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Corporate Governance and Climate Change Reporting in Malaysia

Nor Bahiyah Omar[1] and Azlan Amran[2]

[1*]Faculty of Accountancy, Universiti Teknologi MARA, Perak Branch, Tapah Campus, 35400 Tapah Road, Perak, Malaysia

[2]Graduate School of Business, Universiti Sains Malayisa, Pulau Pinang, Malaysia.

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Abstract

Climate change is real. It is real risks affecting all economies in the world. Many efforts have been taken by multilateral organizations and governments to minimise the impact of climate change and making all of us, especially corporate entities, to be more responsible toward sustainability issues. As a result, many firms are now more receptive toward the idea on the need of communicating issues concerning sustainability that affecting their activities with their stakeholders through various channels and engagements. The objective of this research is to examine, evaluate and explain the effect of corporate governance toward the extent of climate change reporting in the context of Malaysian environment. A sample of 150 public listed companies which shares are traded in Main Board of Bursa Malaysia Berhad ("Bursa Malaysia") is used to test various hypotheses on the effect of corporate governance to the extent of disclosure of climate change information. The findings of the research reveal that only factors such as CEO's educational background, CEO's environmental experience, board gender diversity and ownership structure have significant effect on the extent of climate change reporting. On contrary, results on two corporate governance elements such as board size and board independence show insignificant relationship with extent of climate change reporting.

1.0 Introduction

According to Parry, Rosenzweig & Livermore (2005), climate change issue will affect global production industries, especially food industry in developing countries. Similar evidence was found in Malaysia as well (Murad, Islam Molla, Bin Mokhtar & Raquib, 2010). Besides affect the productions, climate change can also interfere the business environment and put businesses at risk (Amran et al., 2012). Based on a number of losses suffered due to natural disasters worldwide, financial institutions view climate change as a risk (Amran et al., 2012). Because of this, firms are facing increasing pressure from the stakeholders and investors to disclose information on climate change (Kolk et al., 2008). The emergence of numerous proponents and pressure groups which have interest on climate change issues such as the Malaysian Climate Change Group, CDP, Institutional Investor Group on Climate Change, Coalition for Environmentally Responsible Economies, Investor Network on Climate Risk, Global Framework for Climate Risk Disclosure and World Economic Forum is a clear evident that stakeholders are now becoming concern on climate change matters (Global Reporting Initiative, KPMG 2007).

There is an increasing demand from stakeholders for firms to be more accountable and transparent as a result of increasing awareness towards concerning climate change reporting (Ahmad & Haraf, 2013). The increase in demands and level of awareness has caused firms to undertake a range of initiative and activities to demonstrate their accountability and responsibility on human rights and climate change matters (Ahmad & Haraf, 2013). Several publications (GRI & KPMG, 2007; CDP, 2013) reported on the evidence of the increasing stakeholders' demand for accountability and transparency in which stakeholders were encouraging firm to report their environmental performance, especially climate change and greenhouse gas emissions information. In order to meet the stakeholders' demand, firms especially public listed companies that have the desire to be environmentally accountable, go the extra mile to communicate with the public through the disclosure of sustainability report (De Villiers & Van Staden, 2010).

There are an increasing number of voluntary or mandatory greenhouse gas emissions and climate change reporting guidelines issued or imposed by the governments worldwide, especially the government of developed economies. Amongst the developed countries which have introduced mandatory reporting are Australia, France, United States, Japan, Canada and United Kingdom. Although it is not reporting per say, the establishment of European Union Emissions Trading Scheme by the European Union, i.e. the first large greenhouse gas emissions trading scheme in the world, also encourage some sort of reporting as members countries have to monitor the and report their carbon dioxide emissions on consistent basis based on the caps assigned. All member countries of the European Union is subject to the European Union Emissions Trading Scheme (CDSB, 2010).

Meanwhile, in the absence of governmental mandatory guidelines from relevant authorities, there is an increasing trend of voluntary corporate climate change reporting, thanks to the initiatives of various Multilateral Agencies ("MLA") initiatives such as UN, World Bank and ADB, as well as the Non-Governmental Organization's ("NGO"). One of the examples of climate change disclosure which is championed by the NGO is the Carbon Disclosure Project or CDP. The corporate response rate for the CDP for climate change related information increased from 47% in 2003 to 81% in 2013 (CDP, 2013), illustrating that the firms now are more inclined to make public disclosure on climate change matters.

2.0 Literature Review

Climate Change Reporting in Malaysia

Malaysia is not an exception to the effects of climate change. In recent years, climate change-related extreme weather events such as year-end devastating floods, prolonged drought, water shortages, unexpected mini tornadoes caused damages to assets and loss of income worth hundreds of millions of Ringgit. Kelantan, a state which took the worst hit by such disaster, recorded estimate losses of RM105 million in 2014.

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As a developing nation, Malaysia is exposed to the risks of climate change. Taking cognizance of such fact, Malaysia signed and ratified the Paris Agreement on 22 April 2016 and 16 November 2016 respectively. The signing of the Paris Agreement officially sealed Malaysia's commitment to observe the terms of Paris Agreement starting 16 December 2016. Apart from subscribing to the main agenda of Paris Agreement which is to contribute to the efforts of capping the temperature rise, Malaysia also pledged to cut greenhouse emissions by 45% by 2030.

The Government of Malaysian treats issues concerning climate change as priority agenda. In 2009, Malaysia has affirmed its stand to combat climate change through the introduction of National Policy on Climate Change ("NPCC"). NPCC is a Government policy which serves as a guiding framework to identify the opportunities and addressing challenges of climate change towards sustainable development nation (MNRE, 2009). It provides a structured and clear framework for the country's various activities that may affect the environment. In short, NPCC outlines five key principles which focusing on climate change mitigation, adaption, and capacity building.Besides NPCC, the Government of Malaysia also introduced other affirmative measures such as the plan to develop carbon-neutral new cities, the introduction of tax incentives to companies which report and limit their emissions, commitment to the procurement of environmentally-friendly government assets, and the planting of 13 million trees since 2011.

On 3 December 2013, the Government also introduced an initiative known as The National Corporate Greenhouse Gas Reporting Programme or MYCarbon. The initiative was a follow-upde pursuant to the Prime Minister Datuk Seri Najib Tun Razak's pledge at the United Nations Summit on Climate Change 2009 which was held in Copenhagen. MyCarbon's main aim is to establish a framework on greenhouse gas emissions reporting in Malaysia. This move is crucial to achieving standardization in reporting that is recognized on the international stage. The programme also provides tax incentive to eligible corporate entities that incur expenditures in preparing and verifying their greenhouse gas inventories.

On the other hand, the private sector in Malaysia have also voluntarily or have been pressured to committed or forces to commit to the climate change agendas. In December 2006, Bursa Malaysia, the stock exchange in Malaysia, has made CSR reporting mandatory. Bursa Malaysia is the first stock exchange in Asia which imposes all of its public listed companies to annually disclose their corporate social responsibility activities or practices. In a way, this can be viewed that Bursa Malaysia is acknowledging the ever emerging investors' demands and pressure for firms to disclose report beyond the typical financial figures and performance.In November 2010, Bursa Malaysia published a 70-page guideline on "Powering Business Sustainability: Guide for Director" in an effort to assist the directors of public listed companies in understanding the value of good sustainability practices and prioritize it in issue in the boardroom agenda. The gist of the guideline are: to build awareness on sustainability; to improve the quality of sustainability related practices and reporting; to assists firms to meet the sustainability expectations of stakeholders; to attract sustainability-focus funds into the

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Malaysian capital market; and to facilitate more listed issuers to qualify for FTSE4Good Bursa Malaysia Index and other international sustainability indices.

As a follow-up, in October 2015, Bursa Malaysia issued amendments to the Main Market Listing Requirements ("MMLR") that are related to "Sustainability Statements" in annual reports. Under the said amendments, public listed companies are required to disclose a narrative statement of the management of material economic, environmental and social risks and opportunities in their annual reports. The Sustainability Statement replaced the existing requirement to disclose statement on the corporate social responsibility activities or practices. Additionally, the public listed companies listed in the Main Market are also required to include the information prescribed in Practice Note 9 of the MMLR in their Sustainability Statement, such as the governance structure, the scope of the Sustainability Statement and the management of material economic, environmental and social risks and opportunities (i.e. material sustainability matters). Bursa Malaysia further encourages all the public listed companies to adopt best practices by referring to the Sustainability Reporting Guide when preparing the Sustainability Statement and when identifying material sustainability matters. The Sustainability Amendments take effect on a staggered basis over a period of 3 years, starting from 31 December 2016 to 31 December 2018.

Although the Government of Malaysia takes affirmative actions and engages in various efforts which are in line with the Paris Agreement's objectives, climate change reporting has yet to be made mandatory to all firms in Malaysia. Prior to 2010, according to Mohd and Sayce (2010), no mandatory requirement imposed on public listed companies in Malaysia to report on the social and environmental as well as climate change reporting. After Bursa Malaysia amended the MMLR in 2010, public listed companies in Bursa Malaysia are required by MMLR to disclose any material information on as part of the Sustainability Statement to be published in their annual reports. It can be said that the Government of Malaysia is taking a "voluntary" approach in encouraging Malaysian firms to report matters of climate change and exercise the practice in the long run.

Studies on Malaysian firms revealed less appealing results on climate change related reporting. Although there are evidences of disclosure, but the extent of the disclosure has been very low in Malaysia (Othman and Ameer, 2010). Ahmad and Hossain (2015) found that the most popular climate change related issues reported by firms in Malaysia were mainly on energy savings and efficiency, air pollutions, preserving biodiversity, tree plantings, global warming and the indication of Kyoto Protocol agreement. The study revealed that 65.82% of firms disclosed information on energy savings and efficiency, but only 7.59%, reported quantitative information on greenhouse gas emissions. It is also found that only 8% of the sample of Malaysian firms reported their greenhouse gas emissions information, whilst 41% mentioned global warming or the Kyoto Protocol in their reports, and 37% of the firms revealed that they had planned to deal with global warming and to control global warming (Amran et al., 2012). When compared to the developed nations, the degree of sustainability and climate change

related reporting in Malaysia is still poor (Amran et al., 2014) and further stated that the extent of climate change reporting published by Malaysian firm was well below the disclosure made by their peers in neighbouring countries such as Thailand, Singapore and Philippines.

3.0 Methodology

A sample size is 150 companies, and the criterion of selection is based on the company's size and market capitalization as at 2016 was analyzed. This research employed the largest 150 companies by market capitalization listed on Bursa Malaysia as the sample due to few reasons. One of the reasons is that larger firms are more noticeable and observed to have greater impact on society (Hackston & Milne, 1996). In addition, bigger firms normally have more sensible shareholders who are concern and take issues relating to social and environmental impact more seriously a (Hackston & Milne, 1996). Furthermore, larger firms are believed to have more resources to participate on social and environmental activities (Cormier & Magnan, 2003). It is also found that based on previous literatures, there are evidences shows that climate change reporting and environmental reporting have significant association with size of the company (Stanny & Ely, 2008; Prado-Lorenzo et al., 2009).

In order to collect climate change reporting data, this research examine the Malaysian public listed companies' annual reports and sustainability report of the top 150 public listed companies listed in main board of Bursa Malaysia for the financial year ended 2016. By using a reporting checklist adopted by (Ooi, 2016 and Clarkson et al., 2008). Thus this allows for examination of genuine practices in climate change reporting from the sample.

The first important source of data for climate change reporting for this research is the companies' annual reports and the second, important source of data for this research is the sustainability reports. This report is another source of data collection for this research. Apart from annual reports, another medium that businesses use to report their voluntary work and other CRS activities are sustainability report (Amran et al. (2012). Furthermore, as stated by Unerman (2000), a research which undertaken by only using a single source of data, i.e. annual report and not looking into any other reporting on CSR and activities that companies engaged on, is underestimating what the companies is doing. In other words, merely focusing on annual reports alone may not be sufficient, as other documents may be used to supplement annual reports to collect data. Amran et al. (2012) and Amran et al. (2014) considered examining corporate climate change efforts through annual reports and sustainability reports is rather crucial.

Sustainability reporting enables organizations to consider their impacts of wide range of sustainability issues, enabling them to be more transparent about the risks and opportunities they face (GRI website, 2017). Currently, sustainability report has gaining its importance as one of the corporate communication methods (Amran & Haniffa, 2011). As at to date, sustainability report is still a voluntary corporate practice in Malaysia, however it has been mandatory for listing requirement. Some companies include it in their annual reports, or publish separately

(stand-alone reports). It is a useful source to examine the sustainability related information which may not be captured in traditional financial reports (Amran et al., 2012; 2014). Furthermore, Malaysia has signed the Paris Agreement in 2016, therefore in future this types of reporting shall be regarded as mandatory. Therefore, for the purpose of this research, climate change reporting has been assesses through annual reports and sustainability report of the 150 Malaysian public listed companies.

In order to collect data concerning corporate governance, relevant information are extracted obtained from the publicly available published annual report which are available in Bursa Malaysia website. Using the same source of data, i.e. the annual report, and is normally available in the Board of Directors profile and write-up section. In this section it provides details of the directors' experience and profile. All the information needed for research is publicly available in the annual report.

4.0 Data Analysis, Result and Discussion

There are six independent variables which represent the corporate governance, i.e. (1) Board Size (2) Board Independent (3) CEO's Educational Background (4) CEO's Environmental Experience, (5) Board Gander Diversity, and (6) Ownership Structure. Therefore, in this research the relationship between the components of corporate governance and climate change reporting were analysed. The process of providing the coding was based on the categories adopted by Ooi (2016) coding sheets based on 26 indexes. The climate change information was recorded in the coding sheets and the given coding is either "1" or "0", where reflecting the information on climate change reporting is available or either vice versa. After completing the process of all 26 items, the amount was added and a total amount was recorded. This total represent the measurement of climate change reporting for the year ended 2016 for this research and finally concluded on the current extent and practice of climate change reporting.

For the purpose of this research, there are two ways of measuring the climate change reporting related issues. As the unit of analysis is the organization itself, there are two methods in content analysis being applied. The first is to look into the existence of the information in climate change reporting, whether the firm is making any reporting or not on climate change reporting. Therefore, the first measurement is "1" or "0". "1" is given when the climate change reporting information existed and "0" when the climate change reporting is not existed in the source of information. This type of method has been applied in most of the previous literature regarding social and environmental reporting research (Belal et al., 2010; Freedman & Jaggi, 2010; Hague & Deegan, 2010; Amran et al., 2012). Although this type of measurement describes only on the existence and non-existence of the information of climate change reporting, however this method is the common practices among researchers in similar area and its justified on the existence of the information gathered and provide the true and reliable meaning.

The second type of measurement that is suitable for this research is using the coding system

base on their categories, which reveals the meaning of each word, sentence or even the paragraph itself. This is supported by Campbell & Abdul Rahman, (2010), which stated that the advantage of this measurement is, it capture the totality of the description and provide a better understanding on the findings. Therefore, by using this type of measurement climate change reporting could be captured although the firm only reported in few words in their disclosure. This is perhaps a powerful content analysis method in order to give a better description on the meaning for each word, sentences or statement (Campbell & Abdul Rahman, 2010).

Measurement - Climate Change Reporting

To assess the climate change reporting, this research has made few references as a basis of its measurement, classification and interpretation of climate change reporting related information. At present, there is no specific or standard measurement on climate change reporting being developed for Malaysian companies or being used as a reference by all the public listed companies in Malaysia. In absent of a standardize measurement; this research adopted a scoring index developed by Ooi (2016). Ooi (2016) proposed a set of items and scoring index to measure the climate change reporting, which is considered as the best reference and guide for this research. Therefore, this research has adopted and used the index set by Ooi (201) as the main measurement on climate change reporting. Based on the index, total adoption of the international guidelines will not be applicable for Malaysian context (Belal & Owen, 2007).

An index measurement of 26 for seven (7) criteria proposed by Ooi (2016) is presented in Table 1.

Disclosure Items
Governance
1. Existence of Board oversight for environmental, climate change or greenhouse gases affairs
2. Existence of Board Committee conducted periodic reviews of climate change performance
Management Engagement and Actions
3. Existence of specific management responsibility team for environmental and climate change
4. Existence in Chairman/CEO statement on climate change or carbon footprint/ greenhouse gas emissions
Strategic Analysis
5. Existence of link between climate change and company reputation or brand value
6. Existence company set absolute greenhouse gas emissions reduction targets as one of company's objectives to set absolute greenhouse gases emission reduction targets
7. Existence in company business strategy/operations to reduce greenhouse gas emissions and carbon footprint, minimize exposure to regulatory and physical risks, and maximize opportunity from changing market forces
8. Existence of specific requirements for suppliers/customers to reduce greenhouse gas

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Disclosure Items
emissions
9. Energy use/converse (reported as electricity & fuel use - coal, diesel, petrol, gas) with quantity
10. Existence target to reduce energy use
11. Existence of specific policy to develop energy efficiency by utilizing/acquiring low emission technologies
12. Existence of specific policy to purchase or develop renewable energy
Greenhouse Gases Emissions
13. Company calculates and register greenhouse gas emissions savings and offsets from projects
14. Company conducts annual inventory of greenhouse gas emissions from operations
15. Company has set greenhouse gas emissions baseline
16. Company has third party verification process for greenhouse gas emissions data
17. Compliance with Global Reporting Initiatives ("GRI") or a comparable reporting guidelines to report its greenhouse gases emissions and trends
Opportunity from Climate Change
18. Credits from Clean Development Mechanism ("CDM") projects under Kyoto Protocol
19. Description on other business opportunity from climate change (related to products, service/technology, such as selling green energy, building or operating wind turbines, demand for lower emissions cars or other products, eco-friendly products, green or carbon neutral home loans, credit cards and other products)
Risk from Climate Change
20. Current/future increased cost of energy related to climate change
21. Potential future litigation, carbon tax, or legal action related to climate change
22. Implication of increased insurance premium due to climate change
23. Implications of physical changes (floods, droughts, strong wind, heat wave, storms, forest fire, changes in weather pattern, increased/decreased rainfall, rising sea level, availability of water) disruptions to business
Future Outlook and External Affairs
24. Collaborations or work with government and other organization in climate change related projects
25. Promote climate friendly behaviour by raising awareness through environmental sustainability education / campaign
26. Provide product information (emissions reduction information) to customers through product labeling,

Table 1 above outlines all the 26 climate change information proposed for the index calculation as adopted from Ooi (2016). The measurement of climate change reporting are calculated by adding all the items at equal weight and the assessment are done by

using the binary coding system, with "1" indicate there were information being reported regarding that particular item, while "0" represent an absent on the particular item. Therefore, if the firm reported all the items, the total score was 26. Then, the extent of climate change reporting is calculated based on the percentage of the formula presented in Figure 1.

Figure 1: Climate Change Reporting Index

$$= \sum \text{score of reporting items / number of items expected (26)}$$

This measurement is used to examine the current stated of climate change reporting in Malaysian for the year ended 2016. By adopting the similar measurement proposed by Ooi (2016), however with some additional references in terms of the interpretation process, the answer of the current state of climate change reporting in Malaysian public listed companies is able to be measured. Nevertheless, this index can be further improved by other researcher who is interested to investigate climate change reporting in future.

Method of Measurement – Corporate Governance

This section elaborates on the measurement used for the independent variables which are considered as amongst the component of corporate governance practices. The corporate governance components examine in this research are the board size (number of board members), board independence (composition of board – number of independent directors in the boardroom), CEO's educational background, CEO's environmental experience, board gender diversity (composition of board in terms of gender – number of representation of female directors in boardroom) and ownership structure (shareholding percentage of government-controlled institutional investors).

The measurements are developed or constructed by adopting or making references from past literatures. Table 2 summarized the on the measurement adopted in this research, and sources in which the measurements are adopted or referred.

Table 2: References Corporate Governance Measurement

No.	*Element*	*The Measurement*	*Source*
1.	Board Size	The total number of directors appointed by the board.	(kathyayini, Tilt, &Lester, 2012; Khan, 2010; Said, Zainuddin & Haron, 2009b).
2.	Board Independence	The proportion of independent non-executive directors on the board	(Khan, 2010; Said et al., 2009b)
3.	CEO's	Level of education of the CEO	(Call, Campbell, Dhaliwal and Moon Jr.,

No.	Element	The Measurement	Source
	Educational Background		2017; Lewis et al, 2014)
4.	CEO's Environmental Experience	No. of years CEO's working abroad / foreign company / multinational	Slater & Dixon-Fowler, 2009; Carpenter et al., 2001; Amran et al., 2015)
5.	Board Gender Diversity	No of female directors in the board	(Carter, Simkins & Simpson, 2003; Barako & Brown, 2008; Haniffa & Cooke, 2005; Ntim & Soobaroyen, 2013)
6.	Ownership Structure	(a) Family owned business and (b) the percentage of shares owned by institutional investors.	(Kathyayini et al., 2012; Saleh, Zulkifli & Muhamad, 2010; Darus, Hamzah, & Yusoff, 2013; Ghazali, 2007; Hanifa & Cooke, 2002; Hossain & Adams, 1994; Said et al., 2009b)

It is not possible to test the hypotheses and provide answers to the research questions unless the variables are measured. Basically, all measurements used or developed in this research are either adapted or calculated based on references from previous literature.

Results

Extent of Climate Change Reporting Disclosure

Meanwhile, in terms of the extent of disclosure on climate change items, i.e. based on items categorized by Ooi (2016), in the climate change reporting, it is found that the level of disclosure by public listed companies is less rather low, i.e. on average about 45.77% of the 26 climate change reporting items examined. It was also found that the extent of disclosure among companies varies significantly, ranging from 0% (non-disclosure) to a maximum score index of 88.46%.

Extent of Climate Change Reporting Score Index (%)	Sample Companies	
	Number	Percentage (%)
0	11	7.33
7.69	13	8.67
11.50	3	2.00
15.40	13	8.67
19.23	14	9.33
23.10	6	4.00
26.90	7	4.67
30.80	9	6.00
34.62	3	2.00

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38.50	6	4.00
42.30	4	2.67
46.20	3	2.00
50.00	2	1.33
53.80	4	2.67
57.70	8	5.33
61.50	10	6.67
73.10	8	5.33
76.92	8	5.33
80.77	14	9.33
84.62	4	2.67
Total	150	100

Although more than 90% of the public listed companies published some form of report concerning climate change, less than 40% of the companies registered score index of 50% and above. On average, public listed companies only disclosed less than 50% of the crucial climate change related items in their climate change reporting. Meanwhile, the high standard deviation value of 25.21 indicates that the extent of disclosure varies significantly among the companies. This indicates that the extent of climate change reporting is still low among the public listed companies in Malaysia.

Table 3: Extent of Reporting

	N	Minimum	Maximum	Mean	Std. Deviation
CCR	150	0	88.46	45.77	25.21

Path Coefficient: Corporate Governance and Climate Change Reporting

Figure 2 shows six (6) paths of tested hypotheses. Out of the six (6) tested paths, four (4) paths have significant relationships.

Table 4: Path Coefficient – Corporate Governance and Climate Change Reporting

Paths	Path Coefficient	Standard Deviation	t - value
BS - CCR	0.033	0.052	0.623
CEO_EDU - CCR	0.372	0.075	**4.957**
CEO_ENV - CCR	0.356	0.083	**4.288**
FEMALE - CCR	0.116	0.054	**2.146**
IND_DIREC - CCR	0.018	0.052	0.346
INST_INV - CCR	0.146	0.069	**2.107**

The result shows that the education level of CEOs has a significant relationship with climate change reporting, i.e. the higher the education level of the CEO (with Master's degree as the benchmark), the higher the extent of climate change reporting disclosure made by the public listed company, i.e. (β=0.372, t=4.957). As for the second tested path, namely in regards to the

CEO's experience in environmental issues and climate change reporting, the result reveals that the more experienced (measured in terms of years) the CEO is, the higher the degree of climate change reporting disclosure that will be made, i.e. (β=0.356, t=4.288). The third significant relationship in this study is the existence of female directors in public listed companies. The result shows that the higher the ratio of the female director to board size, the higher the degree of the climate change reporting of the company, which is reflected by the value of β=0.116 and t=2.146. The fourth and final significant relationship is the relationship between the percentages of shareholding by institutional investors in the company and climate change reporting (β=0.146, t=2.107). In short, the higher the percentage of the institutional investors' shareholdings in the public listed company, the higher the degree of climate change reporting disclosure by the company.

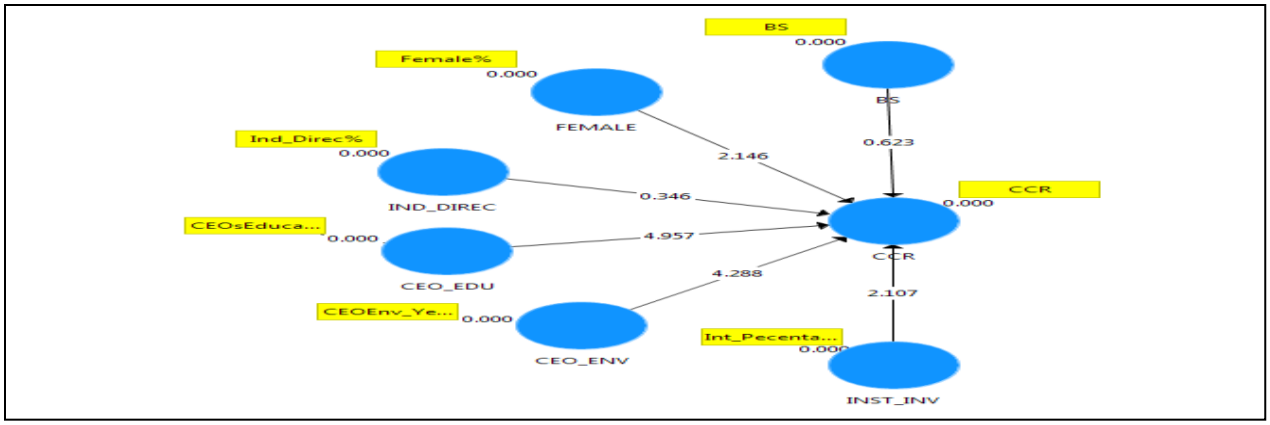

Figure 2: Path Coefficient – Corporate Governance and Climate Change Reporting

5.0 Conclusions

Hypotheses *H1* until *H6* are the measurements of the relationship between corporate governance and climate change reporting. Only four out of six hypotheses are supported, namely the CEO's education level, CEO's environmental experience, the number of female directors in the company and the percentage of institutional investors' shareholding in the company. Another two hypotheses, i.e. the board size and percentage of independent directors in the company, does not contribute to the company's willingness to voluntarily report on climate change issues.

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