# The Influence of Board's Educational Background on Indonesian Top Firms Profitability

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**Keywords:**
Educational background,
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Board Members.

**Abstract**
This paper aims to observe the implications of higher education on firm performance based on a financial indicator that is most likely depicts the expertise of board members to utilize given assets to generate revenue. This paper will analyze both of board of commissioners and board of directors on Indonesian companies that have been consistently listed among the top 100 companies based on market capitalization during the period of observation which is 2010-2018. The education data of said Board of Commissioners or BOC and Board of Directors or BOD will be collected and analyzed to see how well they affect the ROA. It can be noted that only MBA degree on the BOC and doctoral degree on BOD does indeed have a significant positive correlation. It can be concluded that the managerial skills do help BOC to give advices and strategies that would help the firm performance, and the specialized expertise in the form of doctoral degree might give an edge to the directors to help them during day to day operations.

**Kata kunci:**
Latar belakang pendidikan,
Eselon Atas,
Badan,
Anggota Dewan.

**Sari Pati**
Makalah ini bertujuan untuk mengamati implikasi pendidikan tinggi pada kinerja perusahaan berdasarkan indikator keuangan yang kemungkinan besar menggambarkan keahlian anggota dewan untuk memanfaatkan aset yang diberikan untuk menghasilkan pendapatan. Makalah ini akan menganalisis dewan komisaris dan dewan direksi pada perusahaan-perusahaan Indonesia yang secara konsisten tercatat di antara 100 perusahaan teratas berdasarkan kapitalisasi pasar selama periode pengamatan yaitu 2010-2018. Data pendidikan Dewan Komisaris atau BOC dan Dewan Direksi atau BOD tersebut dikumpulkan dan dianalisis untuk melihat seberapa besar pengaruhnya terhadap ROA. Dapat dicatat bahwa hanya gelar MBA pada Dewan Komisaris dan gelar doktor pada Direksi memang memiliki korelasi positif yang signifikan. Dapat disimpulkan bahwa keterampilan manajerial memang membantu Dewan Komisaris untuk memberikan saran dan strategi yang akan membantu kinerja perusahaan, dan keahlian khusus dalam bentuk gelar doktor mungkin memberikan keunggulan bagi direksi untuk membantu mereka dalam operasi sehari-hari.

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## I. INTRODUCTION

The result of Indonesia's 12th presidential election is in favor of the incumbent president, Joko Widodo to stay in office along with his new vice president Ma'ruf Amin for another 5 years. He immediately addressed his priorities for the next 5 years and one of the main points that he is going to prioritize heavily is the quality of human resources to frog-leap other countries.

Joko Widodo's priority is justified because when a firm is managed by qualified personnel, there is a higher chance of the firm to be expanding rapidly given the growth this is supported by the research conducted by Mohamed et al. (2015) which conclusion is that technical education of board members would increase the value of a firm. By expanding, there would be more opportunities for Indonesian people to be employed and according the research from Schwartz et al. (2002) The idea that expanding work and consumption opportunities always increases people's wellbeing is well established in economics, but it finds no support in psychology.

There is also substantial amount of evidence that a firm's performance is affected by the education of board members, for example, the research According to Brown (1999) and Lauder et al (2006) physical labor and ownership once drove the economy, today the most important generator of wealth for nations, corporations and individuals is the knowledge produced from highly skilled work. In support of this statement, Sanders and Carpenter (1998) found that educational background is an important corporate governance variable that determines the strategic execution of a firm.

The strategic execution of a firm in Indonesia is heavily determined by its board members as the highest decision maker in a company. In Indonesian firm, the governance is usually split into two, where the day-to-day operations will be managed by middle management and the more important decisions of the firm will be directed by the board of directors while the board of commissioners would be giving advices, instructions, or even intervene in the time of needs.

The decisions made by the boards would determine how well the firm performance would be. Previous studies by Cho and Pucik (2005); Sila & Ebrahimpuor (2005) have financial performance as a representation of firm performance because it measures capabilities, effectiveness and efficiency in a firm in managing its resources to generate revenue. Return on assets or ROA will be the main indicator that will be analyzed because ROA is one of the financial indicators that can depict how effective the corporate strategy formulated by the management given the company's assets.

The purpose of this paper is to assess the correlation between higher education, namely MBA degree in board members and the performance of the firm which is indicated by ROA. MBA degree is arguably one of the most popular higher education to date and for all the good reasons. MBA are supposed to equip managers with the necessary tools to make decisions. But according to Hunt and Baruch (2003) studying for an MBA will not enrich their managerial experience in the way it will do for younger and junior/mid-level managers.

This paper analyzes consistent top 100 Indonesian firm based on market capitalization and divided into 5-part, introduction on paper in which we explain the purpose of this paper, the literature review part where related supporting theories are briefly explained in order to give a proper understanding of the research along with our hypothesis. After getting the groundwork in the literature review, the method in which we conduct our research and the variables are explained and followed immediately by further explanation done by descriptive analysis and finally the conclusion of this paper.

The rest of the paper is organized as follows. Proposed embedding and extraction algorithms are explained in section II. Experimental results are presented in section III. Concluding remarks are given in section IV.

## II. LITERATURE REVIEW

### II.1 Agency Theory

Pangestu & Dharmastuti (2018) cited Modern Corporation and Private Property (1932) on how a firm has to separate its ownership and management which in line with the agency theory that explains the relationship between shareholders or principal and the management or should be stated as agent. The agency theory, according to Jensen and Meckling (1976) is a contract where the principal recruits the agents and principal delegates task and assign decision-making authority to agent while owners expect the management to run day to day operations. It should be noted that conflict of interests is inevitable and often occurs as both parties have their own agendas and desire a return of their own investment both tangible and intangible. This would pose a problem as such behavior often leads to counterproductive behavior. This, however, can be mitigated by formulating a reasonable compensation for the management and shall be stated as agency cost. There are three forms of agency costs based on research conducted by Jensen and Meckling (1976) which are monitoring cost, bonding cost, and residual loss. The monitoring cost is a compensation for the management to oversee and to prevent misuse of company's resources for example employing external auditors etc. The bonding cost on the other hand, is a cost to ensure that the management would not do anything that would harm the shareholder's interests. For example, rewarding certain people in management with stock options etc. And lastly, the residual loss is in a way a cost for the depletion of resources due to inevitable conflict of interests outside the monitoring and bonding costs that has been mentioned.

### II.2 Upper Echelon Theory

According to Hambrick & Mason (1984), the upper echelon dictates that organizations are directly influenced by the knowledge, experience, and skill of those who operate them. In most companies, the board of director is responsible for the longevity of the firm. They act usually according to the vision that has been laid by the founders of the company. Hambrick and Mason's model explain s how strategic decisions often influenced by the characteristics of the management while firm performance is influenced by the actions of top executives (Hambrick & Mason 1984; Finkelstein, 1992) while cognitive value and perceptions are improbable to measure, the upper echelon theory focuses on the demographics that represent managerial characteristics, I.e. measurable and plausible proxies (Carpenter, Geletkancyz, & Sanders 2004) That is why a more measurable variables such as age, work experience, and education background can be observed to predict the decision making capabilities of the top executives and how it will affect firm performance.

### II.3 Hypothesis Development

For the purpose of this study, we use three measures of educational background of both Board of Directors (BOD) and Board of Commissioners (BOC) which consists of Master degree, Doctoral degree and Master of Business Administration (MBA) degree. In this section, we will formulate the hypotheses to be tested in the study.

#### II.3.1 Master degree of Board of Directors and Board of Commissioners

According to upper-echelon theory, a higher level of education will have a good correlation in conjunction to higher levels of knowledge and higher intellectual competence (Hambrick and Mason, 1984). In conjunction, we can expect that by having access to higher level of education will leads to better control of company and results in better overall performance. There are a number of previous studies which positively associated levels of education and overall firm performance especially in financial performances such as Jalbert et al. (2002) and Bhagat et al. (2010). Hence, the hypothesis for this part of the study are as follows:

*H1*. Master degree education of BOD positively influences firm performance

*H2*. Master degree education of BOC Positively influences firm performances

II.3.2 Master of Business Administration (MBA) degree of Board of Directors and Board of Commissioners

Master of Business Administration (MBA) graduates gain higher levels of self-esteem and self-efficacy in handling managerial processes. This is expected to lead on to better job performance, since having an MBA enhances self-confidence, self-esteem and self-efficacy, all are proven antecedents of both performance and career success. Bhagat *et al* (2010) found that managers with MBA degree perform significantly better than those without the same degree. In Indonesia, we expected the same result where board members with MBA degree will perform better than their peers without. This prediction leads to our hypothesis as follows:

*H3*. MBA degree education of BOD positively influences firm performance

*H4*. MBA degree education of BOC positively influences firm performance

II.3.3 Doctoral degree of Board of Directors and Board of Commissioners

Having doctoral degree grants higher level of education and access to more knowledge. Comparable with master degree hypothesis development, we expect that with higher level of education better control of the company is expected and with it comes a better performance. In the past, there are also some studies that positively associating higher level of education with firm's performance therefore, with doctoral degree as the highest degree in formal education, we expect that board members with doctoral degree will perform better. This prediction leads to our hypothesis as follows:

*H5* Doctoral degree education of BOD positively influences firm performance

*H6* Doctoral degree education of BOC positvely influences firm performance

## III. METHODS

III.1 Definition of Variables

Master Degree: Degree that is bestowed upon completing course of study showing mastery of the field of study and be able to do it in professional practice. Before taking master's degree, one usually requite to take undergraduate program or bachelor program. In Indonesia, master degree is equal to S2.

MBA Degree: Master of Business Administration (MBA) is graduate degree in business originated in early 20$^{th}$ century in United States. The course in MBA program usually cover in basic management in business practices such as accounting, finance, marketing and operation. In Indonesia, MBA is equal to with Magister of Management (MM)

Doctoral Degree: Doctoral degree is the highest level of academic degree. It can be achieve by taking in university mostly four years or it can be given by universities by honoris clausa. Unlike master degree where one should require study of bachelor program, doctoral degree doesn't require one to take master degree to be able to taking the course. In Indonesia, doctoral degree is equal to S3.

III.1.1 Financial Performance

Firm financial performance is measured by Return on Assets (ROA) ratio. ROA is an indicator of how well a company uses its assets to determine how profitable a company is in relation to its total assets.

$$ROA_{it} = \frac{Profit\ for\ the\ yar\ for\ company\ i\ in\ year\ t}{Total\ Assets\ for\ company\ i\ in\ year\ t}$$

III.1.2 Master BOD

The presence of master degree education of directors is measured by the proportion of master degree education of directors on a board of directors size.

$$M\_BOD_{it} = \frac{Number\ of\ Master\ Degree\ Education\ of\ Directors\ for\ company\ i\ in\ year\ t}{Board\ Size\ for\ company\ i\ in\ year\ t}$$

III.1.3 Doctoral BOD

The presence of doctoral degree education of directors is measured by the proportion of doctoral degree education of directors on a board of director size.

$$DR\_BOD_{it} = \frac{Number\ of\ Doctoral\ Degree\ Education\ of\ Directors\ for\ company\ i\ in\ year\ t}{Board\ Size\ for\ company\ i\ in\ year\ t}$$

III.1.4 MBA BOD

The presence of MBA degree education of directors is measured by the proportion of MBA degree education of directors on a board of director size.

$$MBA\_BOD_{it} = \frac{Number\ of\ MBA\ Degree\ Education\ of\ Directors\ for\ company\ i\ in\ year\ t}{Board\ Size\ for\ company\ i\ in\ year\ t}$$

III.1.5 Master BOC

The presence of master degree education of commissioners is measured by the proportion of master degree education of commissioners on a board of commissioner size.

$$M\_BOC_{it} = \frac{Number\ of\ Master\ Degree\ Education\ of\ Commissioners\ for\ company\ i\ in\ year\ t}{Board\ Size\ for\ company\ i\ in\ year\ t}$$

III.1.6 Doctoral BOC

The presence of doctoral degree education of commissioners is measured by the proportion of doctoral degree education of commissioners on a board of commissioner size.

$$DR\_BOC_{it} = \frac{Number\ of\ Doctoral\ Degree\ Education\ of\ commissioner\ for\ company\ i\ in\ year\ t}{Board\ Size\ for\ company\ i\ in\ year\ t}$$

III.1.7 MBA BOC

The presence of MBA degree education of directors is measured by the proportion of MBA degree education of commissioners on a board of commissioner size.

$$MBA\_BOC_{it} = \frac{Number\ of\ MBA\ Degree\ Education\ of\ commissioners\ for\ company\ i\ in\ year\ t}{Board\ Size\ for\ company\ i\ in\ year\ t}$$

III.1.8 Control Variables:

Additionally, we also control for the following variables:

1. Company Size (LNSIZE), measured with the natural logarithm of total assets for company in year t
2. Leverage (DER), measured with Debt-to-Equity ratio.
3. Firm age (LNAGE), measured with the natural logarithm by deducting the respective year of observation with the year of the company's established year.

III.2. Data and Analysis

Our research data were extracted from the annual reports of Indonesia Stock Exchange-listed corporations. The observed years are 2012 until 2018. The following criteria were applied for our sample selection:

1. Listed in the Indonesia Stock Exchange from 2012 until 2018
2. The data on the observed variables were available for each observation period to generate a balanced longitudinal dataset

The data would then be analyzed using panel regression on EViews software.

## IV. FINDINGS AND ARGUMENTS

| | |
|---|---|
| Total number of listed on the Indonesia Stock Exchange from 2012-2018 | 700 |
| Number of inconsistent firms during observation period | (322) |
| **Total sample firms** | **378** |

*Table 1. Sample selection procedure*

IV.1 Descriptive Statistics

| | ROA | M_BOC | M_BOD | MBA_BOD | MBA_BOC |
|---|---|---|---|---|---|
| Mean | 0.0877662 | 0.453032513 | 0.4389365 | 0.297927117 | 0.1812756 |
| Median | 0.0520679 | 0.428571429 | 0.4285714 | 0.272727273 | 0.1666667 |
| Maximum | 0.6571268 | 1 | 1 | 1 | 0.8571429 |
| Minimum | -0.134238 | 0 | 0 | 0 | 0 |
| Std. Dev. | 0.1060578 | 0.270524587 | 0.29262 | 0.22832351 | 0.1750259 |
| Skewness | 1.9076234 | 0.045241712 | 0.1182911 | 0.462969182 | 0.9380006 |
| Kurtosis | 4.4409131 | -0.723280148 | -1.041038 | -0.433756781 | 0.6734157 |
| Observations | 378 | 378 | 378 | 378 | 378 |

| DR_BOD | DR_BOC | LNAsset | LnAge | DER |
|---|---|---|---|---|
| 0.031491884 | 0.1995304 | 10.632815 | 3.732688 | 2.6739159 |
| 0 | 0.1666667 | 10.362887 | 3.806662 | 1.3138494 |
| 0.4 | 0.8333333 | 14.075486 | 5.087596 | 18.254237 |
| 0 | 0 | 7.2936977 | 1.386294 | -4.760563 |
| 0.070616065 | 0.193188 | 1.3710357 | 0.598938 | 2.9983918 |
| 2.33551584 | 0.7549327 | 0.2466071 | -0.480709 | 1.5790425 |
| 5.275560874 | -0.16444 | -0.109816 | 0.953678 | 2.7999382 |
| 378 | 378 | 378 | 378 | 378 |

*Table 2. Descriptive Statistics*

| | | | |
|---|---|---|---|
| **Return on Aset** | | | |
| **Highest** | Multi Bintang Indonesia Tbk | 2013 | 65,71% |
| **Lowest** | Elang Mahkota Teknologi Tbk | 2018 | -13,42% |
| **Average** | 8,77% | | |
| **LN Asset** | | | |
| **Highest** | Bank Rakyat Indonesia Tbk | 2018 | 14,07 |
| **Lowest** | Multi Bintang Indonesia Tbk | 2012 | 7,29% |
| **Averageono** | 10,63% | | |
| **Debt to Equity Ratio** | | | |
| **Highest** | Matahari Department Store Tbk | 2014 | 18,25% |
| **Lowest** | Matahari Department Store Tbk | 2013 | -4,76% |
| **Average** | 2,67% | | |
| **LN Age** | | | |
| **Highest** | Telekomunikasi Indonesia Tbk | 2018 | 5,09% |
| **Lowest** | Sarana Menara Nusantara Tbk | 2012 | 1,40% |
| **Average** | 3,73% | | |

Table 2 can be summarized as follows

| | | | |
|---|---|---|---|
| **M_BOC Proportion** | | | |
| **Highest** | Bank Mandiri Tbk | 2018 | 100,00% |
| **Lowest** | Multiple | Multiple | 0,00% |
| **Average** | 45,30% | | |
| **DR_BOC Proportion** | | | |
| **Highest** | Perusahaan Gas Negara Tbk | 2016 | 83,00% |
| **Lowest** | Multiple | Multiple | 0,00% |
| **Average** | 19,95% | | |
| **MBA_BOC Proportion** | | | |
| **Highest** | Bank Mandiri Tbk | 2018 | 85,70% |
| **Lowest** | Multiple | Multiple | 0,00% |
| **Average** | 18,12% | | |
| **M_BOD** | | | |
| **Highest** | Matahari Department Store Tbk | 2015 | 100,00% |
| **Lowest** | Multiple | Multiple | 0,00% |
| **Average** | 43,89% | | |
| **DR_BOD** | | | |
| **Highest** | Indosat Tbk | 2018 | 40,00% |
| **Lowest** | Multiple | Multiple | 0,00% |
| **Average** | 3,15% | | |
| **MBA_BOD** | | | |
| **Highest** | Ciputra Development Tbk | 2018 | 100,00% |
| **Lowest** | Multiple | Multiple | 0,00% |
| **Average** | 29,79% | | |

IV.2 Discussion

Equation (X) was the one we used to perform regression analysis:

$$ROA_{it} = \alpha + \beta 1M\_BOD_{it} + \beta 2M\_BOC_{it} + \beta 3MBA\_BOD_{it} + \beta 4MBA\_BOC_{it} + \beta 5DR\_BOD_{it} + \beta 6DR\_BOC_{it} + \beta 7LNASSET_{it} + \beta 8LNAGE_{it} + \beta 7LEV_t + e$$

| Estimation | ***Pooled OLS*** | | Fixed Effects | | Random Effects | |
|---|---|---|---|---|---|---|
| C | 0.139359 | (2.584038)** | 0.969693 | (-2.573042) | 0.969693 | (-2.573042) |
| M_BOD | 0.003228 | (-0.123660) | -0.02541 | (-0.506426) | -0.02541 | (-0.506426) |
| M_BOC | 0.020634 | (-0.797325) | 0.031867 | (0.610019) | 0.031867 | (0.610019) |
| MBA_BOD | 0.003187 | (0.148319) | 0.016987 | (0.720794) | 0.016987 | (0.720794) |
| MBA_BOC | 0.221599 | (8.183022)*** | 0.157528 | (4.444928)*** | 0.157528 | (4.444928)*** |
| DR_BOD | 0.715694 | (9.742132)*** | 0.72897 | (9.371972)*** | 0.72897 | (9.371972)*** |
| DR_BOC | 0.013751 | (-0.387527) | 0.070574 | (-1.239738) | 0.070574 | (-1.239738) |
| LNASSET | 0.015442 | (-3.269942)*** | 0.021658 | (0.794631) | 0.021658 | (0.794631) |
| LNAGE | 0.02127 | (2.005342)** | 0.216346 | (1.982494)** | 0.216346 | (1.982494)** |
| DER | 0.002629 | (1.617445) | 0.003424 | (1.867774)* | 0.003424 | (1.867774)* |
| Adjusted $R^2$ | 0.489786 | | 0.454296 | | 0.454296 | |
| F-statistic | 41.21174 | | 6.062102 | | 6.062102 | |
| Prob(F-statistic) | 0 | | 0 | | 0 | |
| redundant fixed effect Chi-square statistic | | | 33.363506 (p-value=0.9840) | | | |
| Hausman Chi-square statistic | | | | | 18.294999 (p-value=0.0319) | |

*Table 3. Regression Summary*

As displayed on Table 2, the p-value for the redundant fixed effects statistic (Chow test) is higher than .05, and the p-value for Hausman statistic is not greater than .05. With that result in mind, it is determined that the pooled-ols model would be used for analysis.

From the result of pooled-ols test, we find that ROA is positively influenced by the (i) presence of board of commissioners who holds MBA degree and (ii) presence of board of directors who holds doctoral degree, while ROA is not significantly influenced by the (i) presence of board of directors who holds master degree, (ii) presence of board of commissioners who holds master degree, (iii) presence of board of director who holds MBA degree and (iv) presence of board of commissioners who holds doctoral degree.

1. Presence of Member of Board of Commissioners who holds MBA degree positively affect ROA.

The findings from our studies indicate that the presence of member of board of commissioners who holds MBA degree positively affect ROA. This finding may happen because Board of commissioners have duty to oversee the overall daily business activities. In order to fulfill that duty, board of commissioner doesn't need specific knowledge but rather more management skill to help them govern the board of director and give them advices regarding directors' decision. MBA gives an appropriate tool for the member of commissioners to help increase the firm's performance in this

regard the Return on Asset (ROA). In USA, Boyatzis and Case (1989) showed that an MBA program has a significant positive effect on managerial competencies. Kretovics (1999) found that MBA studies was most effective on "hard" managerial skills such as goal setting, information gathering, quantitative analysis, theory application, and technology application, also important for building interpersonal skills such as helping skills and the ability to inspire and motivate others. That's all skills are needs to be a good commissioner.

2. Presence of Member of Board of Directors who holds doctoral degree positively affect ROA.

The finding from our studies indicate that presence of member of board directors who holds doctoral degree positively affect ROA. This finding may happen because each member of boards of directors have a very specific job and more than often they need a special skill and knowledge regarding to which department they are assigned to. Doctoral degree gives them the specific knowledge that is useful when they need to tackle certain problem in their respective field. Our main example from our studies is Board of Directors of Bank Negara Indonesia in 2015 where three out nine member of the board of directors holds doctoral degree. Their doctoral degree mostly focused on economics and business management which is very important knowledge to have especially in financial sector.

3. Presence of Member of Board of Commissioners and Board of Directors who hold master degree insignificantly affect ROA.

The finding from our studies indicate that presence of member of board of commissioners and board of directors who hold master degree insignificantly affect ROA. This finding may happen because of the lack of things that was found in MBA degree and Doctoral Degree that is well-suited in boards of directors and board of commissioners' role. Master degree doesn't give any extra management skill that is needed when you need to supervise the overall firm's business activity and it also doesn't give any extra specific knowledge that is needed to tackle specific problem in the boards of directors respective field.

4. Presence of Member of Board of Directors who holds MBA degree insignificantly affect ROA

The finding from our studies indicate that presence of member of board of directors who holds MBA degree insignificantly affect ROA. This finding may happen because when we are talking about MBA degree, majority of the subjects focused in the how to manage a firm as a whole while the needs from board of directors is more focused on how to tackle each subject that each director is assigned. In addition, there is some evidence that there is no relationship between competency development during MBA studies (Camuffo et al., 2009). While the skill to manage a firm as a whole may be useful to further increase the firm's performance but according to one of the previous study studying for an MBA will not enrich board of director's experience in the way iw will do for yourngerand junior/mid-level managers (Hunt and Baruch, 2003) and is further augmented by our research that the MBA degree doesn't give significant effect to ROA at least to Indonesian Top 100 Market Capitalization that we studied.

5. Presence of Member of Board of Commissioners who holds doctoral degree insignificantly affect ROA.

The findings from our studies indicate that presence of member of board of commissioners who holds doctoral degree insignificantly affect ROA. This finding may happen because board of commissioner's main job is to oversee the overall daily business activities and give advice to board of directors about their decision which doesn't need a specific knowledge but more of a general approach about how to manage the company and the daily activities around it. Stewart et al. , 2008 that found that people who holds Phd Degree is "non-work factors", such as "cognitive values, social support were more significant in shaping PhD program pursuit behavior than current job-related factors. While the doctoral knowledge in board of commissioners may increase the firm's performance but according to our research the doctoral degree doesn't give significant effect to ROA at least to Indonesian Top 100 Market Capitalization that we studied.

## V. MANAGERIAL IMPLICATION

Some of the results of this study are in line with our initial hypothesis of higher education might have an impact on a board members' performance. However, it should be noted that the MBA degree does not hold a significant impact for BOD. We advise for companies to be wary of this phenomenon and decide whether a director would be required to have an MBA degree.

## VI. CONCLUSION

The purpose of this paper is to observe the correlation between the educational background or more specifically higher education background on the board members and the firm performance. The firm performance in this paper is indicated by the return on asset ratio as ROA does depict how efficient the management is on using the assets available to generate revenue. The data is collected over the period of 2012-2018 and consists of companies that has been consistently listed top 100 Indonesian companies based on market capitalization over the period of 2012-2018.
According to the data collected and analyzed, the results are:

| **BOC Members Education** | **Positively Affects ROA** |
|---|---|
| MBA | ✓ |
| Doctoral | - |
| Masters Degree | - |
| **BOD Members Education** | **Positively Affects ROA** |
| MBA | - |
| Doctoral | ✓ |
| Masters Degree | - |

BOC members with MBA degree's presence positively affect company's ROA because the nature of BOC job they will need high management skill to help oversee the overall daily business activities and give them advice in times of needs. BOD member with doctoral degree's presence positively affect company's ROA because BOD needs certain skill to deal with specific job and usually needs certain knowledge to deal with problem on their own department. BOD and BOC members with master's degree's presence insignificantly affect ROA because master's degree's doesn't give extra skill that is needed to either govern the board of directors that BOC needed and also the specific knowledge that BOD needs. BOD members with MBA degree's presence insignificantly affect ROA because majority of the subjects in MBA's degree's focused in the how to manage a firm as a whole while the needs from board of directors is more focused on how to tackle each subject that each director is assigned. BOC members with doctoral degree's presence in a company insignificantly affect ROA because board of commissioner's main job nature which doesn't need a specific knowledge but more of a general approach about how to manage the company and the daily activities around it.

*V.1 Limitation*

The results of this paper as written above is not without its limits, there are a few factors that might contribute positively or negatively that is not taken into consideration in this paper. This will leave some loose ends that can be perfected in the future. If one decides to pick up things where we left, we put some but not limited to considerations that might be improved upon.

1. The quality of the educational institution
   We did not take into consideration of the quality of the educational institution of which the board members achieve their degree. Some things to consider based on recent study by Ashraf, Ibrahim identified the dimensions of quality higher education as the quality of students, faculty credentials, academic features, and administrative supports.
2. Honors awarded
   We also did not obtain the data which shows each board members' awarded honor during their time in the postgraduate study e.g. Cum Laude, Summa Cum Laude, etc.
3. Other Qualifications
   There are several board members which does not hold a higher education degree but possesses multiple qualifications such as CPA, CFA, etc. Which could contribute to their performance.
4. Previous study field
   Previous study field also might contribute to the performance of the board members, for example a situation where two board members both holding MBA degree in a financial institution, the one with a previous degree in finance might have a slight advantage compared to the other one.

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