values vary greatly among the sample banks, possibly reflecting variances in cost management practices. The ROA, a key profitability statistic, demonstrates that banks have transitioned from negative to positive territory, perhaps signaling recovery and expansion in the post-pandemic period. The increase in financial performance in 2022 over the previous year suggests resilience and adaptability in the face of persistent pandemic problems.

Overall, the data paints a picture of Indonesian commercial banks that favor leadership experience and educational attainment in their TTM composition, despite indicators of operational recovery and profitability improvement in an uncertain economic situation.

4.2 Outer Model Analysis

4.2.1 Validity Test Results

Each indicator is valid for measuring its construct if the standardized factor loading (SLF) value is more than 0.5 and the p-value of the t-test is less than 0.05. Table 4 shows the results of the indicators' validity tests.

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Table 3. Phase I Validity Test Results

Indicator	SLF	Standard Deviation	T Statistics	P-Values
Gender <- Diversity.TTM	-0.337	0.262	1.289	0.198
Education <- Diversity.TTM	-0.173	0.272	0.636	0.525
Experience <- Diversity.TTM	0.217	0.324	0.671	0.503
Age <- Diversity.TTM	0.952	0.294	3.235	0.001
OER <- Performance.Operational	0.945	0.024	39.364	0
NIM <- Performance.Operational	-0.459	0.203	2.261	0.024
NPL <- Operational Performance	0.718	0.133	5.401	0.000
ROA <- Bottom.Line	1	0	-	0.000

Source: Processing results with Smart PLS

TTM diversity is quantified using four indicators: gender, education, experience, and age. According to the table above, gender, education, and experience have an SLF of <0.5, whereas age has an SLF of >0.5. As a result, only valid age measures TTM diversity, whereas the other three factors, namely gender, education, and invalid experience, measure TTM diversity.

Three metrics are used to assess operational performance: OER, NIM, and NPL. According to the table above, NIM has an SLF of < 0.5, whereas OER and NPL have SLFs greater than > 0.5. As a result, it is possible to conclude that OER and NPL are legitimate for measuring operational performance, however, NIM is not.

With an SLF of -0.337 and a p-value of 0.198, the gender component of TTM diversity does not have a statistically significant association since the p-value is greater than the standard threshold of 0.05. The SLF for education is -0.173 with a p-value of 0.525, implying that educational diversity is not a significant predictor of TTM diversity in this model. Experience has an SLF of 0.217 and a p-value of 0.503, indicating that it is not a statistically significant indicator of TTM variety. The age indicator has an SLF of 0.952, which is both high and statistically significant (p-value = 0.001). This suggests that age is a reliable and substantial indicator of TTM variability.

Age appears to be the only parameter provided that makes a substantial contribution to measuring TTM variety. This research found no significant association between gender, education, or experience and TTM diversity. This shows that age diversity in TTM is a more important consideration in this setting than gender, education, or experience variety.

With an SLF of 0.945 and a p-value of 0.000, OER is a very significant and powerful predictor of operational performance. NIM has an SLF of -0.459, which is below the 0.5 criterion, but it is still statistically significant (p-value = 0.024). This negative result may indicate an unfavorable association with operational performance, but its statistical significance implies it should not be discounted without more research. The NPL indicator has an SLF of 0.718 and a p-value of 0.000, making it a reliable indicator of operational success. While NIM does not satisfy the normal SLF criteria, its statistical significance shows that it might still be a useful indication of operational effectiveness, albeit with a different connection than what is often assumed.

The bottom-line indicator, ROA, has a default SLF of 1, indicating that it is a direct assessment of the banks' bottom-line performance.

Since the bottom line is only measured by one indicator, ROA, the SLF is worth one. Following that, invalid indications are eliminated from the model, and validity tests are run again. The validity test results after issuing invalid indicators are shown in Table 5.

Table 4. Phase II Validity Test Results

Indicator	SLF	Standard Deviation	T Statistics	P-Values
OER <- Performance.Operational	0.963	0.013	72.493	0.000
NPL <- Operational Performance	0.706	0.152	4.661	0.000
ROA <- Bottom.Line	1	0	-	0.000
Age <- Diversity.TTM	1	0	-	0.000

Source: Processing results with Smart PLS

Table 5. Reliability Test Results

Construct	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Bottom.Line	1	1	1
Diversity.TTM	1	1	1
Performance.Operational	0.656	0.829	0.713

Source: Processing results with Smart PLS

Table 6. Inner Model t-Test Results

	Coefficient	Standard Deviation	T Statistics	P-Values
Diversity.TTM -> Bottom.Line	0.26	0.122	2.133	0.033
Diversity.TTM -> Performance.Operational	-0.394	0.106	3.729	0.000
Performance.Operational -> Bottom.Line	-0.76	0.092	8.259	0.000

Source: Processing results with Smart PLS

According to Table 5, all indicators are appropriate for measuring the construct. The reliability test results are shown in the next section.

The Standardized Loading Factor (SLF) for OER is 0.963, demonstrating a strong and positive correlation with the Operational Performance construct. This significant loading shows that OER is an effective metric of bank operational success. The T-statistic of 72.493, together with a p-value of 0.000, gives strong statistical proof that the link is meaningful and not a random chance. The SLF for NPL is 0.706, which is greater than the threshold of 0.5 and indicates a significant positive link with the operational performance construct but is as strong as OER. The T-statistic is 4.661, and the p-value is 0.000, demonstrating that NPL is a statistically significant predictor of operational performance. The SLF for ROA is one, indicating a perfect association with bottom-line performance as a construct. This may reflect a definitional link in which ROA is seen as a direct measure of the bottom line in the context of this study. Since the standard deviation and T-statistics are not supplied, the p-value of 0.000 demonstrates that ROA is a reliable indicator of bottom-line success. Similarly, the SLF for a measure of TTM diversity is 1, showing a perfect connection.

This might imply that age diversity is the primary or single component of TTM diversity in this study. The absence of standard deviation and T-statistics, along with a p-value of 0.000, indicate that the association between age and TTM variety is decisive and statistically significant.

4.2.2 Reliability Test Results

All indicators are reliable for measuring their construct because the AVE value is more than 0.5 and the values for the composite reliability (CR) and Cronbach alpha are both higher than 0.7. Table 6 displays the reliability test results.

According to Table 6, the bottom line and variety of TTM are only measured by 1 indicator, resulting in Cronbach alpha, CR, and AVE values of 1. While the Cronbach alpha for operational performance is less than 0.7, the CR and AVE values are high, implying that the indicators that assess operational performance are reliable.

TTM structures have Cronbach's alpha and composite reliability (CR) values of 1. This suggests complete internal consistency, which is quite remarkable and may imply that each construct is measured using a single indication. While this may be appropriate in some cases (for example, when a

construct is immediately observable and does not require several items to capture its variation), it seldom provides a thorough assessment of dependability. The average variance extracted (AVE) for these constructs is also one, indicating that a single indicator captures all the variance for each construct. This perfect AVE indicates no measurement error, which is uncommon in practice and may require additional validation or research to verify that the structures are properly represented.

The Cronbach's alpha for operational performance is 0.656, which is somewhat below the usually recognized criterion of 0.7 for determining if a group of indicators has adequate internal consistency. However, this may not always imply a problem because Cronbach's alpha is sensitive to the number of items in a scale, and a slightly lower value may be acceptable in scales with fewer items.

The CR for operational performance is 0.829, which is higher than the permissible level of 0.7. This shows that the composite indicators used to assess operational performance are dependable, and the construct has a high level of internal consistency.

The AVE for operational performance is 0.713, which is above the minimal requirement of 0.5, showing that the concept itself, rather than error, accounts for most of the variation covered by the indicators, demonstrating convergent validity.

4.3 Inner Model Analysis

The inner model is used to visualize the relationship between research hypotheses. The results of the t-test on the inner model are shown in Table 7.

According to Table 7, TTM diversity (age) has a substantial impact on the bank's operational performance, with a regression coefficient of -0.394 indicating that the bigger the TTM diversity value, the lower the operational performance. TTM diversity is determined by age indicators, therefore the higher the share of top management aged >=45, OER and NPL measurements of the bank's operational performance indicate a decline.

TTM diversity also has a substantial impact on the bottom line, with a positive regression coefficient (0.26) indicating that the greater the value of TTM diversity, the higher the bottom line. In other words, the higher the share of top management aged >=45 years old, the higher the bottom line as assessed by ROA.

The bottom line is significantly impacted by operational performance, as indicated by the regression coefficient of -0.760, which suggests that the greater the value of operational excellence, the lower the bottom line. To put it another way, the higher the OER and NPL values, the lower the ROA value, and vice versa, the lower the OER and NPL values, the higher the ROA value. The path diagram below depicts the entire relationship between constructs and measurement indicators.

Figure 2 shows the size of the coefficient of determination for each endogenous variable.
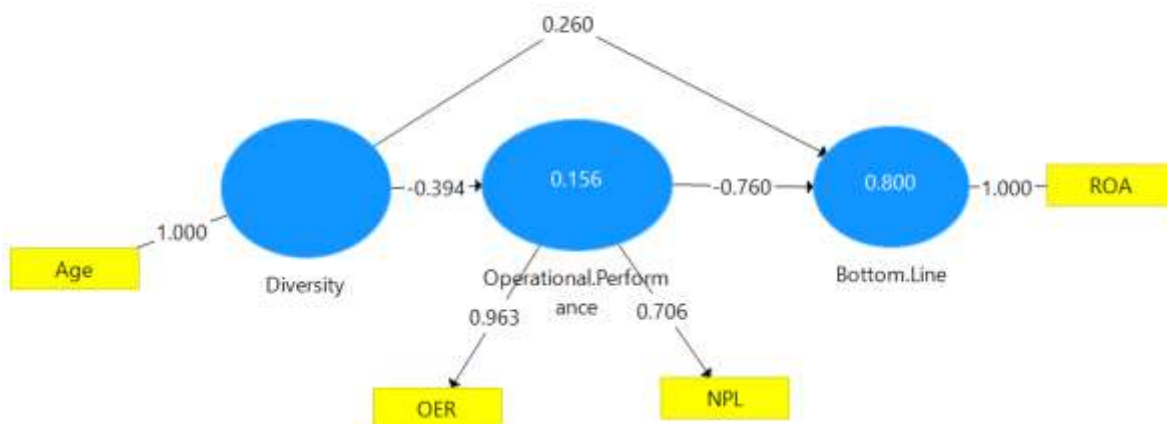

Fig. 2: Path Diagram
Source: Processing results with Smart PLS

Table 7. Coefficient of Determination

	R Square	R Square Adjusted
Bottom.Line	0.8	0.796
Performance.Operational	0.156	0.147

Source: Processing results with Smart PLS

The model demonstrates that age diversity within TTM has a direct, negative connection with operational performance (path coefficient = -0.394). This suggests that increasing age diversity among TTM members is related to lower operational effectiveness. However, the model also demonstrates a positive direct association between age diversity and the bottom line (ROA), with a path value of 0.260.

Operational performance is highly impacted by NPL, with path coefficients of 0.963 and 0.706, respectively, indicating strong construct linkages.

According to Table 8, changes in TTM (age) diversity and operational performance explain 79.6% of the bottom line, while the rest is explained by other variables not included in the model. While TTM diversity could only match 14.7 percent of operational success, numerous other characteristics could explain operational performance but are not included in the model.

The bottom line's R-squared value is 0.8, indicating that the model's variables (TTM age diversity and operational performance) account for 80% of its variability.

The adjusted R-squared score of 0.796 shows a very high degree of explanation after controlling for the number of factors in the model. The R-squared value for operational performance is 0.156, with an adjusted R-squared value of 0.147, indicating that the model accounts for 15.6% of the variance. This implies that additional factors not included in the model might account for the remaining 84.4% of the variation in operational performance.

4.4 Analysis of Research Results
TTM (age) diversity has a significant impact on operational performance and on the bottom line, according to Table 8, while operational performance mediated TTM diversity has a significant impact.

In other words, financial performance will increase as the value of OER and NPL declines and the bottom line, as defined by ROA, grows. The higher the share of top management over the age of 45, the lower the bank's operational performance as assessed by OER and NPL. The results of this study are in line with those who found that the bank's risk-taking decreased with the age difference between the chairman and chief executive officer (CEO), resulting in a lower risk of non-performing loans (NPL) and lower operating expenses, [14]. Furthermore, a variety of ages was cited as a contributing factor to the unsuccessful performance of the experimental enterprises, [13].

Age diversity can have both beneficial and bad consequences on the finance business. When making decisions, age diversity brings together individuals with diverse viewpoints, experiences, and problem-solving approaches. However, age variety can often cause communication issues and generation divides, especially when it comes to technology uptake.

TTM with a diverse gender, education, and experience, on the other hand, has no impact on operational performance or the bottom line. The findings of this study contradict prior research that demonstrated the positive impacts of gender diversity, [11]. Other researchers have discovered that gender diversity has a negative impact, [7], [12]. As a result, in addition to the insignificance of gender diversity, TTMs' diversity of skill and previous experience does not affect the organization. This contrasts prior research findings that suggested that diversity of experience can bring old expertise to be implemented in his new organization, [4]. Furthermore, the findings of this study differ from previous studies, [15], [16], [21]. These studies research findings found significance but are consistent with one of the previous researchers, who concluded that there was no connection between educational diversity and financial performance of an enterprise, [17].

This is possible since not all types of variety are guaranteed to have a good influence. TTM has a diverse gender, education, and experience, but its good impact is dependent on how well members of this management can interact and coordinate their work. The impact of diversity on operational performance and results may take some time to manifest, particularly in the short term.

Additionally, the findings of the t-test in Table 8 show that operational performance has a significant effect on the bottom line. Conversely, a lower ROA value corresponds to greater OER and NPL values, and a higher ROA value to a lower OER and NPL value. This study's findings are congruent with

previous studies that discovered that gender diversity has a negatively significant effect on NPL and OER. Those two financial ratio variables had a significant negative influence on ROA. Furthermore, it stated that neither NPL nor NIM had a substantial effect on ROA. Nonetheless, the OER ratio has a considerable impact on ROA, [22], [23].

4.5 Direct Effect, Indirect Effect and Total Effect

The following, Table 9, shows the extent of the direct and indirect impact of TTM diversification and operational success on the bottom line.

Based on Table 9, TTM diversity has a total impact on the bottom line of 0.559, whereas operational performance has a total impact of -0.76. Thus, operational performance is the most important factor influencing the bottom line. This is reasonable given that past study findings show a wide range of opinions on the impact of TTM on ROA (bottom line) financial performance. As early as operational performance, such as NPL, OER is indeed very closely tied to Profit (ROA), since as the value of NPL and OER falls, so does the ROA. TTM diversity has a direct beneficial impact on the bottom line, with a value of 0.260. This indicates that all things being equal, increased TTM variety directly adds to a better bottom line.

Furthermore, the TTM variety has an indirect impact of 0.300 on the bottom line. This indirect impact may be mediated by additional factors not explicitly listed in the table but included in the model.

The overall effect of TTM variety on the bottom line is 0.559, which includes both direct and indirect effects. This substantial overall effect implies that TTM variety is an important element impacting the bottom line, not just directly but also indirectly.

Operational performance hurts the bottom line, with a value of -0.394. This shows that reductions in operational performance measurements, such as an increase in OER or NPL, are directly linked to a lower bottom line.

There is no indirect effect stated for operational performance, suggesting that its impact on the bottom line is direct and not caused by other factors in the model.

The overall effect of operational performance on the bottom line is -0.760, which is both significant and negative. This suggests that operational success has a greater impact on the bottom line than TTM diversity.

The negative coefficient for operational performance indicates a possible inverse link with the bottom line, implying that when operational performance indicators deteriorate for example. increased NPL and OER, the bottom line, as measured by ROA, declines. This is compatible with financial theory, since greater NPL ratios indicate more non-earning assets, while higher OERs indicate less efficient operations, both of which can reduce profitability.

The findings emphasize the need for successfully managing operational performance to achieve better financial results. While TTM diversity benefits the bottom line, the operational characteristics examined have a greater and worse overall impact on profitability. The report concludes that, while TTM variety benefits the bottom line, banks must emphasize operational savings to maintain financial success. These findings are consistent with previous research, which has found conflicting views on the influence of TTM on financial success but a consensus on the relevance of operational performance measurements.

Table 8. Direct Effect, Indirect Effect and Total Effect

	Direct Effect	Indirect Effect	Total Effect
Diversity.TTM -> Bottom.Line	0.260	0.300	0.559
Diversity.TTM -> Performance.Operational	-0.394	0.000	-0.394
Performance.Operational -> Bottom.Line	-0.760	0.000	-0.760

Source: Processing results with Smart PLS

5 Conclusion

This study sheds light on how top-tier management (TTM) diversity affects the operational performance and profitability of Indonesian commercial banks. A review of data from 53 banks between 2021 and 2022 revealed that age diversity within TTM had a substantial impact on both operational performance and the bank's bottom line. Notably, whereas TTM diversity mediated by operational performance had a significant effect, gender, experience, and education differences had no discernible influence. The study found that operational performance, as measured by

metrics such as operating expenses, operating income, net interest margin (NIM), and non-performing loans (NPL), had a greater impact on profitability than TTM diversity, with a stronger negative correlation to the bottom line. The findings indicate that, while operational performance is critical in determining a bank's financial success, the impact of TTM diversity on financial outcomes is complicated and varies with individual variables such as age. However, the study suggests that the impacts of diversity may not be immediately apparent in short-term operational performance and outcomes. Future studies should investigate longer periods to properly understand the long-term effects of TTM diversification on a bank's profitability. Overall, this study emphasizes the subtle impact of TTM variety in influencing Indonesian commercial banks' financial outcomes as well as the critical necessity of operational success in generating profitability.

References:

[1] Penrose, E. T. (1959). The Theory of the Growth of the Firm. New York: John Wiley & Sons Inc. Penrose, E. T, 1, 1-23.

[2] Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of management review*, 9(2), 193-206.

[3] Tulung, J. E., & Ramdani, D. (2016). The influence of top management team characteristics on BPD performance. *International Research Journal of Business Studies*, 8(3), 155-166.

[4] Johnson, S. G., Schnatterly, K., & Hill, A. D. (2013). Board composition beyond independence: Social capital, human capital, and demographics. *Journal of management*, 39(1), 232-262.

[5] Kang, H., Cheng, M., & Gray, S. J. (2007). Corporate governance and board composition: Diversity and independence of Australian boards. *Corporate governance: An international review*, 15(2), 194-207.

[6] Ararat, M., Aksu, M., & Tansel Cetin, A. (2015). How board diversity affects firm performance in emerging markets: Evidence on channels in controlled firms. *Corporate Governance: An International Review*, 23(2), 83-103.

[7] Forbes, D. P., & Milliken, F. J. (1999). Cognition and corporate governance: Understanding boards of directors as strategic decision-making groups. *Academy of management review*, 24(3), 489-505.

[8] Bjuggren, P., Nordström, L., & Palmberg, J. (2015). Efficiency of female leaders in family and non-family firms. *Ratio Working Paper*, (259).

[9] Hambrick, D. C., Humphrey, S. E., & Gupta, A. (2015). Structural interdependence within top management teams: A key moderator of upper echelons predictions. *Strategic Management Journal*, 36(3), 449-461.

[10] Wicaksana, K. A. B. (2010). The impact of national diversity of board of commissioners and directors on the company's market performance (Dampak diversitas kebangsaan anggota dewan komisaris dan direksi pada kinerja pasar perusahaan). *JDM (Jurnal Dinamika Manajemen)*, 1(1).

[11] Byron, K., & Post, C. (2016). Women on boards of directors and corporate social performance: A meta-analysis. *Corporate Governance: An International Review*, 24(4), 428-442.

[12] Dobbin, F., & Jung, J. (2010). Corporate board gender diversity and stock performance: The competence gap or institutional investor bias. *NCL Rev.*, 89, 809.

[13] Kunze, F., Boehm, S. A., & Bruch, H. (2011). Age diversity, age discrimination climate and performance consequences—a cross organizational study. *Journal of organizational behavior*, 32(2), 264-290.

[14] Zhou, Y., Kara, A., & Molyneux, P. (2019). Chair-CEO generation gap and bank risk-taking. *The British Accounting Review*, 51(4), 352-372.

[15] Huse, M., Nielsen, S. T., & Hagen, I. M. (2009). Women and employee-elected board members, and their contributions to board control tasks. *Journal of Business Ethics*, 89, 581-597.

[16] Østergaard, C. R., Timmermans, B., & Kristinsson, K. (2011). Does a different view create something new? The effect of employee diversity on innovation. *Research policy*, 40(3), 500-509.

[17] Hassan, L. S., Saleh, N. M., & Ibrahim, I. (2020). Board diversity, company's financial

performance and corporate social responsibility information disclosure in Malaysia. *International Business Education Journal*, *13*(1), 23-49.

[18] Sugiyono, D. (2017). Research Methods in Quantitative, Qualitative, and R&D (Metode penelitian kuantitatif, kualitatif, dan R&D). Bandung: Alfabeta.

[19] Wong, K. K. K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing bulletin*, *24*(1), 1-32.

[20] Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, *19*(2), 139-152.

[21] Jiang, X., & Li, Y. (2008). The relationship between organizational learning and firms' financial performance in strategic alliances: A contingency approach. *Journal of world business*, *43*(3), 365-379.

[22] Abidin, Z., Akbar, T., & Sudja, A. H. (2022). Gender Diversity In Top Management Teams And Its Effects On National Commercial Banks' Performance. *Scientific Bulletin– Economic Sciences*, *21*(2).

[23] Abidin, Z., Mulyono, M., Prabantarikso, R. M., Fahmy, E., & Yanti, M. Y. (2022). The Effect of Gender Diversity Top Management Team on Financial Performance of Banks in Indonesia. *Journal of Business and Management Review*, *3*(11), 812-825.

APPENDIX

Table 9. Bank Sample

No	Bank
1	BRI
2	MANDIRI
3	BNI
4	BTN
5	BCA
6	PANIN
7	ARTHA GRAHA
8	CAPITAL INDONESIA
9	BUMI ARTA
10	MAYAPADA
11	BJB
12	DKI
13	BPD DIY
14	BANK JATENG
15	BANK JATIM
16	BANK JAMBI
17	BANK SUMUT
18	BANK NAGARI
19	BANK SUMSEL BABEL
20	BANK LAMPUNG
21	BANK KALSEL
22	BANK KALBAR
23	BANK KALTIMTARA
24	BANK KALTENG
25	BANK SULSELBAR
26	BSG
27	BPD BALI
28	BANK NTT
29	BANK MALUKU MALUT
30	BANK PAPUA
31	BANK BENGKULU
32	BANK SULTENG
33	BANK SULTRA
34	BANK BANTEN
35	MESTIKA DHARMA
36	SINARMAS
37	GANESHA
38	BANK MEGA
39	BJJ

No	Bank
40	MNC
41	BANK NEO
42	BANK RAYA INDONESIA
43	DIGITAL BCA
44	BANK NATIONALNOBU
45	BANK INA PERDANA
46	BSS
47	BANK JAGO
48	BMS
49	MAYORA
50	INDEX SELINDO
51	MANDIRI TESPEN
52	BANK VICTORIA
53	BANK ALLO

Source: Purposive Sampling Results Sample (processed)

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)
The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

Conflict of Interest
The authors have no conflicts of interest to declare.