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The effect of firm age, firm size on financial performance with financial inclusion as intervening variable: Study on the go public banking sector in Indonesia for the 2015-2020 period

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Abstract

This study was made to see how much the firm age and firm size can affect the financial performance, by looking at financial inclusion as an intervening variable. Explanatory research with quantitative methods is the type used in this research, and purposive sampling method is the sampling technique in this study. The sample used is 144 samples of the banking industry in Indonesia that have made an Initial Public Offering (IPO). Data collection can be in the form of documentation in the form of annual financial reports and company annual reports. The analysis technique used is the Structural Equation Model (SEM) using the Professional version of the Smart PLS 3 tool. The results of this study indicate that firm age on financial inclusion has a significant negative relationship direction, while firm size on financial inclusion has a significant positive relationship direction. Firm age and firm size on financial performance have a significant positive relationship direction. Financial inclusion (intervening variable) on financial performance has a significant positive relationship to direction.

1. Introduction

Financial performance, in the process, must provide a comprehensive analysis to the owner in the practice of the current financial position and this information can then be used in sustainable and strategic planning for the company. The three steps of the process are (1) financial statement analysis; (2) cost analysis: responsibility costs, fixed costs, and variable costs; and (3) budgeting and financial modeling, with the final result being the company's financial performance (Stallwood, 1996) [30]. So, in every plan that has been agreed upon in a company, it can form a financial performance goal that is desired by stakeholders and management.

Financial performance, is concerned with the financial assessment of a company, using various related measures. Measurements carried out generally use an accounting-based approach, namely: return on assets, return on equity, and return on sales, that there are ROCE (Return on Capital Employed), ROS (Return on Sales), and other calculations (Choi & Lee, 1997; Galant & Cadez, 2017) [7, 10]. Information on accounting reports and records is used to estimate the current and future position of the company's condition, then used for processes and decision-makers (Al-Wattar *et al*., 2019) [2].

Financial performance in organizational studies is influenced by main factors, including liquidity, debt, asset utilization, market share position, and company age (M & Zhengge, 2016) [15]. While the financial performance in the industry scope there are conclusions and findings of important factors, including the size of the company and the age of the company, which will support the improvement of company performance, which will indirectly support national income, bring the country to achieve long-term economic planning and economic development (Matar & Eneizan, 2018; Omar, 2019) [16, 21].

Expected in this research to form a new framework and new findings in the science of finance. Because there are still differences in the findings of the variable firm age and firm size, in scientific papers and journals. Other empirical findings open up great opportunities for financial inclusion studies to be further investigated. Where, financial inclusion is the ease of access to appropriate, low-cost, fair, and secure financial products and services from mainstream service providers (Varghese & Viswanathan, 2018) [33]. Financial inclusion has a close relationship with financial performance, which shows a positive and significant effect. It concludes that improving the quality of financial services will attract more customers to the bank and improve bank performance. Therefore, access to ATMs, POS, and Bank branches, which are many in support of better financial inclusion (Jimoh *et al*., 2019) [13].

Apart from that, the financial inclusion factor is important in maintaining the stability of the bank to be sustainable, intending to maintain customer social services, contributing to economic development, and supporting good corporate profitability (Thomas & Subhashree, 2020) [32] and digital finance/digital finance through Fintech and financial inclusion has several great benefits for financial service users, digital financial providers, governments, and the economy (Ozili, 2018) [23]. This means that indirectly, financial inclusion can maintain the stability of a country by continuing the life of the banking system in a country.

Several studies on financial inclusion, including revealing that improving the quality of financial access services (financial inclusion) with a technology approach will attract more users and improve company performance (Issaka Jajah et al., 2020; Jimoh et al., 2019; Shihadeh, 2021; Shihadeh et al., 2018) [12, 13, 27, 28]. In addition, at the small business level, financial literacy and financial inclusion are interrelated which together affect performance (Bagli, 2017; Odetayo et al., 2020) [5, 20]. This means that the use of digital technology related to financial inclusion cannot be separated from financial literacy.

Financial literacy is the knowledge, skills, and beliefs that ultimately influence attitudes and behavior in improving the quality of decision-making and financial management with the goal of achieving prosperity. Financial literacy makes consumers more considerate of using products and services (Otoritas Jasa Keuangan, 2021) [22]. Indonesia in recent has experienced a significant increase in financial inclusion accompanied by financial literacy. The following is an overview of the development of the financial literacy and financial inclusion index for 2013-2019.
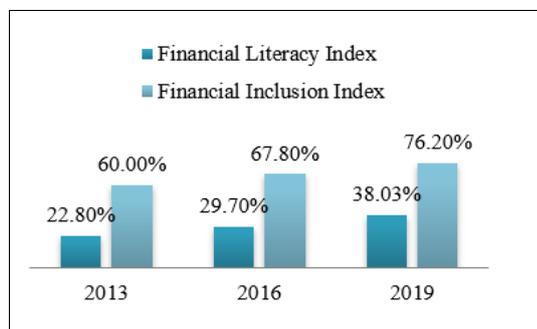
Source: (Otoritas Jasa Keuangan, 2021) [22]

Fig 1: Financial Literacy & Financial Inclusion Index, 2013-2019

This shows that the Indonesian people in general do not understand well the characteristics of various financial products and services offered by formal financial service institutions (Otoritas Jasa Keuangan, 2021) [22]. This strengthens the assumption that the use of old technology (ATM and Bank Branches) is still relevant compared to today's digital technology.

Apart from that, the locus of this research is the banking industry. The banking industry is expected to be able to improve the national economy, moreover to increase access to finance and financial services evenly, which can support economic recovery. The banking sector in Panama influences the Gross Domestic Product (GDP), as it represents more than 10% of GDP and was among the three most influential sectors that year (construction, transportation, and financial intermediation). In 2016, it became one of the important sectors and activities in the expansion of the Panama Canal, by contributing to increasing public resources in achieving general goals (Asaah et al., 2020) [4].

The banking industry is a large sector that is important for the community in supporting social and economic activities. This is also supported by the following data, which is seen per industrial sector in Indonesia, namely the highest demand for consumer services comes from the Other Sector (48.50%), Banking (23.26%), IKNB Fintech (13.49%), and requests for services related to the Pension Fund IKNB (0.20%), IKNB – Others (0.51%) and Capital Market (2.06%) sectors(Otoritas Jasa Keuangan, 2021) [22]. This implies that the banking sector is a service request that is requested by the public more than other sectors that can be grouped.

Based on the theory that has been described and the empirical studies that have been proposed. The researcher combines company age and company size as independent variables and financial performance as the dependent variable and with financial inclusion as an intervening variable, researchers find research gaps in each variable related to financial performance studies and new tests on financial inclusion variables in Indonesia. Where the research gap is a condition that shows an inconsistency between the results of the research that is formulated with all the supporting data. Finally, the researcher did not focus on Digital Banking (Digital Bank) and Mobile Banking (M-Banking), but on the inclusion of bank branches and the number of ATMs.

2. Methods and data

Within the social sciences, there are two broad areas of research: quantitative and qualitative research. The main difference between these two research traditions is the number of observations. Research that involves few observations (e.g., one, two, or three individuals or countries) are generally called qualitative. Such research requires an in-depth examination of the cases at hand. In contrast, work that includes hundreds, thousands, or even hundreds of thousands of observations are called quantitative (Stockemer, 2019) [31]. So, to test and combine several concept values (variables) into a new model, the researcher uses a quantitative approach. The population in this study is an Initial Public Offering (IPO) company in the banking industry, in the period December 2014-December 2020. The population of banks in Indonesia listed on the Indonesia Stock Exchange (IDX) until December 21, 2020, there are 45 conventional bank companies and there are 3 Islamic bank companies. The criteria used are as follows:

Table 1: Criteria and Number of Samples

S. No	Criteria	Appropriate Sample Quantity
1	The Company publishes Financial Reports and Annual Reports regularly.	45
2	Banking sector companies listed on the Indonesia Stock Exchange (IDX) for the last 6 (six) years, during the 2014-2020 period.	44
3	Financial Statements (Financial Reports) and Annual Reports (Annual Reports) of companies, which do not contain indicators of research variables.	41
4	The company experiences profitability every year, based on financial statements and or annual reports.	24
	Number of observations 6 years	144

The type of data in this study is a type of secondary data. Secondary data sources were obtained from literature related to OHS, and the remaining data came from company manuals, reports, and several management documents included in the desk review. Leading journals, books, different articles, periodicals, proceedings, magazines, newsletters, newspapers, websites, and other sources are considered in the manufacturing industry sector. The data obtained comes from existing work documents, regulations, procedures, reports, statistical data, policies, manuals, and standards that are taken into account for review (Sileyew, 2020) [29]. PLS-SEM Professional is the main application used in this research. There are two stages of evaluation of the measurement model used, namely the measurement model (outer model) and structural model (inner model). The purpose of the two stages of evaluation of the measurement model is to assess the validity and reliability of a model.

A variable refers to a property or attribute of a concept that can be measured in a certain way: in short, a variable is a measurable version of a concept. The process of turning concepts into variables is called operationalization (Stockemer, 2019) [31]. While the operational definitions that can be used as measurement of variables in this study are as follows:

Table 2: Operational Definition

S. No	Variable	Measurement	Source
		Dependent Variable	
1	Financial Performance	$ROA = \dfrac{Net\ Profit}{(Beginning\ Assets + Ending\ Assets)/(2)}$	(Boakye et al., 2021) [6]
		$ROE = \dfrac{Net\ Profit}{(Beginning\ Equity + Ending\ Equity)/(2)}$	(Ramzan et al., 2021) [25]
		Intervening Variables	
2	Financial Inclusion	$Financial\ Inclusion = \dfrac{Number\ of\ bank\ branches}{100.000\ population}$ & $\dfrac{Number\ of\ ATMs}{100.000\ population}$	(Ramzan et al., 2021) [25]
		Independent Variable	
3	Firm Age	Firm age is the number of years a company officially becomes an Initial Public Offering (IPO).	(Zhang et al., 2020) [34]
4	Firm Size	The natural logarithm of three firm size measures, namely: total assets, total sales, and market value of equity	(Dang et al., 2018) [9]

Source: Various sources from related research

3. Results and discussion
3.1 Results
3.1.1 Structural Model Testing (Outer Model)
The next step is to evaluate the measurement model or outer model. Starting from the construct validity test phase which consists of convergent validity, by considering the loading factor value, AVE value, and discriminant validity indicated by the cross-loading value. Then, the second stage, namely reliability testing, is indicated by the composite reliability value.

1. Value of Loading Factor

Table 3: Convergent Validity Results

	Financial Inclusion	Financial Performance	Firm Age	Firm Size
ATM Branch	0.972			
Bank Branch	0.970			
Firm Age			1.000	
Firm Size				1.000
ROA		0.999		
ROE		0.999		

The output loading factor value for the Financial Inclusion variable with two measurement indicators is ATM Branch = 0.972, Bank Branch = 0.970. Furthermore, the value of the Financial Performance variable with two measurement indicators is ROA = 0.999, and ROE = 0.999. Firm Age = 1,000 and Firm Size = 1,000. It is concluded that all indicators for financial inclusion variables, financial performance, company age and company size already have a loading factor value above 0.60

2. Average Variance Extracted (AVE) Value

Table 4: Reliability Test Results

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Financial Inclusion	0.940	0.941	0.971	0.944
Financial Performance	0.999	0.999	0.999	0.999
Firm Age	1.000	1.000	1.000	1.000
Firm Size	1.000	1.000	1.000	1.000

The AVE values for each construct are Financial Inclusion = 0.944, Financial Performance = 0.999, Firm Age = 1,000 and Firm Size = 1,000. The four constructs already have a value of 0.50, meaning that the four constructs of financial inclusion, financial performance, firm age and firm size are categorized as valid.

3. Cross Loading Value

Table 5: Cross Loading Value

	Financial Inclusion	Financial Performance	Firm Age	Firm Size
ATM Branch	0.972	0.752	0.574	0.705
Bank Branch	0.970	0.707	0.532	0.670
Firm Age	0.570	0.951	1.000	0.957
Firm Size	0.708	0.985	0.957	1.000
ROA	0.750	0.999	0.951	0.986
ROE	0.752	0.999	0.949	0.983

Furthermore, the Cross Loading value for the Financial Inclusion variable with two measurement indicators is ATM Branch = 0.972, and Bank Branch = 0.970. The value of the Financial Performance variable with two measurement indicators is ROA = 0.750 and ROE = 0.752 and the Firm Age and Firm Size variable values for each indicator are Company Age = 1,000, and Company Age = 1,000. All indicators for financial inclusion, financial performance, firm age and firm size, already have a cross loading value above 0.70.

4. Correlation Between Latent Constructs

Table 6: Variable Correlation

	Financial Inclusion	Financial Performance	Firm Age	Firm Size	Average Variance Extracted (AVE)	Square root of *AVE*
Financial Inclusion	1.000	0.751	0.570	0.708	0.944	0.971
Financial Performance	0.751	1.000	0.951	0.985	0.999	0.9995
Firm Age	0.570	0.951	1.000	0.957	1.000	1.000
Firm Size	0.708	0.985	0.957	1.000	1.000	1.000

It can be seen that the correlation value of Financial Inclusion on Financial Performance is 0.751 and the correlation between Financial Inclusion on Firm Age and Firm Size of 0.570 and 0.708 is smaller than the value of the Square Root AVE of the latent variable price of 0.971. Likewise for the latent variables Financial Performance, Firm Age and Firm Size where the correlation value between latent variables is smaller than the AVE Square Root value for each latent variable. That is, the three constructs are categorized as valid.

5. Reliability Test

Table 7: Composite Reliability

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Financial Inclusion	0.940	0.941	0.971	0.944
Financial Performance	0.999	0.999	0.999	0.999
Firm Age	1.000	1.000	1.000	1.000
Firm Size	1.000	1.000	1.000	1.000

As a result, Financial Inclusion is 0.971, Financial Performance is 0.999, Firm Age, and Firm Size are both worth 1,000. All composite reliability values are above 0.70. So, financial inclusion, financial performance, firm age, and firm size already have good reliability or are categorized as reliable.

3.1.2 Structural Model Testing (Inner Model)
The inner model is a structural model, based on the path-coefficient value, to see how much influence between latent variables with bootstrapping calculations. The evaluation is done by looking at the criteria for the R-Square value and the significance value. The following steps are carried out in testing the structural model (inner model). The next stage is the evaluation of the measurement model or inner model by looking at the criteria for the R-Square value and significance. But before discussing this, the researcher presents an overview of the path diagram for further understanding:
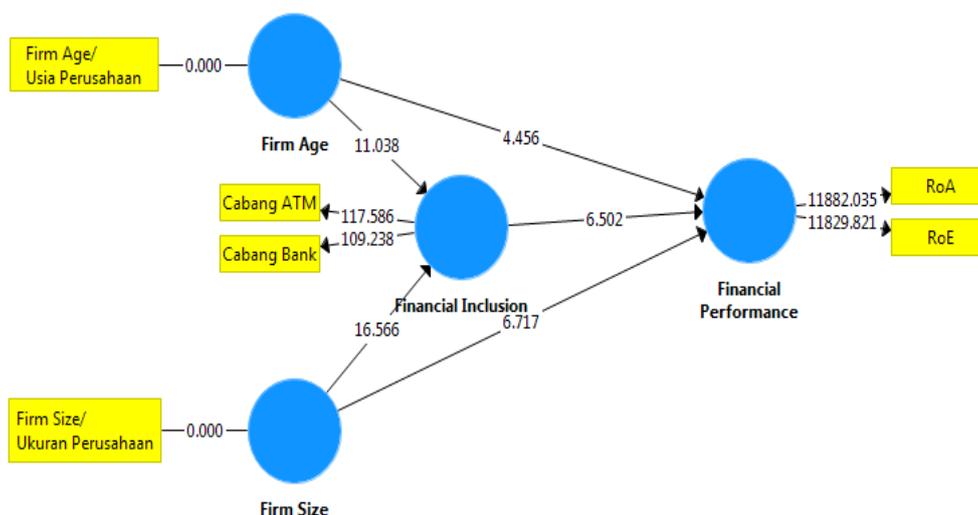
Fig 2: Path diagram display

1. R-Square Value

Table 8: R-Square Value

	R Square	R Square Adjusted
Financial Inclusion	0.642	0.637
Financial Performance	0.983	0.983

Based on the R-Square value, it shows that each variable for Financial Inclusion is 0.642 or 64.2%, which means it is included in the strong category. This means that the Firm Age and Firm Size variables affect Financial Inclusion 64.2%. Meanwhile, the R-Square Financial Performance value is 0.983 or 98.3%, which means it is included in the strong category. This means that firm age, firm size and financial inclusion variables are affect Financial Performance 98.3%. R-Square values of 0.75, 0.50, and 0.25 respectively indicate that the model is strong, moderate, and weak.

2. Path Coefficients

Table 9: Path Coefficient Direct Effect Value

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Financial Inclusion -> Financial Performance	0.178	0.179	0.027	6.502	0.000
Firm Age -> Financial Inclusion	-1.300	-1.285	0.118	11.038	0.000
Firm Age -> Financial Performance	0.323	0.318	0.072	4.456	0.000
Firm Size -> Financial Inclusion	1.952	1.942	0.118	16.566	0.000
Firm Size -> Financial Performance	0.550	0.553	0.082	6.717	0.000

Based on Table 9. several conclusions can be drawn, namely:

1. The test results, firm age characteristics on financial inclusion have a significant value, these results can be seen from the T-Statistic value of 11.038 > 1.96 and the original sample value of -1.300 has a negative relationship direction, with a significant value (P Values), which is 0.000 smaller than the 5% alpha level. The research hypothesis which states that financial age has a positive effect on financial inclusion can be rejected.
    (H1 Rejected: firm age has a positive effect on financial inclusion, in the Go Public banking sector in Indonesia in the 2015-2020 period.)

2. The test results, firm size characteristics on financial inclusion have a significant value, these results can be seen from the T-Statistic value of 16.566 > 1.96 and the original sample value of 1.952 has a positive relationship direction, with a significant value (P Values), namely of 0.000 is smaller than the 5% alpha level. The research hypothesis which states that firm size has a positive effect on financial inclusion can be accepted.
    (H2 Accepted: firm size has a positive effect on

financial inclusion, in the Go Public banking sector in Indonesia in the 2015-2020 period).

3. From the test results, firm age characteristics on financial performance have a significant value, these results can be seen from the T-Statistic value of 4.456 > 1.96 and the original sample value of 0.323 has a positive relationship direction, with a significant value (P Values), namely of 0.000 is smaller than the 5% alpha level. The research hypothesis which states that firm age has a positive effect on financial performance can be accepted.
    (H3 is accepted: firm age has a positive effect on financial performance, in the Go Public banking sector in Indonesia in the 2015-2020 period).

4. From the test results, firm size characteristics on financial performance have a significant value, these results can be seen from the T-Statistic value of 6.717 > 1.96 and the original sample value of 0.550 has a positive relationship direction, with a significant value (P Values), namely of 0.000 is smaller than the 5% alpha level. The research hypothesis which states that firm size has a positive effect on financial performance can be accepted.
    (H4 Accepted: firm size has a positive effect on

financial performance, in the Go Public banking sector in Indonesia in the 2015-2020 period).

5. From the test results, the characteristics of financial inclusion on financial performance have a significant value, these results can be seen from the T-Statistic value of 6.502 > 1.96 and the original sample value of 0.178 has a positive relationship direction, with a significant value (P Values), namely of 0.000 is smaller than the 5% alpha level. The research hypothesis which states that financial inclusion has a positive effect on

financial performance can be accepted.
(H5 Accepted: financial inclusion has a positive effect on financial performance, in the Go Public banking sector in Indonesia in the 2015-2020 period).

3.1.3 Indirect Effect
The last is the output of the estimated total indirect effects, this is also an explanation of whether the financial inclusion variable is capable of being a mediator variable, here are the results of the interpretation:

Table 10: Indirect Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Financial Inclusion -> Financial Performance	0.000	0.000	0.000		
Firm Age -> Financial Inclusion		0.000	0.000		
Firm Age -> Financial Performance	-0.231	-0.228	0.034	6.739	0.000
Firm Size -> Financial Inclusion	0.000	0.000	0.000		
Firm Size -> Financial Performance	0.347	0.344	0.052	6.725	0.000

Thus, it can be seen that the indirect effect value for the influence of firm age on financial performance through financial inclusion is -0.231 with a T statistic of 6.739 which is greater than 1.989 (t-table). The significance value of 0.000 this value is smaller than the alpha level of 0.05. Furthermore, the indirect effect value for the influence of firm size on financial performance through financial inclusion is 0.347 with a T statistic value of 6.725 which is greater than 1.989 (t-table). The significance value of 0.000 this value is smaller than the alpha level of 0.05. The financial inclusion variable is an intervening variable. In other words, the financial inclusion variable is able to mediate the influence between the variables of firm age, firm size, and financial performance.

3.2 Discussion
3.2.1 Financial Inclusion on Financial Performance
Seeing from the background of the research why financial inclusion (bank branches and number of ATMs) still has a big influence in Indonesia, this can be answered by the picture below which reveals that the gap in financial literacy and financial inclusion means that there are still gaps in knowledge and technological developments that exist. Still can't be matched. This is what should be the view of technological developments and digitalization offered by the banking industry that must be maximally absorbed by users of financial inclusion services.

Several findings of financial inclusion can mutually support financial stability, economy, and increase social welfare of the wider community. If the financial inclusion process is to be sustainable, increasing access to financial services needs to be coupled with trust, compliance with sound financial standards and regulations because financial inclusion cannot go hand in hand with financial stability (Arun & Kamath, 2015) [3]. Previous research literature on financial inclusion found a relationship between FI and economic growth. Measuring financial inclusion with access such as the number of ATMs, bank branches, savings accounts, and borrowers, they conclude that there is a positive relationship between financial inclusion and economic growth (Kim *et al*., 2017) [14].

Another major finding in the study shows that financial inclusion affects, and is influenced by, levels of financial innovation, poverty reduction, financial sector stability,

economic conditions, financial literacy, and different regulatory frameworks between countries (Ozili, 2020) [24]. It is concluded that financial inclusion has a wide domino effect, meaning that it is not only influenced but also affects many factors. With the data of bank branches and ATMs, it can be used as a reference for calculations so that banks continue to improve their financial access. Where digital access that the average community and consumers can use more quickly and efficiently. However, this must be directly proportional to the increase in digital literacy of banking and society

3.2.2 Firm Size on Financial Inclusion
The research hypothesis which states that firm size has a positive effect on financial inclusion is acceptable. Firm Size in Banks on Financial Inclusion, based on indicators: Number of Bank Branches with significant value and Number of ATMs (Ramzan *et al*., 2021) [25]. This is a new finding, where financial inclusion is a variable that influences and is influenced, meaning that the size of the company will be able to increase financial inclusion, and vice versa that financial inclusion will affect the size of the company.

Subsequent supporting studies of factors related to firm characteristics that impact financial inclusion in Kenya. The results show that there is a significant interdependence and relationship between firm characteristics (size and age) and financial inclusion by SMEs, which is in line and consistent with the existing literature, namely business size affects firm financial inclusion (J. Nguli & Odunga, 2019) [17]. Broadly speaking, financial inclusion will be wider and more widespread if a company has a large size, but in some kinds of literature and the results of this study, financial inclusion is not only influenced but influenced, so there is still a possibility that if financial access is enlarged there will be a possibility for banks to have more ownership. Large size goes hand in hand with profitability.

3.2.3 Firm Size on Financial Performance
The research hypothesis which states that Firm Size has a positive effect on Financial Performance is acceptable. This is in line with research based on panel data with a regression model for return on assets (ROA) and return on equity (ROE), which are the dependent variables. While the

independent variable is the size of the company, which is determined by total assets and total sales. The findings show that company size is determined by the total value of sales, showing a positive impact on ROA and ROE (Akram *et al*., 2021) [1].

Based on the comparison of these latest findings, this shows that large company sizes will continue to contribute to productivity for banking profits, as in the research, where company size has a positive effect on company performance (Novitasari & Agustia, 2021) [19]. A bank or company that is able to process total assets, total sales, and market value of equity properly will become a company that continues to develop in its financial capital structure and physical assets that are able to support banks or companies that will also be able to become collateral.

3.2.4 Firm Age on Financial Inclusion

The research hypothesis which states that financial inclusion has a positive effect on financial performance can be rejected. This refusal is also in line with the finding that the age of the company has been shown to have a negative effect on the company's financial inclusion. More specifically, older firms were found to have more access to finance. This result is unexpected because older firms have network capital generated over time and also a financial history that can be used to assess finances (J. N. Nguli & Odunga, 2019) [17].

The findings in this study are contrary to other studies, including the age of the company, which is associated with increasing company profitability and even encouraging innovations for the company. Where in the research (Hansen, 1992) [11], suggests the size of the company and the age of the company is a significant determinant of the number of new products produced in innovation. This is constantly being tested (Coad *et al*., 2016) [8] which shows that innovations undertaken by younger firms are riskier and returns are uneven, whereas innovation efforts undertaken by older firms are more predictable

3.2.5 Firm Age on Financial Performance

The research hypothesis which states that firm age has a positive effect on financial performance is acceptable. This means that the age of the company determines every innovation and decision-making is safe for the company, where older companies have decision-making that avoids risk and predicts more decisions that the company will take.

His research, the role of human capital on the performance of manufacturing firms in Bangladesh, sees that age and firm size have a positive relationship with efficiency. Industry sub-sector analysis shows that heterogeneity is high, and the determinants vary by sector. It is also evident from this study that financial services have a positive effect on company performance (Shamsuzzoha & Tanaka, 2021) [26]. This means that the older a business or banking, a bank will be more efficient in taking actions and decisions because it has a strong past experience so that the risk of failure of any decisions related to the sustainability and profits of the company can be prevented by stakeholders and company management.

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4. Conclusion

Based on the data that has been collected and testing of the variables used in 144 banking samples using discriminant analysis, it can be concluded that:

1. The test results show that firm age characteristics on financial inclusion have a significant value with a negative relationship.
2. Firm size on financial inclusion has a significant value with a positive relationship direction.
3. Firm age on financial performance has a significant value with a positive relationship direction.
4. Firm size on financial performance has a significant value with a positive relationship direction.
5. Financial inclusion on financial performance has a significant value with a positive relationship direction.

5. Recommendations

The limitation of the research in this scientific paper is that the use of samples according to the criteria is limited to 24 companies, this is due to a lack of indicator data in financial and annual reports. Second, many companies did not experience profitability during the COVID-19 pandemic, where profitability as an indicator of research data could not be tested. Third, this research is limited to financial inclusion research, which is limited to bank branches and the number of ATMs, while digital-based financial inclusion activities, in this case, Digital Banking (Digital Bank) and Cellular Banking (M-Banking) cannot be used as indicators, this is because there is no periodic data from the banking company every year. It is hoped that further research can cover this limitation, by expanding the indicators and adding related variables.

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