CORPORATE GOVERNANCE AND FINANCIAL PERFORMANCE: A CASE STUDY IN THE PHARMACEUTICAL SECTOR IN MALAYSIA

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Abstract. The introduction of the Malaysian Code of Corporate Governance has been progressively updated since its inception in the year 2000 and the latest update in the year 2021, proves that the government of Malaysia has been serious in regulating to ensure that the companies in Malaysia have been compliant with good corporate governance practices. Observing that it is an evergreen issue and to have more updated research, this study evaluates factors that could influence the effectiveness of corporate governance of five pharmaceutical companies listed in Malaysia and its relationship with the financial performance for the period of 2017 - 2021. The methodologies that have been employed for this study are descriptive statistics, non-parametric correlations, scatter plots and regression linear. The findings reveal that variables of board size, board independence, and disclosure of sustainability reports have correlations with the financial performance measured by the return on assets. However, the disclosure of sustainability reports is the only variable that has a significant correlation with ROA whereas board size and board independence do not possess similar relationships. For a better representation of the results' precision and robust findings, it is recommended to have a longer study period than five years and a larger sample size by extending it to other sectors.
Keywords: *board size, board independence, disclosure, ROA*

Introduction

During the economic recession in 1997-98 in Southeast Asia, many companies were distorted and in the worst cases, some companies were even wound up. It was discovered and revealed that one of the reasons that had led to such major issues and destruction is because of failing to embrace corporate governance practices as part of organizational culture (Shamsudin et al., 2018), and Malaysia was no exception. In addition to that, lack of regulations and thus, lack of enforcement by the authorities had contributed to the non-adherence towards good corporate governance practices. This is evident from corporate scandals of various companies such as Bumiputra Malaysia Finance, Technology Resources Industries, Perwaja Steel and Malaysia Airlines had demonstrated that failure to adhere to proper corporate governance would lead to the destruction or downfall of the company (Shamsudin et al., 2018). They have failed to embrace good corporate governance that is centred on core principles of accountability, transparency, fairness and responsible management (Kyere and Ausloos, 2021).

The value of the publicly listed company can be perceived and seen from the value of its existing stock in the capital market (Mahrani and Soewarno, 2018) and due to the corporate scandals, the value of the stock could go downhill overnight. Even though it takes several years to build rapport with the company, unfortunately, there is no denying that the relationship can be easily tarnished in the slightest time. Therefore, it is crucial for the company not only to maintain but building rapport continuously. Leaving this initiative at the company's option alone may not be wise and sensible as standardized

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regulations must govern the companies. Due to corporate scandals in 1997-1998, Malaysian Code on Corporate Governance ("MCCG") was first introduced in Malaysia in the year 2000 to foster corporate governance practices in Malaysian companies. Since then, MCGG has been updated regularly, and the most recent was in 2021. With this, it has improved the company's corporate governance progressively. Besides MCCG, the Companies Act 2016 (Malaysia Law, 2018) which is the main body of corporate governance rules, also governs the registration, administration and dissolution of companies as well as the fiduciary duties of the directors. The board of directors is the highest governing level in any organization and therefore, they are bound by fiduciary duties under the law and are expected to monitor the management closely. By having good corporate governance to adhering both the Companies Act and MCCG, it enforces and reinforces the business and work ethics of the employees right from white-collar to blue-collar workers (Mahrani and Soewarno, 2018).

With effective and sound corporate governance conformance, it could motivate public disclosure of annual reports and sustainability reports and hence, entice investments since it is deemed to be less risky to invest in companies that adhere to corporate governance effectively. Therefore, the companies would be more motivated to have sound corporate governance for their financial performance and ultimately for the beneficial future of Malaysia as a whole. In such circumstances, there is a genuine requirement for a proper governance structure, and this must be enforced as a culture within the organization. Simply because it is an effective mechanism for organizational improvement conflicts and mismanagement (thus losses) can be minimized (Kamaludin and Zakaria, 2019; 2018; Berinde, 2018; Salem et al., 2018). Effective CG practices are beneficial to businesses as they improve access to bank financing, gain stakeholders' confidence, and build or enhance their reputation in the marketplace. Therefore, when companies strive for their financial performance, they are in essence contributing to healthy competition in the marketplace. Because of the foregoing, it is given that embracing good corporate governance is a must in any company, either small or big organizations. Nonetheless, the burden is higher for publicly listed companies as they are responsible for their larger stakeholders. Therefore, for the company to perform, the duty of embracing good corporate governance practices is continuous and infinite. Having this significant requirement at hand, the purpose of this research is to evaluate the effectiveness of corporate governance of publicly listed companies in Malaysia in terms of their financial performance. Specifically, this research focuses on publicly listed companies in the pharmaceutical sector in Malaysia to analyse factors that could influence the effectiveness of corporate governance practices in Malaysia and their relationship with financial performance.

The research on this topic had initiated and traced back from the agency theory that was developed by Jensen and Meckling in 2019. Based on the study by Gindis (2020), they gave the proposition that individuals are self-centred considering personal interests that affect sound judgment in managing the company and therefore "the likelihood that they would all behave as though a simple maximizing outcome at the top would occur was close to zero". As such, they believe having a contractual relationship between the agent and principal is required as that can uphold the separation of ownership and control. The agency theory, made them the pioneers in this subject matter hereof, if not the most influential researchers as this theory was founded by them. The agency theory is very much relevant to the topic at hand and even until the present has been referred to in current, various empirical literatures. So much so, it is the source or relates to other

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theories which are stakeholder theory and signal theory that is also relevant to this topic. It is worthwhile to note that even with the evolvement of the world; the key principles that are found in these three theories are still very much relevant to today's corporate governance. These key concepts of such theories can be found in our very own Malaysian Code of Corporate Governance which was founded in 2000 and later reviewed in 2007, 2012, 2017 and latest in 2021, serves as a significant tool in administering corporate governance culture within the organization. It is worthwhile to note that MCGG reflects the global and internationally recognized corporate governance practices which are above and beyond the minimum requirements as those set out by Bursa Malaysia (Securities Commission Malaysia, 2021).

The corporate scandals that had widely emerged during the economic crisis in 1997-1998, had accelerated the need to have good corporate governance. Evidently, with corporate scandals as aforementioned, no doubt the company can collapse when there is a failure to enforce corporate governance practices. Even though Malaysia has already in place regulating corporate governance but there are still endless issues and obstacles in administering corporate governance within the organization. It is a timeless issue as over and over again, there will still be organizations that fail to attain good corporate governance. Simply because there is no corporate governance adherence culture embedded within the organization. Therefore, there is not only a compelling need to raise awareness of the significance of corporate governance adherence but also to sustain the same. As reported in the Edge article by Ying (2019), relevantly to this modern world, good corporate governance is no longer a monitoring role by the regulator but the expectation is to embrace and internalize the culture of conforming to corporate governance within the organization itself. Therefore, the organizational management must ensure that the culture of corporate governance is embedded not only within the policy of the organization but also to strictly enforce the same. Thus, there must be a solid appreciation for attaining the spirit of good corporate governance to build corporate legitimacy. It is a timeless issue that corporate governance is an all-time requirement that companies need to adhere infinitely in building up the corporate legitimacy culture within the organization for the organization to achieve good financial performance. Hence, this study aims to investigate the factors that can influence the effectiveness of corporate governance practices of publicly listed companies in Malaysia under the pharmaceutical category and its relationship with financial performance. The findings reveal that variables of board size, board independence, and disclosure of sustainability reports have correlations with the financial performance measured by return on assets. However, it is only the disclosure of sustainability reports that has a significant correlation with ROA whereas board size and board independence do not have significant correlations with ROA.

Literature review

As mentioned above, agency theory is the prominent theory of corporate governance and thus the cornerstone of corporate governance (Dzingai and Fakoya, 2017). Disputes or conflicts arise when an agent has more information than its principal, abuse of power may follow suit if there is no proper corporate governance administration and compliance. Simply because an information asymmetry can occur that impairs the principal's ability to monitor the agent (Sarens and Abdolmohammadi, 2011) as Jensen and Meckling (2019) found that managers are opportunists and can direct the interests of the company to their interests (Haron et al., 2020). Therefore, the board of directors

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requires some degree of control and thus responsibility towards the company's management (Lucia and Panggabean, 2018). In this regard, Securities Commission Malaysia (2021) requires at least half of the board to be independent directors. According to Janang et al. (2018), an effective board is essential to the agency theory's prescription of minimizing agency costs to preserve the interests of stakeholders, principals and agents (Conheady et al., 2015).

On the other hand, Haron et al. (2020) stated the stakeholder theory advocates that the board is a crucial representative of the stakeholders who manages their interests in the company as an organization is not only responsible to their shareholders but also to all individuals who may be affected by the decisions of the company (Samuel et al., 2019). Hence, there must be a balance between the needs of shareholders, employees, customers, suppliers and the communities in which the company operates (Securities Commission Malaysia, 2021), all of which are considered stakeholders of the company. An empirical study by Shamsudin et al. (2018) investigated the relationship between corporate governance practices of 100 listed Malaysian companies from 2012 to 2014 after the 2011 MCCG revision. They performed multiple regressions and used SPSS software version 20. The first model represents accounting-based performance, ROE and the second model represents market-based performance, Tobin's Q. They found a significant association between modified MCCG and company performance. They also believe that having too many independent directors in a company will adversely affect the performance of a company. This result is consistent with another study conducted by Dzingai and Fakoya (2017) whereby a company's financial performance can be improved by a small, effective board of directors and independent and effective corporate governance. They have studied by relying upon "secondary data of Johannesburg Stock Exchange ("JSE"), Socially Responsible Investment ("SRI") Index-listed mining firms' sustainability reports and annual financial statements" from 2010 until 2015. The results show "a weak negative correlation between ROE and board size, and a weak but positive correlation between ROE and board independence". They also found a positive but weak correlation between ROE and revenue growth, and a negative and weak correlation between ROE and company size.

Based on the study by Guney et al. (2020) that the average board size is 10 members whereby the recommended minimum is 3 members and the maximum is 22 members in the non-financial firms listed on the East African frontier markets being Kenya, Tanzania and Uganda. Their findings revealed that the coefficient of board size is negative and very significant which is thus, not consistent with their hypothesis. This is most likely because "a larger board size harms the operational performance of the companies listed in the EAC (East African Community) exchanges". This observation coincides with the assertion that the company's efficiency in monitoring and advisory roles reduces as the board increases in size. Therefore, there is no definitive recommendation for the number of directors to influence company performance as it is still arguable whether the number of board directors can be 5, 7, 11 or even 13 directors (Shamsudin et al., 2018).

According to Khatib and Nour (2021), they opined agency theory "as the monitoring and advisory roles in terms of controlling and directing management activities that enhances the firm performance in several ways including agency costs reduction" as founded by Jensen and Meckling. Based on their study, they researched in evaluating the COVID-19 effects on corporate governance and firm performance of 188 non-financial firms in Malaysia from 2019 to 2020 where they found that board size shows a

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significant positive impact on firm performance. Nonetheless, “after splitting the sample based on year, board size does not matter in the uncertain time during the COVID-19 crisis”. Instead, board diversity shows significant results in firm performance (ROA and ROE) due to the varied insight, expectations, knowledge and background of the board members. Based on a literature review by Peng and Isa (2020), organizations that practised ESG (environmental, social and governance) are best positioned to achieve sustainable growth and profitability. Even though this may not be profitable from the perspective of near-term earnings but they are expected in the longer-term value. This drives the commitment of the organizations to maximize the economic benefits of shareholders whilst protecting the interests of other stakeholders so that the business can be sustained and grow. The Governance and Accountability Institute (2017) revealed that 82% of companies had embraced sustainability reporting representing an increase of 53% from 2012 which shows that more and more organizations are adopting ESG practices in their businesses so that it can be sustained in the long term. According to Bae et al. (2018) on signal theory, sustainability report disclosures send different signals to the market and receive responses from the market. This theory consists of four elements: signaler, signal, receiver and feedback. They believe that the management (non-independent directors, managers) plays the role of the signaler, and the signal is the flow of information (stock news, dividends, environmental finance, CSR investment etc.). The receiver, who is an outsider, is unaware of internal information such as shareholders and members of the public. In this way, sustainability reports have reduced misinformation to the public. In addition, sharing internal information can enhance the competitiveness of the company as the information is subject to feedback from the members of the public. Such disclosure informs the public of the level of compliance with corporate governance, financial performance, corporate social responsibility initiatives and stakeholders’ engagement. In a related study, Aziz and Haron (2021) examined the corporate social responsibility disclosures (“CSRD”) by 175 Sharia-compliant listed companies in the main market of Bursa with their financial performance from 2007 until 2017 which reveals had low CSRD levels. CSRD was “also positively correlated with financial performance (ROA and Tobin Q), and Muslim directors are negatively correlated with financial performance (ROA and Tobin Q), whereas board size has no such correlation with ROA or Tobin's Q”.

There is also another empirical study led by Mahmood et al. (2018), examining the impact of corporate governance on economic, social and environmental sustainability disclosures collected from 100 companies listed on the Pakistan Stock Exchange from 2012 until 2015. They have based on quantitative data as well as qualitative data i.e., interviews with five board members from different companies. Their results showed that good corporate governance had improved sustainability disclosures. They have also emphasized that a “large board size consisting of a female director and a CSR committee is better able to check and control management decisions regarding sustainability issues”, which will produce better sustainability disclosure. In this connection, there was an empirical study by Lucia and Panggabean (2018) on a sample of 262 manufacturing companies listed in Bursa from 2013 to 2015, analyzing the impact of corporate governance towards sustainability reporting disclosure. Data analysis was performed using the logistic regression method and the results show “partial results of hypothesis testing variable leverage, liquidity and directors do not have a significant effect on financial reporting, but profitability and company size have a significant influence on sustainability reports disclosure”. According to Bamahros et

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al. (2022), they had examined the relationship between corporate governance mechanisms and environmental, social, and governance ("ESG") disclosures amongst 206 listed Saudi companies from 2010 to 2019. They found the presence of the royal family on the board and external members on the audit committee have a positive and significant association with ESG disclosure. Based on their empirical literature research, companies with higher ESG performance are motivated to reveal more information to the public. Simply because they wish to signal to the public by publicizing its credibility and trustworthiness as well as to boost their image of gaining favourable feedback and thus perception from the public. Directly and indirectly, the companies are improving their performance and value as it sets healthy competition amongst the companies. Consistent with the agency, stakeholder and signal theories, disclosure of ESG reports diminishes the information asymmetry between the managers of the company and stakeholders and thus, reduces the knowledge barrier from the public to the company. The board of directors is accountable and answerable for overseeing the management and ensuring that stakeholders' needs are met. Hence, an effective board in terms of independence, diligence and relevant expertise are required to monitor the performance of the managers of the company. The conceptual framework that is developed for this research, is as follows (*Figure 1*).

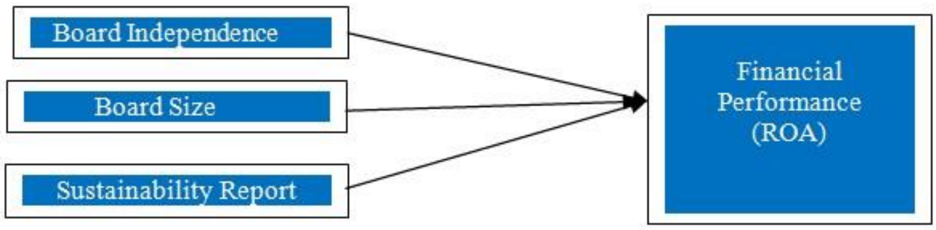

Figure 1. *The conceptual framework.*

The independent variables above are the common variables used in corporate governance studies as follows (*Table 1*).

Table 1. *Common variable in corporate governance studies.*

Variables	Studies
Board independence/independent director	Kyere and Ausloos (2021); Haron et al. (2020); Merendino and Melville (2019); Shamsudin et al. (2018); Suhadak et al. (2018); Dzingai and Fakoya (2017)
Board size	Aziz and Haron (2021); Khatib and Nour (2021); Kyere and Ausloos (2021); Guney et al. (2020); Haron et al. (2020); Merendino and Melville (2019); Shamsudin et al. (2018); Dzingai and Fakoya (2017)
Sustainability/CSR/ESG disclosure	Bamahros et al. (2022); Aziz and Haron (2021); Peng and Isa (2020); Abbas et al. (2019); Lucia and Panggabean (2018); Mahmood et al. (2018); Mahrani and Soewarno (2018); Siregar and Bukit (2018)

Materials and Methods

This research employs secondary data in which the data is collected from sustainability reports and annual reports of the publicly listed companies in the pharmaceutical sector over five years from 2017-2021 (past 5 years). As of 14 April 2023, there are only six pharmaceutical companies listed under the main market in Bursa Malaysia, namely: Pharmaniaga Berhad, Duopharma Biotech Berhad, Apex Healthcare Berhad, Y.S.P. Southeast Asia Holding, Kotra Industries Berhad and Nova Wellness Group Berhad. All of these companies are located in the Klang Valley except

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for Apex Healthcare Berhad and Kotra Industries Berhad which both are primarily located in Malacca. These six companies manufacture and distribute pharmaceutical products within and outside Malaysia. Non-probability purposive sampling is used for this research and based on the list of pharmaceutical companies under Bursa Malaysia's main market, there are 6 companies as abovementioned. However, one of the companies namely, Nova Wellness Group Berhad had only started to be listed in 2018 as per the records in Bursa Malaysia where it is noted that the earliest annual report lodged with Bursa Malaysia was for the annual report in 2018. Furthermore, it is not possible to do a study period from 2018 since as of 25 April 2023, there are still some companies that have yet to file the 2022 annual report as it is not due yet under the law. Hence, we exclude Nova Wellness Group Berhad from this research study leaving five companies. These five companies would need to have relied upon under this study as a sufficient representation of sample size as only those companies are listed under the main market in Bursa Malaysia under the pharmaceutical sector from 2017. Therefore, this study would still cover all pharmaceutical companies listed in Malaysia for the past five years, 2017-2021 (*Table 2*).

***Table 2**. Variables used in the conceptual framework.*

Variables	Remarks and supporting documents
Board size as the Independent Variable	This refers to the total number of directors that sits on the board which can be extracted from the annual report that can be used to identify the board size of the organization consistent with the studies by Kyere and Ausloos (2021); Fernández-Gago et al. (2018); Mahmood et al. (2018); and Shamsudin et al. (2018).
Board independence as the Independent Variable	This refers to the number of independent directors that sits on the board who are not affiliated with top executives of the organization (day-to-day operations). This data can be extracted from the annual report that can be used to identify the number of independent directors and non-independent directors consistent with the studies by Kyere and Ausloos (2021); Mahrani and Soewarno (2018) and Shamsudin et al. (2018) as follows: (Number of independent board directors/Total number of board of directors)*100
Sustainability Report Disclosure as the Independent Variable	This refers to the extent to which an organization discloses information about its environmental, social, and governance performance which can be extracted from the sustainability report that complies with GRI (Global Reporting Initiative) standards. According to Fernández-Gago et al. (2018), "GRI is the most trusted, recognized and accepted organization in the area of social, environmental, and economic information disclosure and sets the triple bottom line reporting guidelines to be more transparent, reliable, and comparable". Based on a research study by Bae et al. (2018) and Lucia and Panggabean (2018), they have used a value of 1 for companies that disclose sustainability reports and a value of 0 for companies that do not disclose sustainability report.
ROA as the Dependent Variable	This refers to the financial data which can be extracted from the annual report that can be used to measure the financial performance of an organization. According to Kyere and Ausloos (2021), operating profit measured by ROA is a better measurement than ROE when examining the relationship between financial performance and corporate governance as it is not affected by leverage, extraordinary items, and other discretionary items. ROA illustrates how best a company's assets are utilized to generate profits. The ROA is calculated by dividing the annual earnings/net income of the company by its total assets: (Net income/Total assets)*100

Consistent with research studies by Kyere and Ausloos (2021) and Bae et al. (2018) we use SPSS software to analyze the data and to test the following hypotheses:

H1: Board size has a positive effect but is not significant on the financial performance of publicly listed companies in Malaysia under the pharmaceutical sector.

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H2: Board independence has a positive and significant effect on the financial performance of publicly listed companies in Malaysia under the pharmaceutical sector.

H3: Sustainability report disclosure has a positive and significant effect on the financial performance of publicly listed companies in Malaysia under the pharmaceutical sector.

For ease of reference, we use the following abbreviations for the variables (*Table 3*).

***Table 3**. Abbreviations for the variables.*

Category	Definition
BSZ	Board Size (Independent Variable)
BIN	Board Independence (Independent Variable)
SRD	Sustainability Report Disclosure (Independent Variable)
ROA	Return of Assets (Dependent Variable)

Results and Discussion

Table 4 shows the descriptive statistics of all the variables for 25 sample data that consist of five pharmaceutical companies for five years from 2017-2021. It reveals that for BSZ, the minimum number of board of directors for all companies during five year period is 6 directors whilst the maximum number is 12 directors whereby the mean is 7.92. From these directorships of five pharmaceutical companies in Malaysia, the minimum number of independent directors is 2 while the maximum number of independent directors is 7 with an average of 4.48 which is consistent with Practice No. 5.21 of MCCG 2021 that requires at least half of the directors to be independent. However, it is noteworthy that some companies did not meet this requirement of having at least half of its board to be independent which simply means there are non-independent directors more than the independent directors suggesting non-compliant to the MCCG 2021. Shamsudin et al. (2018) based on data from 2012 to 2014, indicate that an average of 46% of the board composition consists of independent directors which is in line with the recommendation of the revised MCCG 2011. However, some organizations do not comply with such requirements. As for the SRD, we can see that it has the lowest standard deviation of 0.509 as compared to other variables. It is noted that the minimum ROA is 4.30 while the maximum ROA is 16.10. Interestingly, there was a significant increase in revenue of about 274% in 2020 and 2021. This is because of the need of Covid-19 vaccine in 2021 but in the previous year 2020. The company, however, recorded the worst ROA within the five years whereas the previous years 2017-2019 were 6.10%, 6.0% and 8.7% respectively. Therefore, we can say that the results in 2020 and 2021 were exceptional as it was the highest varying degree i.e. between 2020 and 2021 recording the lowest and highest ROA during the five years. Consistent with prior studies including Shamsudin et al. (2018), we employ correlation to identify the extent of the correlation between the variables. Rather than Pearson correlations, we are using Spearman correlations (non-parametric) that is more appropriate and recommended for a small and limited collection of data such as in this study whereby non-parametric is considered more powerful for the analysis of studies

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with small sample and/or non-normally distributed data (Wadgave, 2019). When testing the data using Pearson and Spearman in SPSS, particularly for this actual present study, Pearson could not detect the correlation but Spearman can detect the correlation that shows better precision. Therefore, we will use Spearman non-parametric correlation for this study that shows better accurate results as follows (*Table 5*).

Table 4. *Descriptive statistics.*

Category	N	Minimum	Maximum	Mean	Std. Deviation
BSZ	25	6.00	12.00	7.9200	1.49778
BIN	25	2.00	7.00	4.4800	1.89561
SRD	25	0.00	1.00	.5200	.50990
ROA	25	4.30	16.10	7.5272	2.69493

Table 5. *Correlation.*

			BSZ	BIN	SRD	ROA
Spearman's rho	BSZ	Correlation coefficient	1.000	.509**	.250	-.256
		Sig. (2-tailed)		.009	.228	.216
		N	25	25	25	25
	BIN	Correlation coefficient	.509**	1.000	.778**	-.394
		Sig. (2-tailed)	.009		<.001	.051
		N	25	25	25	25
	SRD	Correlation coefficient	.250	.778**	1.000	-.556**
		Sig. (2-tailed)	.228	<.001		.004
		N	25	25	25	25
	ROA	Correlation coefficient	-.256	-.394	-.556**	1.000
		Sig. (2-tailed)	.216	.051	.004	
		N	25	25	25	25

*Notes: **Correlation is significant at the 0.01 level (2-tailed).*

Based on *Table 5*, there are correlations between:

(i) BSZ and BIN which is consistent with the study by Kyere and Ausloos (2021);
(ii) BSZ and SRD which is consistent with the study by Bae et al. (2018);
(iii) BSZ and ROA which is consistent with the studies by Khatib and Nour (2021); Haron et al. (2020);
(iv) BIN and SRD which is consistent with the study by Bae et al. (2018);
(v) BIN & ROA which is consistent with the study by Merendino and Melville (2019); and
(vi) SRD and ROA which is consistent with various studies such as Bamahros et al. (2022); Aziz and Haron (2021); Peng and Isa (2020); Abbas et al. (2019), Lucia and Panggabean (2018) as well as Mahrani and Soewarno (2018).

Therefore, it can be summarized that all variables have correlations with each other as supported by the abovementioned studies. It is worthwhile to note that for correlation between SRD and ROA, it is the only result that shows significant result as it stands at 0.004 whereby the benchmark is 0.01 as per the explanatory note in the above table extracted from SPSS's descriptive statistics. Besides the tables above, for better reflection on the results, we use a scatter plot in SPSS for the graphical representation that is also based on the above descriptive statistics in identifying the individual relationship of each independent variable and the dependent variable (*Figure 2*). *Figure 2* presents the relationship between BSZ and ROA. The diagram depicts that the smallest board size has 6 directors and the largest is having 12 directors. It is noted that the lowest ROA is when having 9 directors for certain companies. The results are

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aligned with the findings by Khatib and Nour (2021) as well as Guney et al. (2020). Both studies contend that the profitability of an organization depends on the nature of the business and the size of the company/number of employees. Nevertheless, evidence also shows that some other companies had the highest ROA when having 9 directors. The findings are supported by Aziz and Haron (2021) as well as Guney et al. (2020). Therefore, with these inconsistent results, we can conclude that the hypothesis "Board size has a positive effect but not significant on the financial performance of public listed companies in Malaysia under the pharmaceutical sector" is thereby not supported. Hence, the board size is not an absolute or precise factor in determining or influencing the financial performance of the company

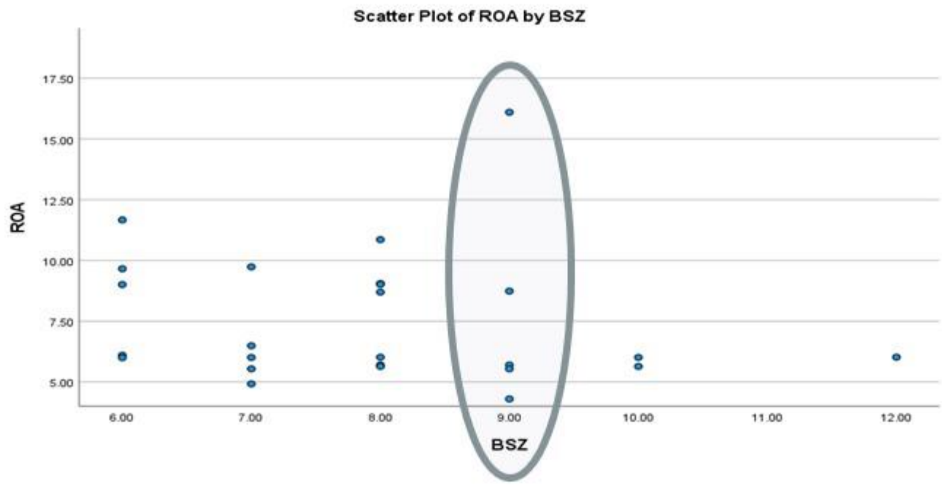

Figure 2. *Scatter plot of ROA by BSZ.*

Figure 3 depicts the relationship between BIN and ROA with the minimum independent director being 2 and the maximum director being 7. From the results, the organizations that had the lowest ROA are when it had the minimum independent director. Interestingly, the results also indicate that among the highest ROA when it had the highest number of independent directors (five to six directors). The findings show that having the necessary number of independent directors helps the company to experience positive profitability and it is supported by the research by Merendino and Melville (2019) although it is not significant. Therefore, the finding does not support the hypothesis developed from this study that "Board independence has a positive and significant effect on the financial performance of public listed companies in Malaysia under the pharmaceutical sector". *Figure 4* shows the relationship between SRD and ROA, revealing that the organizations had the lowest ROA when they did not disclose SRD and vice versa. To support this, based on the result of correlation, SRD is the only variable that has a significant result proving the disclosure of sustainability report had positively influenced the financial performance. These results have been supported by various studies in the kinds of literature (Bamahros et al. (2022); Aziz and Haron (2021); Peng and Isa (2020); Abbas et al. (2019); Mahrani and Soewarno (2018); Lucia and Panggabean (2018); Mahmood et al. (2018). Hence, the hypothesis developed in the present study "Sustainability report disclosure has a positive and significant effect on the financial performance of public listed companies in Malaysia under the pharmaceutical sector" is thereby supported.

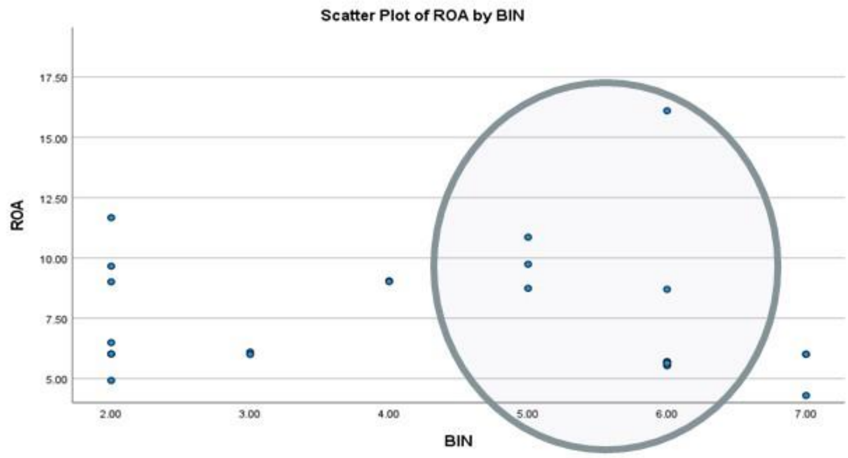

Figure 3. *Scatter plot of ROA by BIN.*

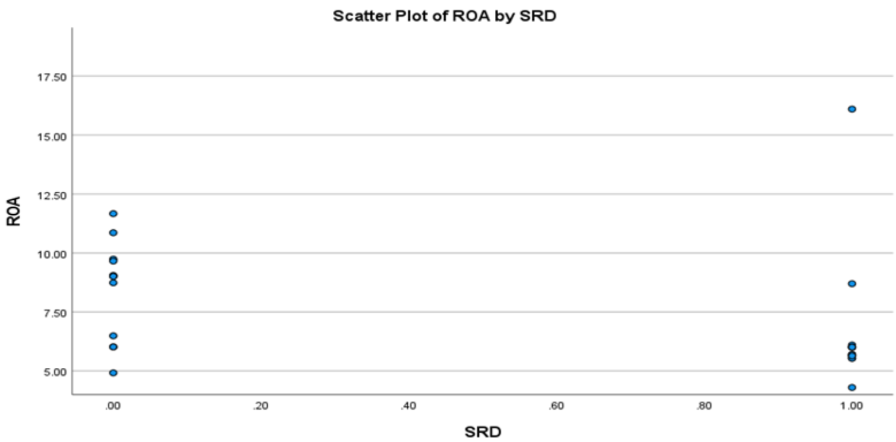

Figure 4. *Scatter plot of ROA by SRD.*

Figure 5 presents the histogram for the dependent variable of ROA. The diagram depicts a bell-shaped and the symmetric is not normally distributed. This is because the sample data used in this study is small and non-normally distributed data (Wadgave, 2019). There are only five pharmaceutical companies listed in Bursa Malaysia from 2017 to 2021. *Figure 6* presents the Normal P-P Plot of Regression Standardized Residual Dependent Variable: ROA. The diagram illustrates that the points of standardized residuals are considerably straight line and upward, indicating that the relationship is likely linear possibly due to all variables (BSZ, BIN, SRD, ROA) included in this study possess certain degree of correlations. However, it can be seen that there are certain points on the P-P plot that slightly deviate from a straight line, suggesting that the reason for variables (BSZ, BIN, ROA) having correlations though it is not significant. The only variable that is correlated and significant is the SRD, explaining that the disclosure of the sustainability report had positively influenced the financial performance of the company. The present study can confirm that companies are becoming vigilant in investing and undertaking sustainability initiatives and efforts. It signals responsible and caring companies not only to their investors but also to their business partners, customers, government and of course in the eyes of the public. As for the other two hypotheses on board size and board independence, the results are inconclusive. The study finds that it is impossible to have an absolute number in determining the ideal size of the board and how many independent directors there should be in any given company.

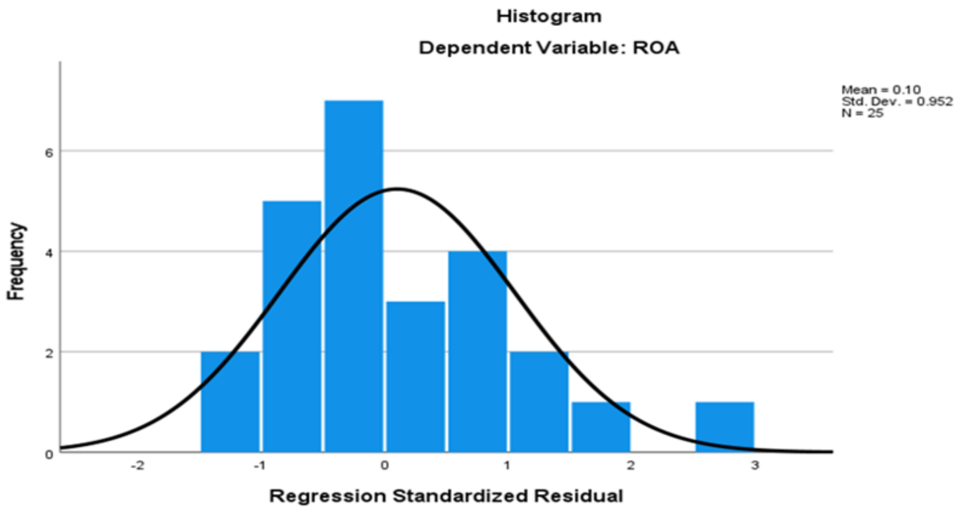

Figure 5. *Histogram for dependent variable: ROA.*

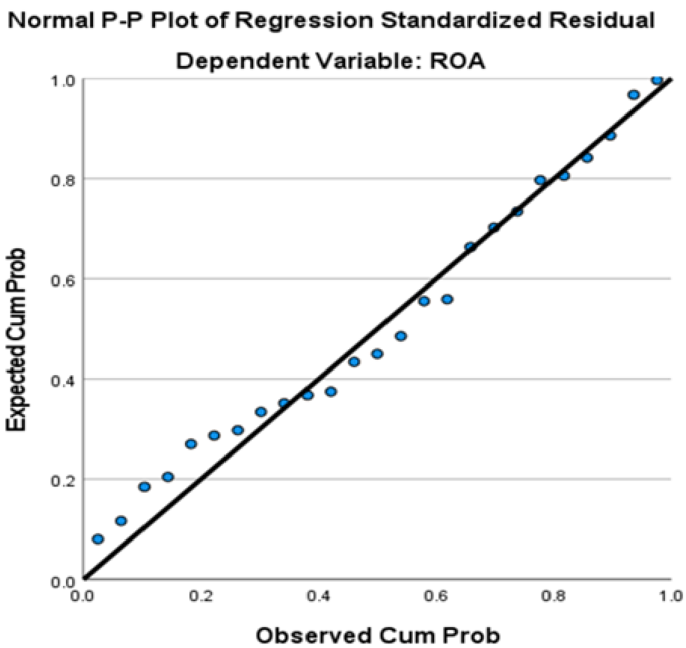

Figure 6. *Normal P-P plot of regression standardized residual dependent variable: ROA.*

Conclusion

Premised on the above findings, the factors identified in this study BSZ, BIN and SRD could influence the effectiveness of corporate governance of publicly listed companies in the Malaysian pharmaceutical sector. The results reveal that these factors correlate with ROA, suggesting the degree of influence on the companies' financial performance. However, among such three variables, only SRD shows a significant correlation while BSZ and BIN do not possess significant correlations. Consistent with

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previous studies, SRD assists companies to sustain and/or improve their financial performance. The finding is aligned with the stakeholder theory and signal theory, suggesting that the disclosure of sustainability initiatives signals and communicates their efforts in adhering to the social compliance standards, which is needed in boosting the corporate image as a credible and trustworthy company. Even though they may not be profitable from the perspective of near-term value but they are expected to be in the long-term value.

Albeit BSZ does not show a significant correlation under this study, it is still worthy to include in the analysis. The BSZ, however, depends on the nature of the business and the size of the company. It is worthwhile to note that having too many directors may often lead to disagreements that can adversely affect financial performance knowing the fact that the company's efficiency in monitoring and advisory roles reduces as the board increases in size. However, at the same time, having a large number of board members may contribute different ideas and experiences. Therefore, there should be no fixed rule on how many board members there should be in an organization but rather a balanced composition considering the required expertise of the board members that can be beneficial and relevantly contribute to the financial performance of the organization.

Similar to BSZ, BIN's result shows no significant correlation; however, it is important to assess the corporate performance. The MCCG 2021 requires at least half of the board of directors to be independent. Independent directors are very much relevant and needed in any organization as they are not affiliated with the day-to-day management of the organization and thus can provide more transparent constructive feedback on the financial performance of the company. They are like gatekeepers and act as a monitoring body which is consistent with the agency theory being the dominant theory for corporate governance-related topics. Independence can therefore be achieved through the separation of powers between the senior management and independent directors as they can independently monitor the performance of senior management by providing different perspectives, insights and constructive criticisms to improve the financial performance of the company besides preventing mismanagement and abuse of power.

The present study faces a certain degree of limitation: a small sample size. Therefore, it is recommended to have for more than a five-year study period and enlarge the sample size data to get better representations of results precision and robust findings. Even if we start the collection of data from the year 2018 whereby there would be six pharmaceutical companies at that time, it can be reasonably expected that the results would not change or change much as one company is only added. Thus, it is recommended to extend the sector to healthcare instead of focusing only pharmaceutical sector. As of 29 May 2023, there is a total of 18 companies listed under the main market for the healthcare sector in Bursa. Therefore, this gives more opportunity to collect more sample size as it includes not only the pharmaceutical sector but also the healthcare equipment and services sector as well as the healthcare providers sector.

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Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

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