Introductory analysis of sustainable consumption and production : Factors of corporate social responsibility management in Japan

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Introductory analysis of sustainable consumption and production: Factors of corporate social responsibility management in Japan

Michiyuki Yagi[*] and Katsuhiko Kokubu[*]

Abstract

As an introductory analysis of sustainable consumption and production, this paper examines what factors influence corporate social responsibility management in Japan. Following some underlying theories (management control system; the neo-institutional theory; performance measurement systems; the stakeholder theory; the resource dependence theory), this paper conducts empirical studies using firm-level data. The first three studies examine what factors encourage corporate social responsibility management, using questionnaire survey dataset for Japanese companies. These studies examine the corporate social responsibility factors from the viewpoints of Simons' four levers of control, isomorphism in neo-institutional theory, and the role of organizational culture in management control system. The last two studies use archival data, examining how corporate social responsibility performance and related disclosure score are affected by ownership structure and corporate social responsibility directors.

Keywords: Corporate social responsibility; Japan; levers of control in management control systems; the neo-institutional theory; performance measurement systems; the stakeholder theory; the resource dependence theory

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Preface

Against the backdrop of 17 Sustainable Development Goals (SDGs) adopted by UN member states in 2015, this paper focuses on goal 12: sustainable consumption and production (SCP) (United Nations Development Programme, 2015). SCP t increases net welfare (from economic activity) by reducing degrees of resource use and environmental burden, and improving quality of life. Especially focusing on Target 12.6 'Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle,' this paper examines factors that influence corporate social responsibility (CSR) management in Japan, taking over from the previous study of Yagi and Kokubu (2016) in the Southeast Asia and Japan. Following some underlying theories (management control system; the neo-institutional theory; performance measurement systems; the stakeholder theory; the resource dependence theory), this paper conducts empirical analyses using firm-level data.

This paper consists of five studies, which can be divided into two parts. The first three studies examine factors that encourage CSR management, using questionnaire survey data for Japanese companies of Kim (2017). This survey was conducted in 2016 to understand the current situation of CSR management in Japan, receiving 175 respondents in total. Using the data, these studies examine different aspects of CSR from the viewpoints of Simons (1995) four levers of control (Chapter 1), isomorphism in neo-institutional theory (Chapter 2), and the role of organizational culture (Chapter 3) in management control system. The last two studies use archival data such as Bloomberg Professional and Toyokeizai CSR data. They examine how CSR performance and related disclosure score are affected by ownership structure (Chapter 4) and CSR directors (Chapter 5).

References

Kim, J., 2017, "Kigyou no CSR keiei ni okeru Manejimento Kontororu Shisutemu no kenkyu (A study of Management Control System in CSR management of firms)", Ph.D thesis, Graduate School of Business Administration, Kobe University, Japan [Japanese].

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Chapter 1. Effects of Simons' Four Levers of Control on CSR Performance

Intan Sartika Eris Maghfiroh[*], Michiyuki Yagi[*], and Katsuhiko Kokubu[*]

Abstract

With the motivation of supporting SDGs achievement, this study examines the relationship between management control system (namely Simons' four levers of control) and corporate social reponsibility performance in Japanese companies based on datafrom questionnaire survey. The results of regression model suggest that diagnostic control system has significantly positive effect on the performance and interactive control system has significantly negative effect. Moreover, in manufacturing sector, only diagnostic control system has significantly positive relation, while in non-manufacturing sector, only interactive control system has significantly negative relation. This implies that critical performance factor that is associated with diagnostic control system hold important role in manufacturing sector. On the other hand, the negative effect of interactive control system implies that some industries adopt higher degree of interactive control system to compensate more strategic uncertainties.

Key words: Levers of control, management control system, corporate social responsibility

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1. Introduction

With the rapid technological development and economic growth in many countries, society and environment are affected in many ways. The planet we live in may no longer be able to sufficiently provide resources for future generations. The inequality between rich and poor people also has become a serious issue. In the hope of tackling these problems, the Sustainable Development Goals (SDGs) were initiated at the United Nations Conference on Sustainable Development in Rio de Janeiro in 2012 (United Nations Development Programme (UNDP), 2015). The objective was to produce a set of universal goals that meet the urgent environmental, political and economic challenges facing our world. The SDGs replace the Millennium Development Goals (MDGs), which started a global effort in 2000 to tackle the indignity of poverty. The MDGs established measurable, universally-agreed objectives for tackling extreme poverty and hunger, preventing deadly diseases, and expanding primary education to all children, among other development priorities.

There are seventeen goals in SDGs with 169 indicators and targeted to be achieved by 2030. Among these goals, sustainable consumption and production (goal 12) holds important role in promoting resource and energy efficiency, sustainable infrastructure, and providing access to basic services, green and decent jobs and a better quality of life for all. When this goal is well implemented, it helps to achieve overall development plans, reduce future economic, environmental and social costs, strengthen economic competitiveness and reduce poverty.

Sustainable consumption and production aims at 'doing more and better with less'. Benefits of SCP include increased net welfare gains from economic activities by reducing resource use, degradation and pollution along the whole lifecycle, and at the same time increasing quality of life. It involves different stakeholders, including businesses, consumers, policy makers, researchers, scientists, retailers, media, and development cooperation agencies, among others. It also requires a systemic approach and cooperation among actors operating in the supply chain, from producer to final consumer.

One of the indicators of goal 12 is encouraging companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle. This will require managers to establish a control system that allows them

to integrate sustainable practice into the ongoing practice.

With the motivation of supporting SDGs achievement, this study aims to study the relationship between management control system (namely Simons' four levers of control) and corporate social reponsibility (CSR) performance in Japanese companies. The dataset is obtained from Kim's (2017) questionnaire survey. The results of regression model suggest that diagnostic control system has significantly positive effect on the performance and interactive control system has significantly negative effect. Moreover, in manufacturing sector, only diagnostic control system has significantly positive relation, while in non-manufacturing sector, only interactive control system has significantly negative relation. This implies that critical performance factor that is associated with diagnostic control system hold important factor in manufacturing sector. On the other hand, the negative effect of interactive control system implies that some industries adopt higher degree of interactive control system to compensate more strategic uncertainties.

The remaining of this study is structured as follows. Section 2 introduces background of this study in terms of the framework of Simons (1995). Section 3 describes research methodology and data. Section 4 shows results of regression model, and Section 5 concludes the study with implications.

2. Background

This study follows the framework of management control system proposed by Simons (1995). This management control system (MCS),also known as Levers of Control (LOC) introduces new system that effective managers use to manage organizational tensions. Each system has its own countervailing purpose in controlling strategy. First, the belief systems are used to communicate core values and inspire commitment to the organization and frame the search for new opportunities. Second, the boundary systems are used to define the limits of freedom, including acceptable risks and standards of business. Third, the diagnostic systems are used to coordinate and monitor intended strategies. Fourth, the interactive systems are used to gather and share information up and down the organization about strategic uncertainties and emerging opportunities, to encourage learning, and to facilitate new strategies.

It has become important issue recently for the business to be sustainable. Managers need to pay attention fairly to the triple bottom-line (profit, people, and planet). Within a CSR context, belief systems can be seen as incorporating CSR related values in its long-term sustainability objectives. Boundary systems, on the other hand, guide and control the behaviour of employees to avoid activities that may harm environment or cause any reputational risk/loss. Diagnostic control systems are crucial to the successful achievement of CSR objectives because CSR activities that are not accompanied by measurable outcomes are likely to be overlooked. Whereas interactive control systems play crucial role by incorporating broad range of views from different stakeholders, such as NGOs, local communities, and investors to gain new feedback and idea of CSR initiatives (Gond et al., 2012).

Arjaliès and Mundy (2013) did empirical research using sample from CAC 40 group of publicly listed companies in France. They used questionnaires to explore how organizations leverage MCS in different ways in order to drive strategic renewal and trigger organizational change while simultaneously supporting society's broader sustainability agenda. The findings suggest that the management of CSR has the potential to facilitate organizational change through processes that enable innovation, communication, reporting, and the identification of threats and oppportunities regarding sustainability issues.

3. Research Methodology

3.1 Model

The purpose of this study is to examine the effect of levers of control implementation on CSR performance. This study adopts LOC framework by Simons (1995). Considering the results from previous studies, we hypothesize the relationship between each LOC and CSR performance as follows:

H_1:Belief systems are related to CSR performance in positive manner

H_2:Boundary systems are related to CSR performance in positive manner

H_3:Diagnostic control systems are related to CSR performance in positive manner

H_4:Interactive control systems are related to CSR performance in positive manner

We test these four hypotheses using linear regression model. In the regression model, the CSR performance level (*CSR*) is used as dependent variable, whereas four LOC (which are namely belief systems (*Belief system*), boundary systems (*Boundary systems*), diagnostic control systems (*Diagnostic control*), and interactive control systems (*Interactive control*)) are used as independent variables.

$$
\begin{aligned}
CSR = \ & \beta_0 + \beta_1(Belief\ system) + \beta_2(Boundary\ system) \\
& + \beta_3(Diagnostic\ control) \\
& + \beta_4(Interactive\ control) + \sum \beta_k Controls_k + \varepsilon
\end{aligned}
\tag{1}
$$

where size (proxied by natural log of total asset; *lnAssets*), debt ratio (*Debt ratio*), return on investment (*ROI*), and sales growth (*Salesgrowth*) are used as control variables (*Controls*). ε is an error term.

3.2. Data

Regarding the dataset, we use answers from questionnaire survey of Kim (2017) to measure the degree of each LOC implemented inside the company. The sample of our study consists of 137 Japanese companies selected from 151 companies of Kim (2017). 14 companies were omitted because of missing values. The companies are classified into two main categories, manufacturers and non-manufacturers. Further classification based on 33 sector classification of Tokyo Stock Exchange (TOPIX Sector Indices) is shown on Table 1. Sample size in total are 88 companies from manufacturer category and 49 companies from non-manufacturer category.

CSR performance data comes from Toyo Keizai CSR ranking (300 points at maximum). To identify belief, boundary, and diagnostic control systems, we use average value and each value of questions (Likert scale 1 to 7) in item C,D, and E respectively (Table 2). Regarding the interactive control systems, we use questions in item F and G (Table 2). The original questionnaire was written and answered in Japanese, and therefore translation into English is made for this research.

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4. Results

4.1 Descriptive statistics

Table 3 shows descriptive statistics of this analysis. Table 4 shows the correlation between each variables used. Figures 1 and 6 present the correlation of the LOC (item E and F&G) and CSR performance of all sample (Figures 1 and 2), manufacturing sector (Figures 3 and 4), and non-manufacturing sector (Figures 5 and 6).

The average level of CSR performance of the whole sample is 210.78 while for manufacturing sector is 222.59 and non-manufacturing sector is 189.65. Among four LOC, average values of belief system are the highest (5.44) and the lowest are interactive control system (4.32). Overall, average values of each LOC in manufacturing sector are higher of those in non-manufacturing sector.

Table 5 tells us the deeper insights about distribution of answers in each question. Average values of items C1 to C5 (the question about CSR values, which reflects the implementation of belief systems) ranges from 4.98 to 5.77. Similarly, items D1 to D4 (question about CSR code of ethics (boundary systems)) ranges from 5.00 to 5.50.

For question about diagnostic control systems in item E, average values range from 3.23 to 5.48. Among them, there is interesting finding which is about the itme E6 ('CSR related targets are included in performance appraisal and compensation system'). Most answer is 1 (33 companies) and the average is 3.23 which shows that many companies still do not integrate sustainability issues in the reward system. Further, looking on individual companies from different industry sector, some companies that answered 4 and above in this particular question, ranked better in the CSR performance compared to the previous year rank. The lowest average based on industry is wholesale trade (score of 2.8 out of 7).

For items F&G (about interactive control systems), another unusual finding can be seen at F2 ('There is seminar or lecture about CSR issues'). Most companies answered 1 which shows that this area still has potential to be improved.

4.2 Regression results

The results of regression model are provided in Table 6. Columns 1, 2 and 3 show the

regression results for all sample, manufacturers, and non-manufacturers, respectively. Belief systems and boundary systems are not statistically significant in all regression models, and thus Hypotheses 1 and 2 are not supported. Diagnostic control systems are significantly positive in all samples and manufacturers only , which is consistent with Hypothesis 3. Interactive control systems are significantly negative in all samples and non-manufacturers only, which is opposite to Hypothesis 4.

5. Conclusions

The purpose of this study is to examine the effect of levers of control on CSR performance. This study adopts LOC framework by Simons (1995). Considering the results from previous studies, we hypothesize that each LOC (namely belief systems, boundary systems, diagnostic control systems, and interactive control systems) are related to CSR performance in positive manner.

Based on our analysis, it is suggested that hypotheses 1 and 2 (for belief system and boundary system) are not supported, whereas hypothesis 3 (diagnostic control system) is supported. Hypothesis 4 (interactive control systems) is not supported, but as we have found that the interactive control system is related in a negative manner as opposed to the expected positive. Thus, diagnostic control systems and interactive control systems can be seen as significant factors for a company's CSR performance. Further, only diagnostic control which focuses in the critical performance valuables, holds significant role in manufacturing sector. It is understandable because the diagnostic control systems provide a mechanism by which the organization measures the outcome of their CSR activities. On the other hand, this diagnostic control systems are not significant in non-manufacturing sector and interactive control systems seemed to affect more, in negative manner. The negative correlation between interactive control systems and CSR performance can be interpreted as follow. The questions on item G in the questionnaire asked about the difficulty to predict stakeholders' responds in regard to CSR issues. The more difficult it is perceived, the degree of interactive control systems usage is higher. This also gives signal about the uncertainty in the industry and therefore the CSR performance is negatively associated with this LOC.

Regarding the sustainable consumption and production goal from SDGs, from the result

of this study, it is revealed that Japanese companies have engaged in sustainable practice to certain degree by integrating CSR values to their management control systems. From the survey replies , there are some areas that have potential to be improved such as including CSR related targets into the appraisal and compensation system, also educating employees about CSR values and code of ethics through seminars to achieve this goal comprehensively.

Regarding limitations, this study does not take the process of the management control system itself into consideration and focuses only on the visible measures of Simons' four LOC. We also do not seek to assess organizations' motives for engaging in CSR.

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Table 1: Industry classification (number of companies)

Manufacturers	Non-manufacturers
Foods (8)	Fishery and agriculture (1)
Textiles and apparels (5)	Construction (7)
Pulp and paper industry (2)	Electric power and gas (2)
Chemicals (14)	Land transportation (1)
Pharmaceutical (2)	Marine transportation (1)
Rubber products (2)	Information & communication (9)
Glass and ceramics products (3)	Wholesale trade (10)
Iron and steel (1)	Retail trade (7)
Nonferrous metal products (3)	Real estate (1)
Metal products (5)	Services industry (10)
Machinery (6)	--
Electric appliances (22)	--
Transportation equipment (8)	--
Precision instruments (1)	--
Other products (6)	--

Table 2: Kim's (2017) Questionnaire Items

C. CSR values

1. CSR values is incorporated in company's philosophy.

2. Managers communicate CSR values to employees.

3. The company communicates CSR values through internal training.

4. The company communicates CSR values through internal communication system like intranet.

5. The employees understand CSR values.

D. CSR code of ethics

1. In order to promote CSR activities, CSR code of ethics are implemented.

2. The company's CSR code of ethics provide information about what actions are undesired from the employees.

3. The company has system which inform the employees about CSR risk (e.g. unfair transaction, environmental law violation).

4. The employees understand CSR code of ethics.

E. The method of assessing CSR activities

1. In order to hold CSR activities, different goals are set.

2. KPI which is related to CSR activities are set.

3. CSR activities are evaluated and monitored.

4. The achievement of CSR activities are reported to internal and external parties.

5. The evaluation of CSR activities in this year will affect the plan of next year.

6. CSR related targets are included in performance appraisal and compensation system.

F. Response toward CSR issues

1. There is periodical meeting about CSR issues

2. There is seminar or lecture about CSR issues

3. There is smooth communication within internal department about CSR issues

4. There is smooth communication with external stakeholder about CSR issues

5. There is smooth communication between upper manager and lower level employee about CSR issues.

6. Best practice of CSR is shared inside the company.

G. Environmental uncertainties

1. Law about CSR.

2. International standard about csr (e.g ISO 26000).

3. CSR strategies or activities by rival companies.

4. Technology changed related to CSR.

5. Customer needs related to CSR.

6. General trend related to CSR.

Table 3: Descriptive statistics

	Obs	Average	S.D.	Min	Max
All sample					
CSR score	137	210.78	48.94	106.5	286.2
Belief system	137	5.44	1.15	1.6	7.0
Boundary system	137	5.22	1.44	1.0	7.0
Diagnostic control	137	4.63	1.54	1.0	7.0
Interactive control	137	4.32	0.86	2.0	6.5
lnAssets	137	12.12	1.86	6.7	15.9
Debt ratio	137	123.65	103.24	0	771.8
ROI	137	8.64	7.86	-16.2	42.9
Sales growth	137	2.19	8.97	-35.32	49.34
Manufacturers					
CSR score	88	222.59	43.25	107.1	286.2
Belief system	88	5.53	1.10	1.6	7.0
Boundary system	88	5.38	1.51	1.0	7.0
Diagnostic control	88	4.75	1.52	1.0	7.0
Interactive control	88	4.37	0.84	2.0	6.25
lnAssets	88	12.37	1.60	7.3	15.7
Debt ratio	88	112.67	75.72	0	356.3
ROI	88	8.0	7.83	-16.2	42.9
Sales growth	88	1.38	8.47	-35.32	25.8
Non-manufacturers					
CSR score	49	189.65	51.82	106.5	282.2
Belief system	49	5.27	1.23	2.0	7.0
Boundary system	49	4.94	1.29	1.0	7.0
Diagnostic control	49	4.43	1.55	1.0	6.8
Interactive control	49	4.25	0.88	2.5	6.5
lnAssets	49	11.67	2.21	6.7	15.9
Debt ratio	49	143.37	138.53	20.25	771.8
ROI	49	9.65	7.89	0	42.6
Sales growth	49	3.63	9.73	-17.79	49.3

Table 4a: Correlation matrix (All samples)

	Belief system	Boundary system	Diagnostic control	Interactive control	LN asset	Debt ratio	ROI	Sales growth	CSR score
Belief system	1								
Boundary system	0.6863	1							
Diagnostic control	0.6426	0.6843	1						
Interactive control	0.5566	0.5084	0.6689	1					
LN asset	0.4818	0.4195	0.6298	0.5192	1				
Debt ratio	-0.1966	-0.111	-0.0444	-0.043	0.1086	1			
ROI	-0.0405	-0.0353	0.0262	-0.0624	-0.0191	-0.2532	1		
Sales growth	-0.2768	-0.2115	-0.1953	-0.1443	-0.1574	0.0772	0.1439	1	
CSR score	0.4785	0.4611	0.6058	0.4082	0.7471	0.0002	-0.099	-0.0995	1

Table 4b: Correlation matrix (Manufacturers)

	Belief system	Boundary system	Diagnostic control	Interactive control	LN asset	Debt ratio	ROI	Sales growth	CSR score
Belief system	1								
Boundary system	0.6662	1							
Diagnostic control	0.6263	0.7019	1						
Interactive control	0.5567	0.5254	0.6435	1					
LN asset	0.4574	0.3824	0.5541	0.4032	1				
Debt ratio	0.0344	-0.0215	0.0091	0.0664	0.1338	1			
ROI	-0.0166	0.0537	0.1951	0.0303	0.2718	-0.2431	1		

Sales growth	-0.1354	-0.1377	-0.0703	-0.0696	0.0377	0.0929	0.0931	1	
CSR score	0.4418	0.4097	0.5838	0.3938	0.7768	0.1186	0.1409	0.13	1

Table 4c: Correlation matrix (Non-manufacturers)

	Belief system	Boundary system	Diagnostic control	Interactive control	LN asset	Debt ratio	ROI	Sales growth	CSR score
Belief system	1								
Boundary system	0.7275	1							
Diagnostic control	0.6602	0.6429	1						
Interactive control	0.5500	0.4709	0.7072	1					
ln asset	0.4962	0.466	0.7331	0.6696	1				
Debt ratio	-0.3877	-0.1887	-0.0719	-0.1309	0.1431	1			
ROI	-0.0526	-0.1804	-0.2444	-0.2047	-0.3588	-0.3225	1		
Sales growth	-0.4529	-0.3137	-0.3649	-0.24	-0.3425	0.0366	0.1984	1	
CSR score	0.5118	0.5165	0.6522	0.4332	0.7041	-0.0053	-0.3922	-0.3203	1

Table 5: Distribution of questionnaire's responds

Item	C1	C2	C3	C4	C5	D1	D2	D3	D4
Average	5.77	5.64	5.41	5.43	4.98	5.25	5.00	5.53	5.12
Median	6	6	6	6	5	6	6	6	5
Mode	6	7	6	6	5	6	7	7	6
Item	E1	E2	E3	E4	E5	E6	F1	F2	F3
Average	5.08	4.36	4.80	5.48	4.88	3.23	5.00	3.91	4.53
Median	5	5	5	6	5	3	6	4	5
Mode	7	5	7	7	4	1	7	1	5
Item	F4	F5	F6	G1	G2	G3	G4	G5	G6
Average	4.45	4.55	4.27	4.16	4.22	4.26	4.41	4.24	3.95
Median	5	5	4	4	4	4	4	4	4
Mode	5	5	4	4	4	4	4	4	4

Table 6: Results of regression model

Dependent variable Independent variables	(1) CSR Score (All sample)	(2) CSR Score (Manufacturers)	(3) CSR Score (Non-manufacturers)
Constant	-4.917	-24.980	45.861
	(21.949)	(25.246)	(42.600)
Belief system	2.115	0.128	4.306
	(3.576)	(3.821)	(7.710)
Boundary system	2.629	0.511	3.730
	(2.815)	(2.901)	(6.144)
Diagnostic control	7.291*	7.135*	8.848
	(3.053)	(3.206)	(6.096)
Interactive control	-8.279*	-1.824	-15.881*
	(4.320)	4.537	(8.833)
lnAssets	16.796	17.974**	12.786**
	(1.917)	(2.280)	(3.908)
Debt ratio	-0.041	-0.005	-0.041
	(0.028)	(0.040)	(0.046)
ROI	-0.813	-0.573	-1.336*
	(0.359)	(0.407)	(0.736)
Sales growth	0.442	0.681*	0.099
	(0.312)	(0.343)	(0.608)
Obs	137	88	49
R-squared	0.6232	0.6620	0.6150
Adj R-squared	0.5997	0.6278	0.5380

Notes ** and * stands for statistically significant level at 5 and 10%, respectively. Numbers are estimated coefficients. Numbers in parentheses are standard errors.
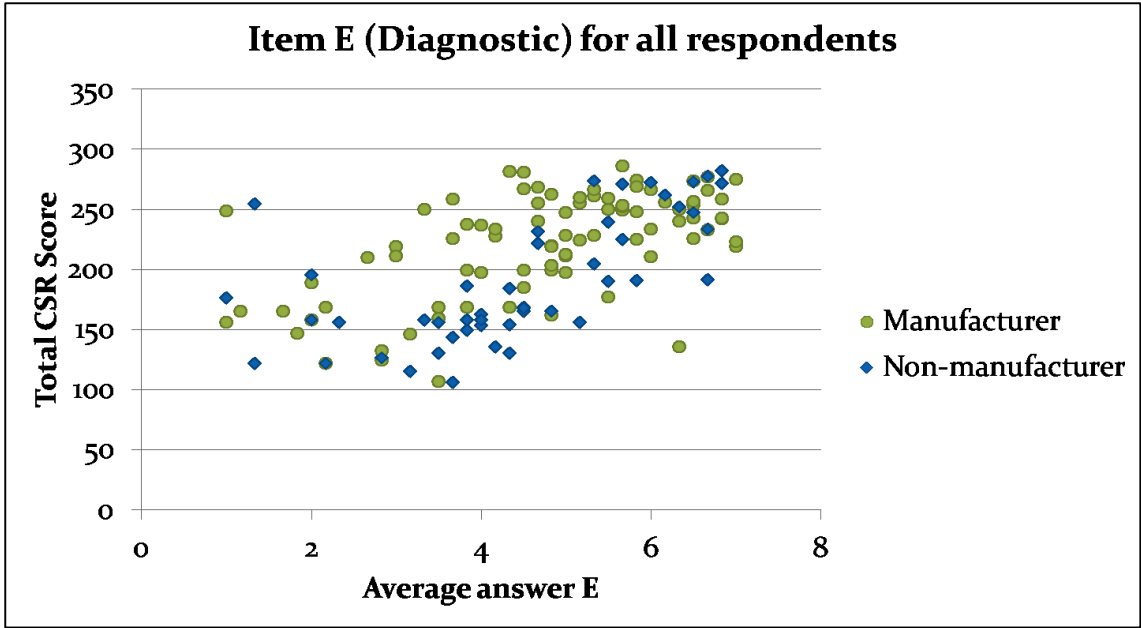
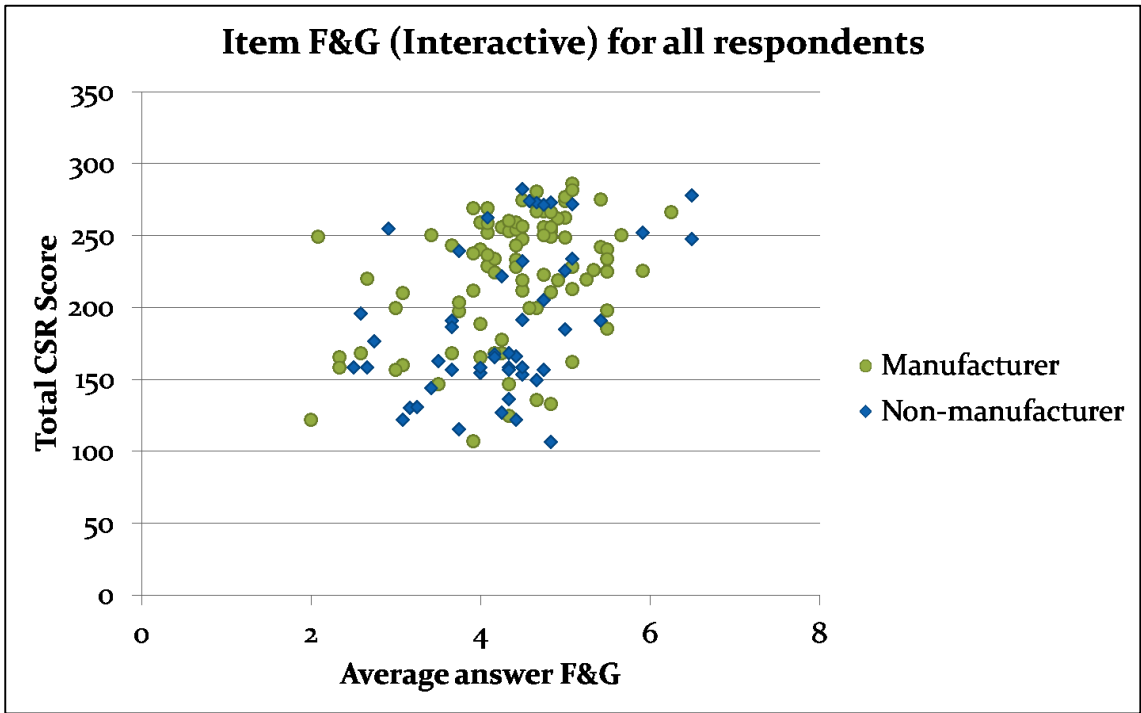Fig 1. Item E and Total CSR score
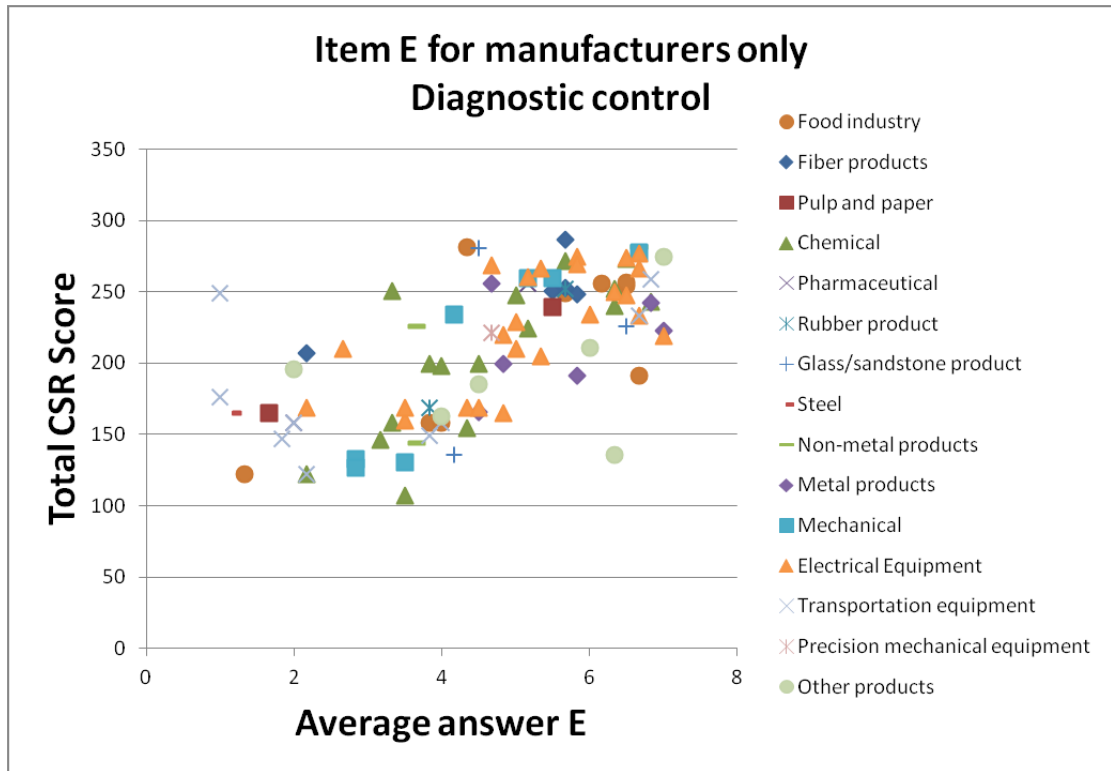

Fig 2. Items F&G and Total CSR score

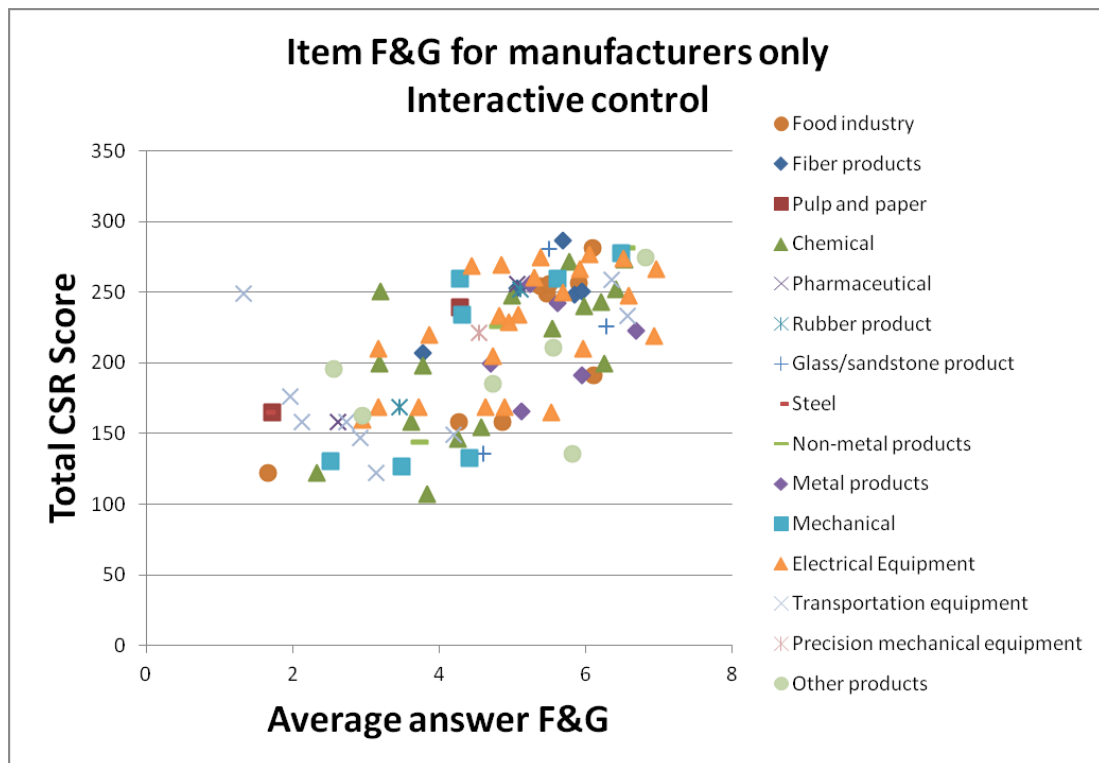Fig 3. Items E and Total CSR score (manufacturing sectors)

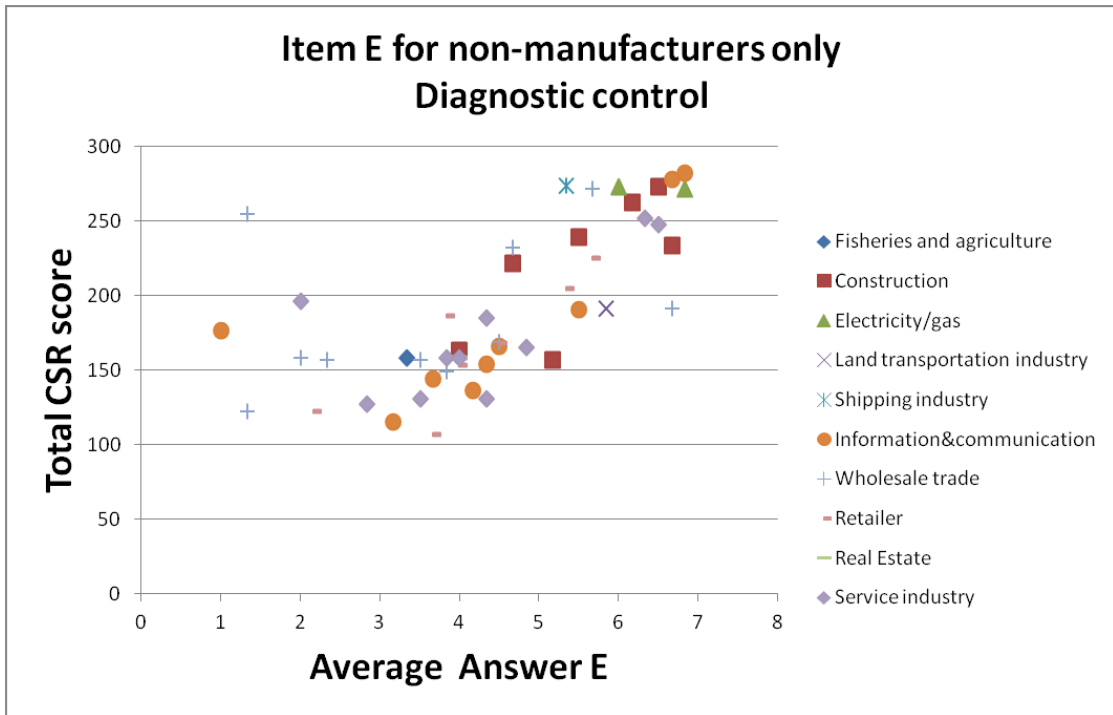Fig 4. Items F&G and Total CSR score (manufacturing sectors)

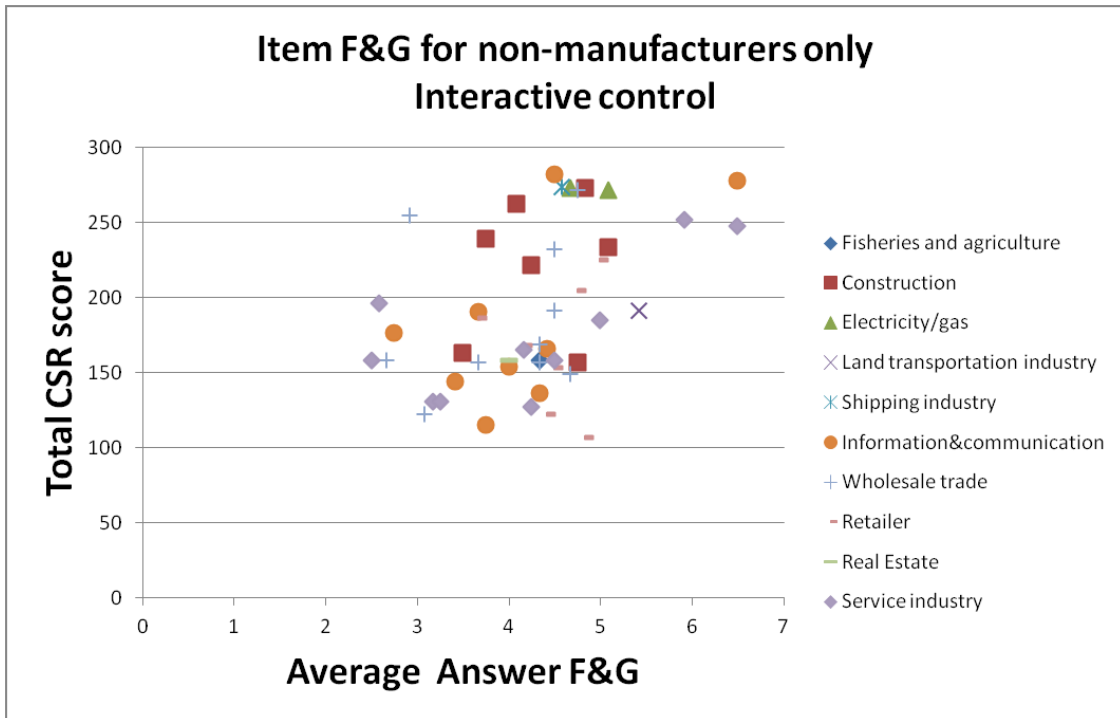Fig 5. Item E and Total CSR score (non-manufacturing sectors)

Fig 6. Items F&G and Total CSR score (non-manufacturing sectors)

Chapter 2. Isomorphisms in CSR management practice from the perspective of neo-institutional theory

Yanru Chen[*], Michiyuki Yagi[*], and Katsuhiko Kokubu[*]

Abstract

Focusing on the Goal 12: sustainable consumption and production in Sustainable Development Goals, this study examines how corporate social responsibility practice from the perspective of neo institutional theory. This study employs the survey data collected from Japanese firm and the dataset of Toyo Keizai CSR data in 2016. From the regression analysis, we find that coercive isomorphism affects the CSR management practices positively, especially in manufacturing industries. Normative isomorphism has similar positive effects while mimetic isomorphism has no correlation with corporate social responsibility practices. These suggest that the practices are more likely to be facilitated and improved by coercive regulations and professionalism in the CSR field, instead of peer's pressure.

Key words: neo-institutional theory; corporate social responsibility; sustainable development goals; isomorphism;

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1. Introduction

With the repaid development of the world's economy, severe problems in terms of environment and society have been occurring. In order to reach the objective of being sustainable in economy, environment, and society, the United Nations set and released a set of 17 goals in 2015 with 169 targets used to monitor the implementation of these goals (United Nations Development Programme (UNDP), 2015). The set of goals is known as the Sustainable Development Goals (SDGs). Ending poverty, protecting the planet and ensuring that all people enjoy peace and prosperity are the universal call to action of the Goals. By achieving these goals, our world is hoped to be transformed into a sustainable world. In between, according to UNDP (2015), the implementation of Goal 12: ensuring sustainable consumption and production patterns can help to achieve overall development plans, reduce future economic, environmental and social costs, strengthen economic competitiveness and reduce poverty. It aims at "doing more and better with less" with the cooperation among actors operating in the supply chain, from producer to final consumer.

Therefore, a medium which can not only present a company's endeavor but also communicate with all actors in the supply chain is critical. What's more, according target 12.6, which mentioned about the importance of adopting sustainable practices, we consider that improving corporate social responsibility (CSR) practices can serve as one approach of achieving Goal 12. This study examines how a company's CSR management practices are being affected by external institutions (especially, three types of isomorphism), based on the neo-institutional theory in DiMaggio and Powell (1983). This research uses the survey data of Kim (2017) and archival data from Toyo Keizai CSR dataset in Japan to investigate the effect of isomorphism on CSR management practices of Japanese companies. This study finds that coercive and normative isomorphism positively affect the level companies' CSR management practices while mimetic isomorphism has no effect on it. It indicates that the external coercive and normative pressure which stems from government, laws and professional organizations can help to improve companies' CSR management practices.

The rest of this study is structured as follows. Section 2 introduces the theoretical background of the neo-institutional theory and how it has been employed to study CSR related

topics. Three hypotheses are generated based on previous literature. Section 3 explains the model to be used in this study and the data source. Section 4 presents results of both descriptive and regression analysis. Section 5 summarizes findings of the study, some implications for companies and policy makers, and mentions the limitations of this study.

2. Background

2.1 Neo-institutional theory

Institutional theory has been a predominant perspective in organizational theory for decades. It has gone through 'a hundred schools of thought contend' starting from emphasizing the role of habit and history in making decision then evolving into focusing on the importance of symbolic system and mental maps which can serve as guidelines for behaviors (Scott, 2008). While led by DiMaggio and Powell (1983), some scholars proposed a distinction between the arguments, which is the neo-institutionalism. The basic perspective of their argument is that economic reasons are not the only factor which constrains organizations to change.

DiMaggio and Powell (1983) proposed that the organizational rationalization had shifted since the bureaucratization of organizations had been achieved, so that 'competitive marketplace' had no longer been the causes of bureaucratization. Instead, organizations are going through processes which make them more and more homogeneous. These processes are named as 'isomorphic processes' which are consist of coercive, mimetic, and normative processes. These three kinds of isomorphism are resulted from pressures exerted on organizations.

Coercive isomorphism stems from pressure of responding to some mandates which are related to the legitimacy problem (for instance, government regulations and laws). Mimetic isomorphism stems from the pressure of solving uncertain problems. Therefore, organizations whichfacing uncertain situation modelthemselves on other organizations. This explains how imitation behaviors come out among organizations well. Normative isomorphism stems from professionalization which can be categorized into two aspects: one is the formal legitimation and education, the other is professional networks among organizations. These two sources create organizational norms and commonly recognized hierarchy of status.

What needs to be noted is the concept of 'field' mentioned by DiMaggio and Powell (1983). Field means several level factors such as the extent of relying on a single resource, the extent to which organizations are related to state institutions, and so on. This will lead to a higher level of the organizational isomorphism.

2.2 CSR management and neo-institutional theory

Neo-institutional theory has been adopted in the literature to explore the determinants of CSR behavior, considering the fact that little attention is paid on the role of institutions. For instance, Brammer, Jackson, and Matten (2012) contend that the understanding of the efficiency of CSR should be improved within wider institutional field of economic governance. Campbell (2007) argues that although there is a strong relationship between economic profit and CSR behaviors, the variety of institutional conditions mediate this relationship. Only with institutions and, 'the sticks and carrots' constrain and/or enable behaviors in ways of CSR. Among different sorts of institutions, Streeck and Schmitter (1985) claimed that sometimes corporate peer pressure can be the most effective means of facilitating increased CSR. Peer pressure refers to the pressure which is from industrial associations whose job is, in part, to ensure that their members act in socially responsible ways.

Based on the previous studies, we hypothesize three types of isomorphism (coercive, mimetic, and normative) may have effects on companies' CSR management practices. According to DiMaggio and Powell (1983), coercive isomorphism results from both formal and informal pressures exerted on organizations. For instance, the existence of legal environment affects many aspects of an organization's behavior and structure. Because CSR practices are one aspect of the organization's behaviors, they can also be affected by these kinds of coercive pressures. Campbell (2007) concludes from related studies that state regulations may affect the degree to which corporations behave in socially responsible ways. We expect a positive relationship between coercive isomorphism and the level of companies' CSR management practices as follows.

H1: Coercive isomorphism has the positive effect on the level of companies' CSR management practices.

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The second isomorphism is mimetic isomorphism, which refers to the process of imitating others when facing with the uncertain situations. For organizations, dealing with uncertain cases results in extra cost. According to Matten and Moon (2008), managers tend to look at other practices as legitimate if they are regarded as best practice. Based on this point of view, we hypothesize as follows:

H2: Mimetic isomorphism has the positive effect on the level of companies' CSR management practices.

The last isomorphism proposed by DiMaggio and Powell (1983) is the normative isomorphism, which refers to the pressure of professionalization. Galaskiewicz (1991) argues that when normative or cultural institutions can create incentives for social responsible behaviors, companies tend to act in such ways. Such normative institutions' existence may explain the reason why CSR related lectures became compulsory in business schools' curriculums. Hence, we consider that normative isomorphism can also improve the CSR practices.

H3: Normative isomorphism has the positive effect on the level of companies' CSR management practices.

3. Methodology

3.1 Model

The purpose of this research is to examine how the isomorphism is related to a company's CSR management practices. The objective of this study is to find out whether and how the three kinds of isomorphism, (i.e. coercive, mimetic and normative isomorphism according to the institutional theory) will affect a company's level of CSR management, and whether the impact varies among manufacturing and non-manufacturing industries. The regression model examines the relationship between companies' CSR management practices and three kinds of isomorphism.

The dependent variable is the indicator which can reflect the companies' level of CSR management practice (*CSR*). We take the level which companies feel coercive, mimetic, and normative pressures as independent variables to predict the institutional isomorphism as follows.

$$CSR = \beta_0 + \beta_1 Coercive + \beta_2 Mimetic + \beta_3 Normative + \sum \beta_k Controls_k + \varepsilon \quad (1)$$

We include seven (k-th) control variables (*Controls*) which are ln*Revenue*, *LEFF*, *INSOWN*, *FOWN*, *CROSSOWN*, *MOWN,* and *Dummy*. ln*Revenue* is the logarithm of companies' revenue which stands for companies' size. *LEFF* is the labor productivity which is calculated by revenue divided by number of employees. *INSOWN* is the institutional investors' shareholding ratio. *FOWN, CROSSOWN*, and *MOWN* stand for the foreign investors' shareholding ratio, cross-shareholding ratio, president shareholding ratio, respectively. *Dummy* denotes a dummy variable of non-manufacturing sectors. β_1, β_2, and β_3 are coefficients which denote the impact of isomorphism on CSR management practice. If they are significantly positive (negative), stronger pressures will lead to higher (lower) level of CSR management practice. In the model, β_k is the coefficient of control variables. If the coefficient of the dummy variable (non-manufacturing sector equals 1) is significantly positive, it means that the non-manufacturing sector perform better. ε denotes an error term.

3.2 Data

We use the survey data collected by Kim (2017). The survey was conducted in 2016 for the research topic about the management control system on Japanese companies' CSR management. The questionnaire consists of 14 question items asking about companies CSR related situations such as practices, performance, values, and etc. Likert scale of 7 point is adopted in the designing of the questionnaire. The questionnaire was sent to 1325 companies listed in the CSR Companies Overview published by Toyo Keizai in 2016. There were 175 respondents covering different industries, in which 166 (94 from manufacturing sector and 72 non-manufacturing sector) of them are used for this research.

As the dependent variable, we use the item (E) 'The method you are using to assess the CSR practice' to predict the level of companies' CSR management practice. This question item is composed of six questions asking about how companies evaluate their CSR management practice, such as setting goals of CSR activities; appraising and monitoring the result of CSR activities (Detailed questions are listed in Table 1). Comparing to other question items (such as 'How your

company responds to CSR related problems'), the question item (E) is more directly related to a company's level of CSR management practices. We use the mean score of the six questions in this sector of one company to stand for the general level of the CSR management practice.

Regarding the levels of coercive isomorphism, mimetic isomorphism, and normative isomorphism, we use the question item H 'The factors which affect the CSR management' in the questionnaire (detailed questions are listed in Table 2). There are 12 questions in this item, while it can be divided into three aspects: coercive isomorphism (1 to 3 of item H), mimetic isomorphism (4 and 5 of item H), and normative isomorphism (6 to 12 of item H).

Because of the essential difference of the products in manufacturing and non-manufacturing, we suppose that there are also difference of CSR management practice towards different kinds of isomorphism. In this research, we also examine the differences among industries, we divide industries into manufacturing and non-manufacturing sectors following 33 sectors classification of Tokyo Stock Exchange (TOPIX Sector Indices). In which manufacturing sectors includes (16 in total): Foods, Textiles and Apparels, Pulp and Paper, Chemicals, Pharmaceutical, Oil and Coal Products, Rubber Products, Glass and Ceramics Products, Iron and Steel, Nonferrous Metals, Metal Products, Machinery, Electric Appliances, Transportation Equipment, Precision Instruments, and Other Products. Non-manufacturing sectors are (17 in total): Fishery, Agriculture & Forestry, Mining, Construction, Electric Power and Gas, Land Transportation, Marine Transportation, Air Transportation, Warehousing and Harbor Transportation, Information & Communication, Wholesale Trade, Retail Trade, Banks, Securities and Commodities Futures, Insurance, Other Financing Business, Real Estate, and Services.

4. Results

4.1 Descriptive analysis

The results of descriptive analysis are shown in Table 3. The average level of CSR management practice for the entire industry is 4.610, while the manufacturing sector (4.773) performs better than the non-manufacturing sector (4.398). Among the three isomorphisms, average values of coercive isomorphism are likely to be the highest, whereas average values of mimetic

isomorphism are likely to be the smallest. Average values of coercive and normative pressures in the manufacturing industry (5.436 and 5.029, respectively) are likely to be larger than the non-manufacturing sectors (5.102 and 4.786, respectively). On the other hand, the average value of mimetic pressure is slightly higher in the non-manufacturing industry (4.542) than the manufacturing industry (4.516).

Regarding scatter plots, Figure 1(a) to Figure3(c) show the relationship of three pressures and CSR management practices in manufacturing sectors (Figure 1(a) to Figure1(c)), non-manufacturing sectors (Figure 2(a) to Figure 2(c)), and the entire sample (Figure 3(a) to Figure 3(c)). Positive relationships can be find, which means the stronger the pressure is, the higher level of CSR management will be performed. On the other hand, Tables 4, 5, and 6 present the correlation matrix in manufacturing sectors (Table 4), non-manufacturing sectors (Table 5), and the entire sample (Table 6).

4.2 Regression Analysis

Table 7 presents the results of regression model. Columns 1, 2, and 3 show the regression results for all industries, manufacturing sectors and non- manufacturing sectors, respectively. It appears that the coercive isomorphism is statistically significant from zero and positive in both manufacturing sectors and all industries while statistically insignificant in non-manufacturing sectors. It is consistent with our hypothesis 1 to a great extent. Mimetic isomorphism is statistically insignificant and negative in all of these three cases; this is opposite to our hypothesis 2. Normative isomorphism is statistically significant and positive in all of these three cases; this is consistent with the hypothesis 3.

Regarding the coercive isomorphism, it mostly stems from the government mandate, laws or even industry itself, it exerts greater pressure on manufacturing industries. This is because the manufacturing companies produce products under certain regulations which are towards, for instance, the product quality, the impact on the environment, these are also factors considered in a companies' CSR management practices. While for non-manufacturing sectors, their products are intangible which are usually service. Therefore, regulations on this sector are not as strict as they are to manufacturing industries, and as well, not directly related to a companies' CSR management

practices. While in general, compliance-style business system which is known for abiding by existing laws and legislation is critical in Japanese companies (Nakano, 2007). This also one reason which makes the coercive isomorphism be effective for CSR management.

However, it is surprised that mimetic isomorphism has no effect on the CSR management practices. It might because in some cases, when there is no regulation on a certain problem, Japanese companies work according to its own internal rules or code of practice, which have sought to build in the companies' spirit (Fukukawa and Teramoto, 2009). Therefore, they are less likely to take the approach of imitating what fellows are doing, while their own company values instead, are in the dominant place.

Normative isomorphism such as CSR related professional trainings and seminars offer companies knowledge and ideas about CSR practices which can help to improve their own. Besides, Galaskiewicz (1991) used to show that if managers in a company who attend such professional organizations, they can be instilled in an ethic of the virtues and benefits of corporate giving, which lead to the motivation of performing in a more social responsible way.

While when we look at the coefficient of dummy variable, it is statistically insignificant. It indicates that there is no significant difference among sectors.

5. Conclusions

This study aims to examine how the isomorphism is related to a company's CSR management practices in the context of Japanese companies. It finds that coercive isomorphism affects the CSR management practices positively, especially in the manufacturing industries. Normative isomorphism has similar positive effects while mimetic isomorphism has no relationship with companies' CSR management practices. These suggest that CSR management practices are more likely to be facilitated and improved by coercive regulations and professionalism in the CSR field, instead of peer's pressure.

Based on the findings, we offer some suggestions and implications for companies and policy makers. Since coercive isomorphism can positively affect the CSR management, companies can actively respond to regulations. For policy makers, they should take leadership and establish

national frameworks for the achievement of the 17 Goals. They can also try to set more detailed or even stricter regulations in order to urge companies to be more social responsible, especially can be more efficient in resources and energy using.

Similarly, since normative isomorphism also has positive effect, professional trainings and seminars in terms of CSR management or sustainability management can be more popularized. In terms of the mimetic isomorphism which has no relationship with CSR management practices, there is no need to take additional actions to strengthen the mimetic pressure.

We note limitations in this research. Firstly, this study is based on a single theory which is the neo-institutional theory developed by DiMaggio and Powell (1983). The conclusion and implication can be more robust if an integrated perspectives base can be adopted. Moreover, the economic factor, namely a company's financial status is also one of the determinants on a company's CSR management practices. At last, this research has only studied the relationship between the isomorphism and the CSR management practices. While isomorphism, as the external pressure, will finally affect the organization, and the organization will have some reaction towards the pressure. So far, we now only study the effect on the internal organization, which is CSR management practices, we have not studied about the outcome of the isomorphism which is supposed to be the performance of sustainable consumption and production. Therefore, the full relationship is needed to be further studied.

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Table 1: Question Item E

E. The method of assessing CSR activities
1. In order to hold CSR activities, different goals are set.
2. KPI which is related to CSR activities are set.
3. CSR activities are evaluated monitored.
4. The achievement or results of CSR activities are reported inside or outside the organization.
5. The evaluation of CSR activities in this year will affect the plan of next year.
6. CSR related targets are included in performance appraisal and compensation system.

Table 2: Question Item H

H. The factors which affect the CSR management	
Coercive isomorphism	1. CSR related laws and regulations
	2. CSR related international standards
	3. Monitoring on CSR activities conducted by regulators
Mimetic isomorphism	4. Competitors' CSR strategies and CSR activities
	5. Competitors' best practices
Normative isomorphism	6. CSR related issues learned from public seminars
	7. Advices from professionals
	8. Managers' attention on CSR activities
	9. The emphasis on CSR in corporate philosophy
	10. CSR ranking
	11. The requests of CSR activities from external organizations such as NGO and environmental orgs
	12. The requests of CSR activities from customers or client companies

Table 3: Descriptive results

	Obs	Average	S.D.	Min	Max
All Sectors					
Practice	166	4.610	1.555	1	7
Coercive	166	5.291	1.294	1	7
Mimetic	166	4.527	1.237	1	7
Normative	166	4.923	1.094	1	7
Industry Dummy	166	0.434	0.497	0	1
InRevenue	166	12.11	1.887	6.567	15.615
LEFF	166	54.91	38.786	6.828	186.121
INSOWN	166	28.302	19.307	0	76.23
FOWN	166	18.684	14.059	0	54.38
CROSSOWN	166	9.417	8.888	0	39.77
MOWN	166	2.449	6.591	0	45.096
Manufacturing Sector					
Practice	94	4.773	1.526	1	7
Coercive	94	5.436	1.210	1.667	7
Mimetic	94	4.516	1.213	1	7
Normative	94	5.029	1.084	2	6.857
InRevenue	94	12.316	1.688	6.567	15.406
LEFF	94	40.774	23.342	9.76	121.363
INSOWN	94	32.806	18.818	0	76.23
FOWN	94	21.812	13.736	0	54.38
CROSSOWN	94	10.993	8.838	0	34.14
MOWN	94	0.925	2.512	0	18.162
Non-manufacturing Sector					
Practice	72	4.398	1.578	7.005	6.8
Coercive	72	5.102	1.382	1	7
Mimetic	72	4.542	1.278	1	7
Normative	72	4.786	1.100	1	7
InRevenue	72	11.84	2.101	7.005	15.615
LEFF	72	73.366	46.61	6.828	186.121
INSOWN	72	22.421	18.452	0.05	66.7
FOWN	72	14.601	13.503	0.05	45.36
CROSSOWN	72	7.358	8.583	0	39.77
MOWN	72	4.438	9.253	0.001	45.059

Table 4: Correlation matrix (Manufacturing Sector)

	Practice	Coercive	Mimetic	Normative	InRevenue	LEFF	INSOWN	FOWN	CROSSOWN	MOWN
Practice	1.000									
Coercive	0.599***	1.000								
Mimetic	0.406***	0.683**	1.000							
Normative	0.567***	0.730***	0.636***	1.000						
InRevenue	0.521***	0.597***	0.485***	0.539***	1.000					
LEFF	-0.011	0.067	0.073	0.036	0.226**	1.000				
INSOWN	0.493***	0.490***	0.388***	0.450***	0.735***	0.004	1.000			
FOWN	0.481***	0.499***	0.417***	0.505***	0.712***	0.008	0.939***	1.000		
CROSSOWN	0.031	-0.090	0.052	-0.112	-0.075	0.047	-0.118	-0.162	1.000	
MOWN	-0.216**	-0.246**	-0.187*	-0.106	-0.340***	-0.328***	-0.248**	-0.205**	-0.093	1.000

Note ***, **, and * stand for statistically significant level at 1%, 5%, and 10%, respectively.

Table 5: Correlation matrix (Non-manufacturing Sector)

	Practice	Coercive	Mimetic	Normative	InRevenue	LEFF	INSOWN	FOWN	CROSSOWN	MOWN
Practice	1									
Coercive	0.580***	1								
Mimetic	0.427***	0.519***	1							
Normative	0.634***	0.784***	0.686***	1						
InRevenue	0.679***	0.604***	0.588***	0.643***	1					
LEFF	0.245**	0.298***	0.324**	0.258*	0.561***	1				
INSOWN	0.543***	0.382***	0.354***	0.428***	0.716***	0.261**	1			
FOWN	0.535***	0.371***	0.376***	0.446***	0.725***	0.229*	0.970***	1		
CROSSOWN	0.123	0.183	0.094	0.169	0.072	0.264**	-0.034	-0.044	1	
MOWN	-0.2274*	-0.296**	-0.151*	-0.295***	-0.329***	-0.210*	-0.259**	-0.237**	-0.281**	1

Note ***, **, and * stand for statistically significant level at 1%, 5%, and 10%, respectively.

Table 6: Correlation matrix **(All sectors)**

	Practice	Coercive	Mimetic	Normative	InRevenue	LEFF	INSOWN	FOWN	CROSSOWN	MOWN	Dummy
Practice	1										
Coercive	0.596***	1									
Mimetic	0.411***	0.597***	1								
Normative	0.606***	0.757***	0.653***	1							
InRevenue	0.603***	0.607***	0.529***	0.593***	1						
LEFF	0.075	0.132*	0.202**	0.100	0.339***	1					
INSOWN	0.524***	0.454***	0.356***	0.452***	0.723***	0.019	1				
FOWN	0.515***	0.453***	0.382***	0.489***	0.716***	0.010	0.955***	1			
CROSSOWN	0.093	0.060	0.068	0.031	0.021	0.063	-0.024	-0.053	1		
MOWN	-0.214***	-0.274***	-0.132*	-0.231**	-0.320***	-0.084	-0.272***	-0.248***	-0.237***	1	
Dummy	-0.120	-0.128*	0.010	-0.110	-0.125	0.418***	-0.267***	-0.255***	-0.203***	0.265***	1

Note ***, **, and * stand for statistically significant level at 1%, 5%, and 10%, respectively.

	(1) CSRPractice All industries	(2) CSRPractice Manufacturing	(3) CSRPractice Non-manufacturing
Constant	-1.649** (0.803)	-0.702 (1.167)	-2.585** (1.115)
Coercive	0.249** (0.112)	0.422** (0.172)	0.0650 (0.159)
Mimetic	-0.120 (0.099)	-0.170 (0.146)	-0.173 (0.148)
Normative	0.420*** (0.139)	0.398** (0.180)	0.516** (0.235)
InRevenue	0.249*** (0.089)	0.112 (0.125)	0.424*** (0.138)
LEFF	-0.004 (0.003)	-0.006 (0.006)	-0.006 (0.004)
INSOWN	0.020 (0.016)	0.0167 (0.020)	0.035 (0.030)
FOWN	-0.012 (0.022)	-0.005 (0.027)	-0.039 (0.043)
CROSSOWN	0.018* (0.011)	0.022 (0.014)	0.017 (0.017)
MOWN	0.007 (0.015)	-0.037 (0.055)	0.013 (0.016)
Industry Dummy	0.225 (0. 219)	- -	- -
Obs	166	94	72
R-squared	0.506	0.469	0.580
Adj R-squared	0.475	0.411	0.519

Notes: ***, **, and * stands for statistically significant level at 1, 5, and 10%, respectively. Numbers are estimated coefficients. Numbers in parentheses are standard errors.
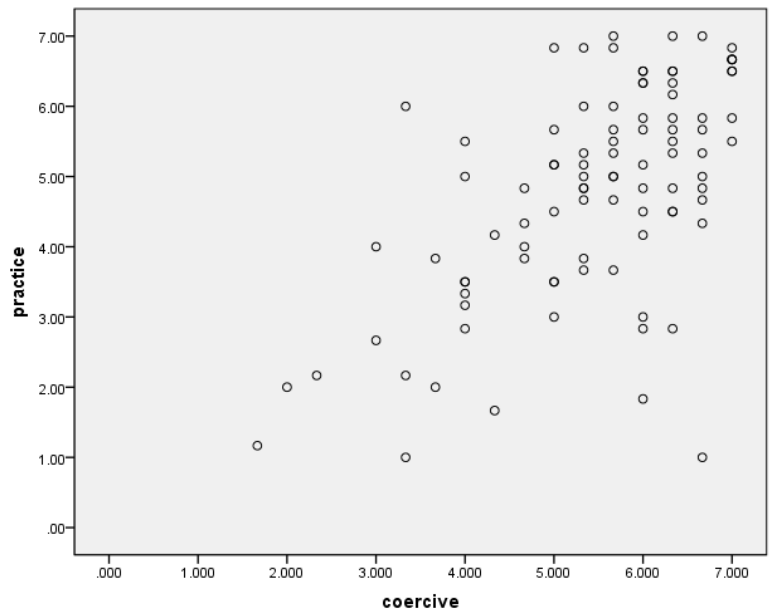
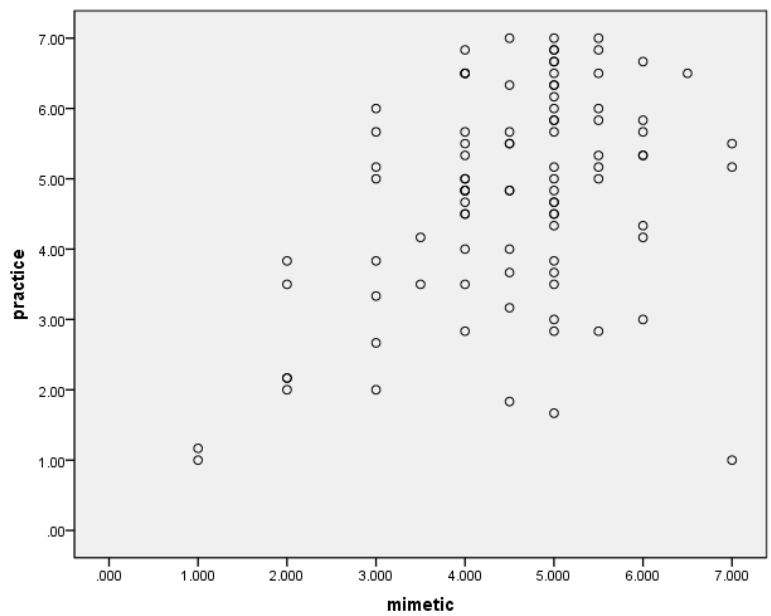Figure1 (a) coercive pressure and CSR management practice (manufacturing sectors)

Figure1 (b) mimetic pressure and CSR management practice (manufacturing sectors)
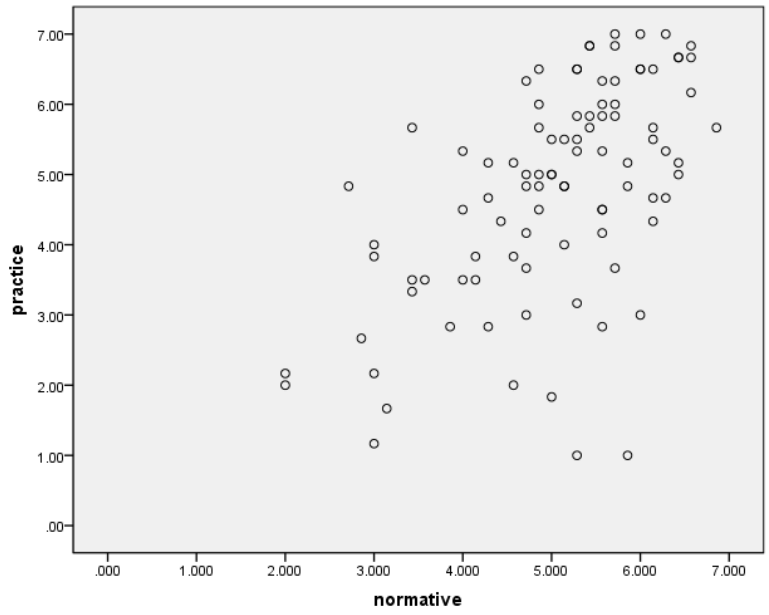
Figure1(c) normative pressure and CSR management practice (manufacturing sectors)
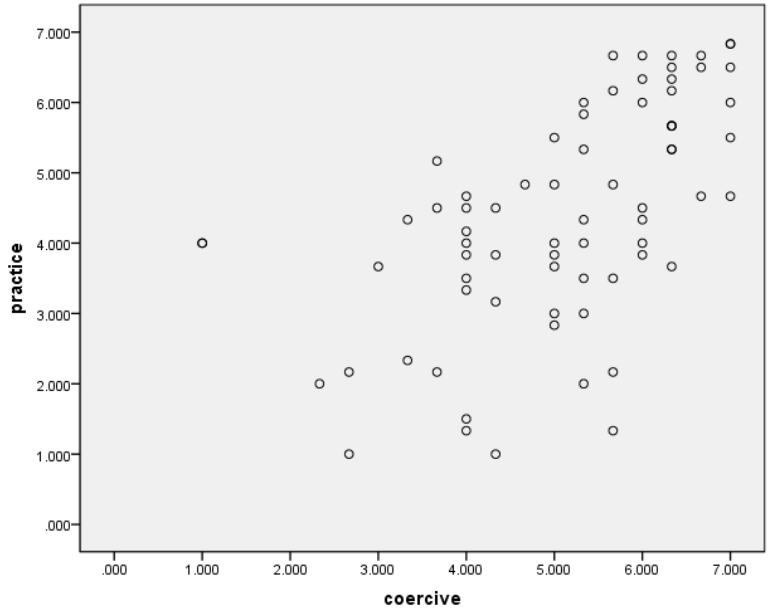

Figure2 (a) coercive pressure and CSR management practice (Non-manufacturing sectors)
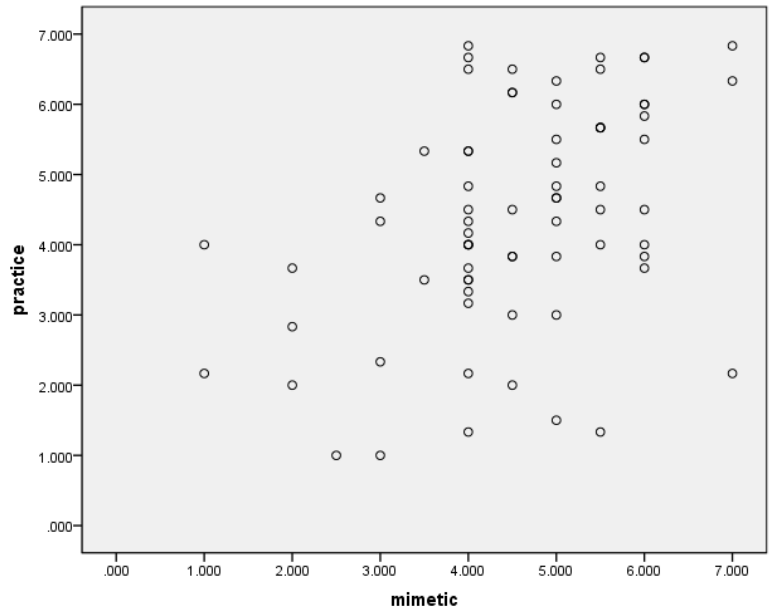
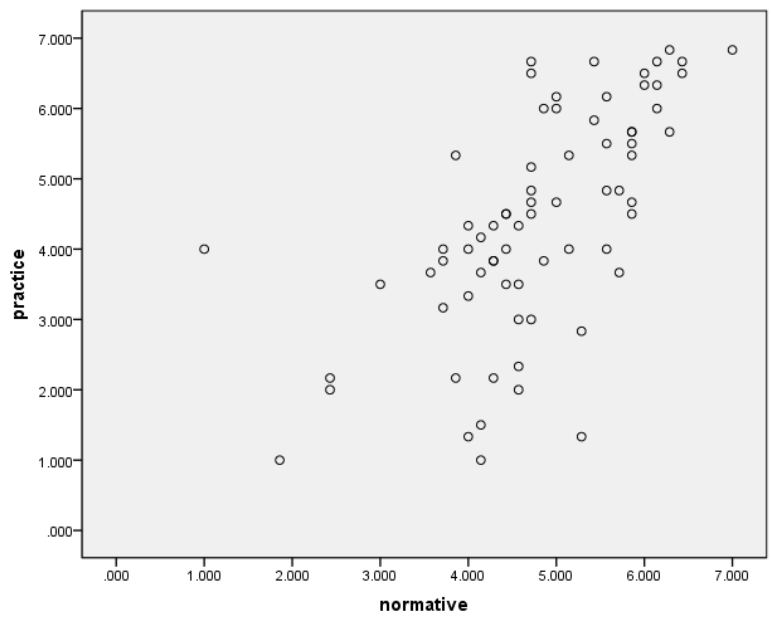Figure2 (b) mimetic pressure and CSR management practice (Non-manufacturing sectors)

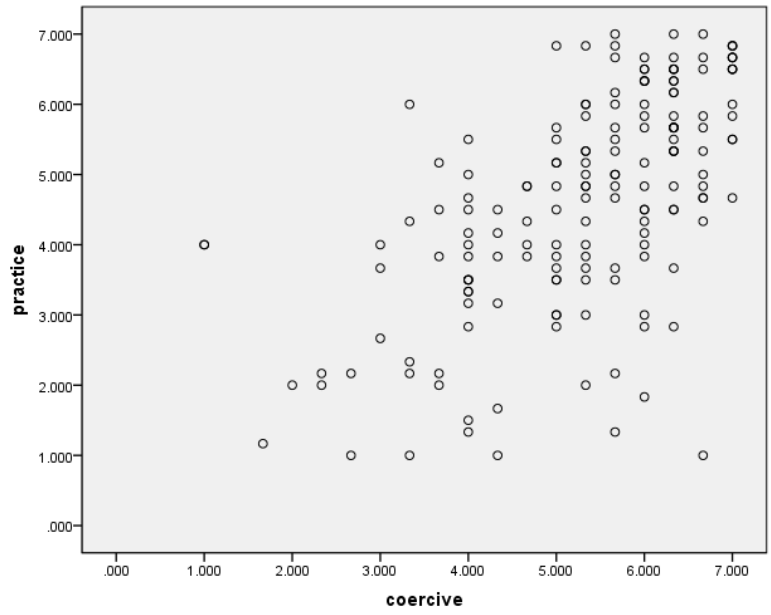Figure2(c) normative pressure and CSR management practice (Non-manufacturing sectors)

Figure3 (a) coercive pressure and CSR management practice (entire sample)
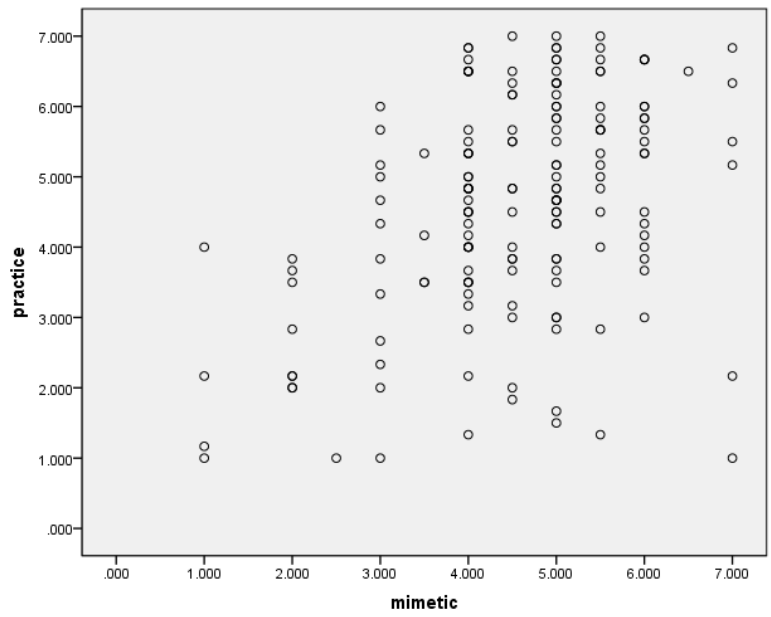

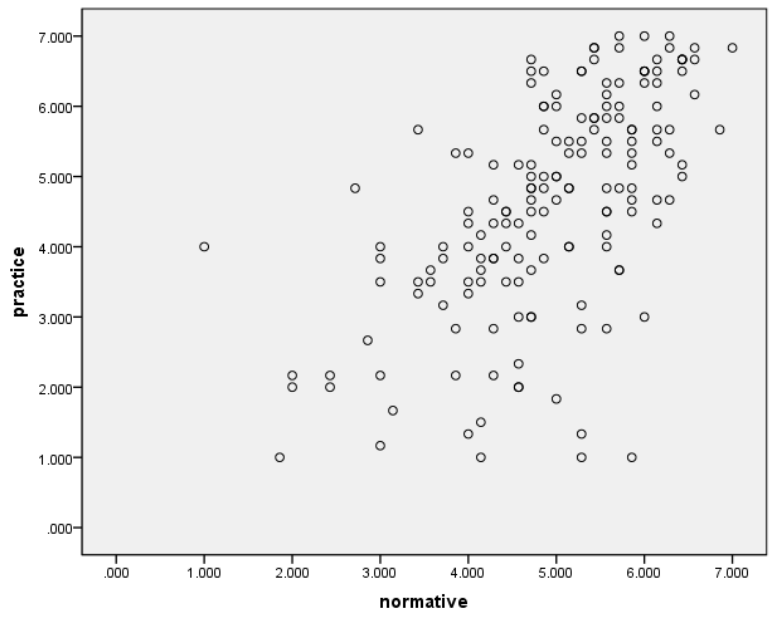Figure3 (b) mimetic pressure and CSR management practice (entire sample)

Figure3 (c) normative pressure and CSR management practice (entire sample)

Chapter 3. Corporate culture and Performance Measurement Systems

Yelyzaveta Savchuk[*], Michiyuki Yagi[*], and Katsuhiko Kokubu[*]

Abstract

The aim of this study is to investigate the relationship between corporate culture and performance measurement systems, being one of the components of management control system. We examine one attribute of performance measurement systems: nature of use, which is specifically monitoring and strategic decision-making use. Data is obtained from questionnaire survey for Japanese companies in both manufacturing and non-manufacturing sectors. The result of regression model shows that the corporate culture with flexibility values influences strategic use while having no impact on monitoring use. On the contrary, the corporate culture with control values influences not only monitoring use, but also strategic decision making use of performance measurement systems.

Key words: corporate culture, performance measurement systems, strategic and monitoring use, flexibility and control values

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1. Introduction

Taking into account the rising ecological aspects for companies (Journeault, 2016) and problems of consumption and production (United Nations, 2017) the question of corporate social responsibility (CSR) has become one of the fundamentally important issues. Sustainable developmental goals (SDGs) proposed by the Open Working Group (OWG) of the General Assembly of the United Nations in September 2015 consist of 17 goals with 169 targets. Goal 12 aims to ensure companies as well as individual follow responsible sustainable consumption and production (SCP) patterns (United Nations, 2017). Goal 12 includes the efficiency in use and management, environmental impacts, releasing contaminants, chemical substances, and so on. It also aims to educate consumers about sustainable development and lifestyle.

Following the research by Henri (2006), this study aims to test the relationship between corporate culture and performance measurement systems (PMS), being one of the components of management control system (MCS). We examine one attribute of PMS: nature of use, specifically monitoring and strategic decision-making uses of PMS. Moreover, we investigate how two attributes of corporate culture, flexible and control values, influence the CSR performance of the companies through PMS. While Henri (2006) obtained data from Canadian manufacturing firms, we have conducted our research obtaining data from Japanese companies in both manufacturing and non-manufacturing sectors.

The aim of this study is to investigate the relationship between corporate culture and one attribute of the PMS, the nature of use. The result of this study has shown that the corporate culture with flexibility values influences strategic use of PMS while having no impact on monitoring use of PMS. On the contrary, the corporate culture with control values influences not only monitoring use of PMS, as expected, but we also have found that clan culture has impact on strategic decision-making use of PMS.

The rest of the study is organized as follows. Section 2 introduces the background , theoretical framework, and develops a set of hypotheses . Section 3 explains the methodology and data. While section 4 shows the results, in section 5 we make a summary of the findings and propose some practical implications.

2. Background

2.1 Corporate culture

In the past decades, researches have proposed different frameworks to examine corporate culture. All of them focus on various dimensions of corporate culture. For instance, Hofstede (2001) defines 5 dimensions of national culture: power distance, uncertainty avoidance, individualism, long/short term orientation, and masculinity; and 6 dimensions of corporate culture: process oriented versus results oriented, employee oriented versus job oriented, parochial versus professional, open system versus closed system, loose control versus tight control, and normative versus pragmative. The reason for that variety of dimension defined is that corporate culture is a very broad notion and includes many elements as well as complex factors (Cameron and Quinn, 2006; Henri, 2006).

Since it was developed by Quinn and Rohrbaugh (1983), the Competing Value Framework (CVF) was broadly used in the management accounting field (Agbejule, 2011; Bhimani, 2003; Heinicke, 2016; Henri, 2006). CVF was initially aimed to define the indicators of organizational effectiveness (Cameron and Quinn, 2006; Yu and Wu, 2009). It was used to examine different organizational phenomena including corporate culture (Henri, 2006). Among thirty-nine dimensions studied two dimensions emerged (Cameron and Quinn, 2006). One dimension is the control/flexibility axis which relates to the organizational structure. While control emphasizes stability, order, and control, flexibility represents change and flexibility. The other dimension is the external/internal axis which relates to the organizational focus. External represents external orientation and well-being of the organization itself, while internal emphasizes an internal orientation, integration, and well-being and development of people within the organization (Bhimani, 2003). These two axes form four quadrants each enabling four cultural types: clan, adhocracy, hierarchy, and market (Fig.1).

2.2 Performance Measurement Systems

There have been made various classifications of management and accounting information systems to define the uses of PMS. Among them, Henri (2006) defined 4 types of uses: (1) monitoring, (2) attention focusing, (3) strategic decision making, and (4) legitimization (Fig. 2).

(1) Monitoring use of PMS is used to provide feedback regarding expectations, set goals and results. This system allows to make corrections if necessary in management, goals, etc. Moreover, the information obtained during monitoring is used for reporting it to the stakeholders as well as for external disclosure (Henri, 2006). This use of PMS corresponds to diagnostic control defined by Simons (1995).

(2) Attention focusing is used to send the signals to the employees by top managers. They are used to transmit the primary and secondary objectives and help employees understand what they should focus their attention on (Henri, 2006). Moreover, PMS is used to convey the view of the organization of the top managers, key success factors, and critical uncertainties (Henri, 2006).

(3) Strategic decision making is used by top management to define the best alternative for the company since top managers have to deal with strategic issues on the every-day basis. PMS is used to 'reveal cause-and-effect relationships between internal processes and objectives' (Henri, 2006). PMS helps to gather information and to solve arising problems.

(4) Legitimization is used to justify past activity or decisions made in the company in the times of uncertainty (Henri, 2006). Regarding the current and future actions, PMS can also be used for justifications or validation. PMS helps to provide the management with the results and impacts in terms of performance thereby improving the legitimacy of organizational activities.

2.3 Hypothesis setting for the relationship between corporate culture and PMS

In our research, we integrate the competing values framework about corporate culture (Cameron and Quinn, 2006) and Henri's (2006) framework. Since top managers have to deal with strategic issues on the every-day basis, strategic decision-making is used by top management to define the best alternative for the company. Following Henri (2006), who investigated the influence of corporate culture on the diversity on management through PMS use (Fig. 2), we make four hypotheses that corporate culture influences the use of control systems, which in its turn influences the CSR performance (Fig. 3) as follows:

Hypothesis 1. *Corporate culture with flexible values influences strategic decision- making use of*

PMS.

Hypothesis 2. *Corporate culture with flexible values does not influence monitoring use of PMS.*

Hypothesis 3. *Corporate culture with control values influences monitoring use of PMS.*

Hypothesis 4. *Corporate culture with control values does not influence strategic decision- making use of PMS.*

Regarding hypotheses 1 and 2, since flexibility values are related to flexibility, change, and adaptability, the strategic decision making becomes more frequent and important. Strategic decisions have four factors: the frequency, the complexity, the risk-related, and the urgency (Henri, 2006). PMS are used to provide information to the top managers during the decision- making process. The more flexible the culture, the more complex and urgent decisions have to be made, and therefore the more information the top managers need in order to take decisions. On the contrary, in the companies with control culture, the stability and predictability make decision making process less needed.

Regarding hypotheses 3 and 4, since monitoring use of PMS is used for planning and control, it is considered to reflect cybernetic logic which is more compatible with control values than flexibility values (Henri, 2006). Cybernetic approach is characterized by order, goals clarity, and formal rules, while control values by stability and bureaucracy (Hofstede, 2001). Flexibility, on the other hand, is characterized by teamwork, change, innovation, etc. While constant changing, creativity and innovativeness of flexibility values are associated with double-loop learning. Since monitoring use focuses on single-loop learning, the company which repeats past behavior, stability, and formality of control values becomes very important (Henri, 2006).

The reason why these hypotheses are important is because, first of all, little research has been made about the use of PMS (exception Henri, 2006). Moreover, regarding the factors, it is still unclear how and what context influences the use of PMS (Henri, 2006). Secondly, regarding the corporate culture, previous researches have mainly focused on national culture and not on the corporate culture (exceptions Agbejule, 2011; Bhimani, 2003; Henri, 2006). Moreover, investigating how different factors including corporate culture and performance measurement systems may enhance CSR performance and help achieve Goal 12 of SDGs is one of the ongoing issues in the literature.

Regarding the context, prior research has focused on the American and European countries (Bhimani, 2003; Henri, 2006; Agbejule, 2011) but none on the Asian context. Therefore, we extend the previous management accounting literature by using previous research on PMS and corporate culture by the examining the influence of corporate culture on the use of control systems in Asian context, particularly Japan.

3. Methodology

3.1 Model

The purpose of this study is to examine the relationship between the corporate culture and the use of PMS in Japanese companies in manufacturing and non-manufacturing sectors. This research aims to expand the Henri (2006) study findings in the Canadian manufacturing firms to another context, particularly Japanese companies. This study follows the competitive values framework by Cameron and Quinn (2006) for the corporate culture and the classification of PMS use by Henri (2006).

The regression model of this study is expressed as follows (see Table 1 for the description of variables):

$$Y = \beta_0 + \beta_1 AVRKF1 + \beta_2 AVRKF2 + \beta_3 AVRKF3 + \beta_4 AVRKF4 + \beta_5 LR + \beta_6 DER + \beta_7 LER + \beta_8 SG + \beta_9 ROI + \beta_{10} ID + \varepsilon \tag{1}$$

where Y is score of monitoring or strategic use of PMS. $AVRKF1$, $AVRKF2$, $AVRKF3$, and $AVRKF4$ are average score of each feature of corporate culture (Culture questions K Features 1 to 4: $KF1$ to $KF4$). $AVRKF1$ and $AVRKF2$ represent flexibility values, while $AVRKF3$ and $AVRKF4$ represent control values. Regarding the control variables, LR, DER, LER, SG, ROI, and ID are the natural log of revenue, debt-equity ratio, labor equip ratio, sales growth, return of investment, and industry dummy (1=non-manufacturing sector), respectively. ε is an error term.

We will collect dependent variable (Y) and score of each feature of corporate culture ($AVRKF1$, $AVRKF2$, $AVRKF3$, and $AVRKF4$) via questionnaire survey. All questions are measured using a seven-point Likert-type scale.

Regarding dependent variable (*Y*), for Monitoring use of PMS we use questions E (CSR activity evaluation method), all 6 questions. Table 2 shows the detailed questions of Monitoring use. These questions concern the evaluation of CSR management practice, such as setting goals of CSR activities, CSR practice results monitoring. On the other hand, for Strategic use of PMS we use questions L (Strategy), all 10 questions. Table 3 shows the detailed questions of Strategic use. These questions ask whether a company is innovative, make new products, and services according to the needs of market, prioritize the quality improving, and differentiate the market.

Regarding each feature of corporate culture, Table 4 shows detailed questions for corporate culture. *KF1* (Culture questions K Feature 1) corresponds to clan culture. Clan culture represents a company with the atmosphere like in the family. The organization is held together by loyalty and trust, while emphasizing the long-term benefits, flexibility, morale, and member participation, corporate commitment, and human resource development.

KF2 (Culture questions K Feature 2) corresponds to adhocracy culture. Adhocracy culture forms type of a company where it is believed that innovation and pioneering initiatives lead to success. Management promotes risk taking, creativity and adaptation.

KF3 (Culture questions K Feature 3) corresponds to hierarchy culture. Hierarchy culture represents a very formal company where rules, policies, and procedures are what guide its employees. Management's main concern is to maintain smooth-running organization and efficiency.

KF4 (Culture questions K Feature 4) corresponds to market culture. Market culture may be also called result-orientation culture, because the major concern of the company is to get the job done. Employees are competitive and goal-oriented. Reputation and success are the most important issues.

We have also run a regression studying each question for Culture separately.

$Y = \beta_0 + \beta_1 K_1 + \beta_2 K_2 + \beta_3 K_3 + \beta_4 K_4 + \beta_5 K_5 + \beta_6 K_6 + \beta_7 K_7 + \beta_8 K_8 + \beta_9 K_9$ $+ \beta_{10} K_{10} + \beta_{11} K_{11} + \beta_{12} K_{12} + \beta_{13} K_{13} + \beta_{14} K_{14} + \beta_{15} K_{15}$ $+ \beta_{16} K_{16} + \beta_{17} LR$ $+ \beta_{18} DER + \beta_{19} LER + \beta_{20} SG + \beta_{21} ROI + \beta_{22} ID + \varepsilon$	(2)

Table 4 shows detailed questionnaire items. K1 to K4 are the questions K Feature 1 (clan culture). K5 to K8 are the questions K Feature 2 (adhocracy culture). K9 to K12 are the questions K Feature

3 (hierarchy culture). K13 to K16 are the questions K Feature 4 (market culture). Thus, K1-K8 represent flexibility values, while K9-K16 represent control values.

3.2 Data

Data for this study is obtained from Kim (2017). This data contains survey data of 175 Japanese companies. Kim (2017) conducted survey by sending questionnaire to 1325 companies listed in Toyokeizai 2016 CSR companies list. Regarding scores of monitoring or strategic use of PMS, Tables 2 and 3 show detailed questionnaire items. Regarding corporate culture, we use questions K (Corporate culture), all 16 questions (see Table 4 for the detailed questions). All questions are measured using a seven-point Likert-type scale.

Industry classification of this study is based on 33 sector classification of Tokyo Stock Exchange (TOPIX Sector Indices). Manufacturing sectors are the following 16 sectors: Foods, Textiles and Apparels, Pulp and Paper, Chemicals, Pharmaceutical, Oil and Coal Products, Rubber Products, Glass and Ceramics Products, Iron and Steel, Nonferrous Metals, Metal Products, Machinery, Electric Appliances, Transportation Equipment, Precision Instruments, and Other Products. Non-manufacturing sectors are the following 17 sectors: Fishery, Agriculture & Forestry, Mining, Construction, Electric Power and Gas, Land Transportation, Marine Transportation, Air Transportation, Warehousing and Harbor Transportation, Information & Communication, Wholesale Trade, Retail Trade, Banks, Securities and Commodities Futures, Insurance, Other Financing Business, Real Estate, and Services.

4. Results

4.1 Descriptive analysis

Descriptive statistics of this data is shown in Table 5. For dependent variables, we use Average Monitoring use of PMS (Questions E) and Strategic use of PMS (Questions L). Figures 4 and 5 show the correlation between corporate culture K Feature 1 (Clan culture) and Strategic decision- making use of PMS as well as Monitoring use of PMS respectfully. Figures 6 and 7 present the correlation between corporate culture K Feature 2 (Adhocracy culture) and Strategic decision

making and Monitoring uses of PMS respectfully. Figures 8 and 9 show the correlation between corporate culture K Feature 3 (Hierarchy culture) and Strategic decision making and Monitoring uses of PMS respectfully. Figures 10 and 11 present the correlation between corporate culture K Feature 4 (Market culture) and Strategic decision making and Monitoring uses of PMS respectfully. The scatterplots presented show that Clan, Adhocracy, Hierarchy, Market cultures tend to be positively related to Strategic use of PMS. On the other hand, they do not tend to be correlated with Monitoring use of PMS. Regarding industry classification, all scatterplots show that relationship between corporate culture and both uses of PMS is more positively correlated in manufacturing sector than in non-manufacturing sector.

4.2 Regression results

Table 6 shows the result of a regression analysis of strategic and monitoring uses of PMS where we take average scores of Culture questions. Regarding strategic use of PMS (columns 1 to 3), in the manufacturing sector, non-manufacturing sector, and the whole sample, AVRKF1 (Clan culture), AVRKF2 (Adhocracy culture), AVRKF4 (Market culture) are significant and have positive relationship with strategic use of PMS. It brings the support to the hypothesis 1 while hypothesis 4 is partially supported because the market culture which represent control values does have influence on the Strategic decision- making use of PMS.

On the other hand, regarding monitoring use of PMS (columns 1 to 3), AVRKF3 (Hierarchy culture) and AVRKF4 (Market culture) are significant and have positive relationship with Monitoring use of PMS in the whole sample, while in the manufacturing sector significant is only AVRKF3 (Hierarchy culture). In the non-manufacturing sector, none of the features are significant. Therefore, a clear statistically significant relationship between control values (Features 3 and 4) and monitoring use of PMS brings support to hypothesis 3. And since the relationship between flexibility values (Features 1 and 2) and monitoring use of PMS is not significant the hypothesis 2 is also supported.

As for the control variables, the results suggest positive and significant relationship between size, ROI and Strategic decision-making use of PMS in the whole sample. In the manufacturing sector, none of the control variables are significant. In the non-manufacturing sector

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size, DE ratio, sales of growth and ROI are significant with ROI being the most significant. On the other hand, regarding monitoring use of PMS, the results suggest positive and significant relationship between size (log of revenue) in all models (manufacturing, non-manufacturing and in the whole sample), sales of growth only in the whole sample, labor equip ratio in the non-manufacturing sector.

Regarding industry dummy (1=non-manufacturing sector), the coefficient of industry dummy is significantly negative for Strategic decision -making use of PMS. This means the industry (non-manufacturing sector) has a significant impact on Strategic use of PMS, and the level of strategic decision-making use of PMS will be lower in non-manufacturing sector. On the other hand, regarding Monitoring use of PMS, we found that the coefficient of the dummy variable is not significant, which means the industry (non-manufacturing sector) has not impact on Monitoring use of PMS.

Table 7 shows the result of a regression analysis of the strategic decision-making use of PMS and Monitoring use of PMS where we investigate each corporate culture question separately. Corporate culture questions 2, 3, 8, 12, and 13 are significant and has impact on the Strategic decision- making use of PMS in the whole sample. In the manufacturing sector questions 2, 8, 11, and 13 are significant, while in the non-manufacturing sector questions 7, 10, and 11.

On the other hand, on the Monitoring use of PMS has influence corporate culture questions 5, 13, and 14 in the whole sample. In the manufacturing sector only questions 13 and 14 are significant, while in the non-manufacturing sector none of the questions are significant.

5. Conclusions

Following the research of Henri (2006), the aim of this study was to expand the current understanding of the relationship between corporate culture and PMS in Asian context. Our research provides supports to the theory and shows that in Japan flexibility values are associated more with strategic decision- making use of PMS while control value companies use PMS for monitoring use of PMS to a greater extend that flexibility value companies. We also find that corporate culture

influences both strategic decision making and monitoring uses of PMS to a greater extend in manufacturing sector than in non-manufacturing sector.

From a theoretical viewpoint, this study extends the previous management accounting literature using prior research on corporate culture and PMS by investigating the influence of corporate culture on the use of PMS being one of the components of MCS.

This study has several practical implications for management. Since each use of PMS may not be usable by companies with flexible and control values, it is important that managers use PMS in correspondence with the values of the company's corporate culture. For instance, if a company has flexibility values it may be much more effective to use PMS for strategic decision making. Therefore, companies may adjust its management control systems according to the corporate culture they possess in order to ensure the success of its use.

This study has several limitations. First of all, due to the limited data, we focused only on one corporate culture dimension and only on two uses of PMS. More uses as well as more dimensions of corporate culture may be investigated for the better understanding of the influence of corporate culture on PMS. Moreover, this study is static and does not reflect the development of corporate culture and PMS over time. Panel data may show more interesting and reliable results.

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Flexibility and discretion

Clan	Adhocracy
Market	Hierarchy

Internal focus and integration

External focus and differentiation

Stability and Control
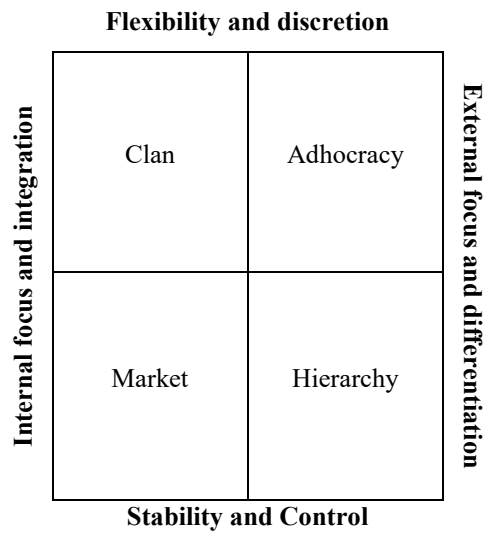
Fig. 1. The competing values model (adapted from Cameron and Quinn (2006))
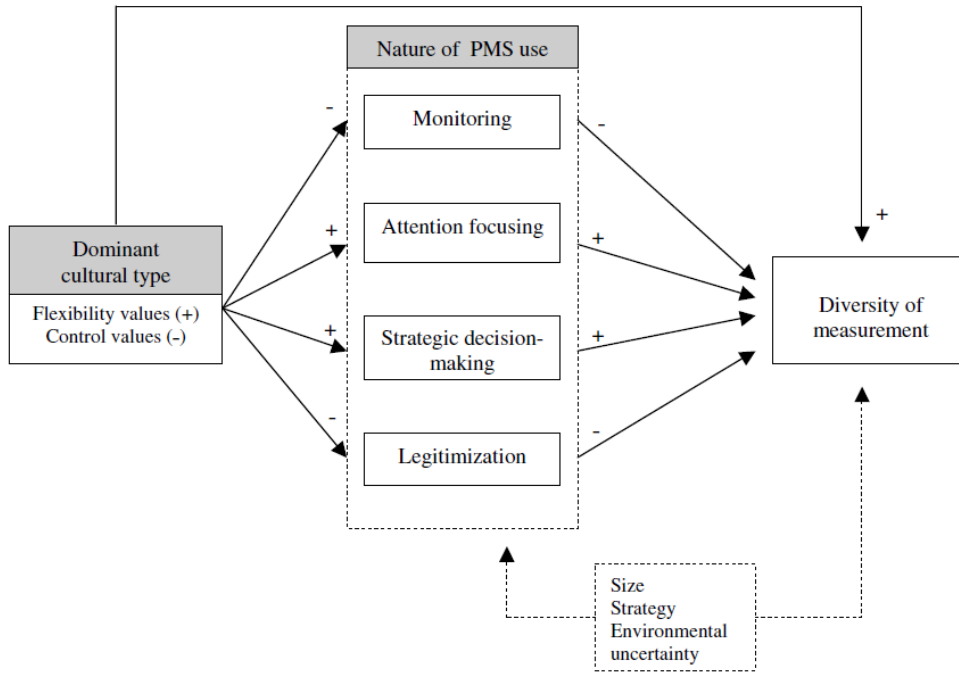
Fig. 2. Theoretical model (Henri, 2006)
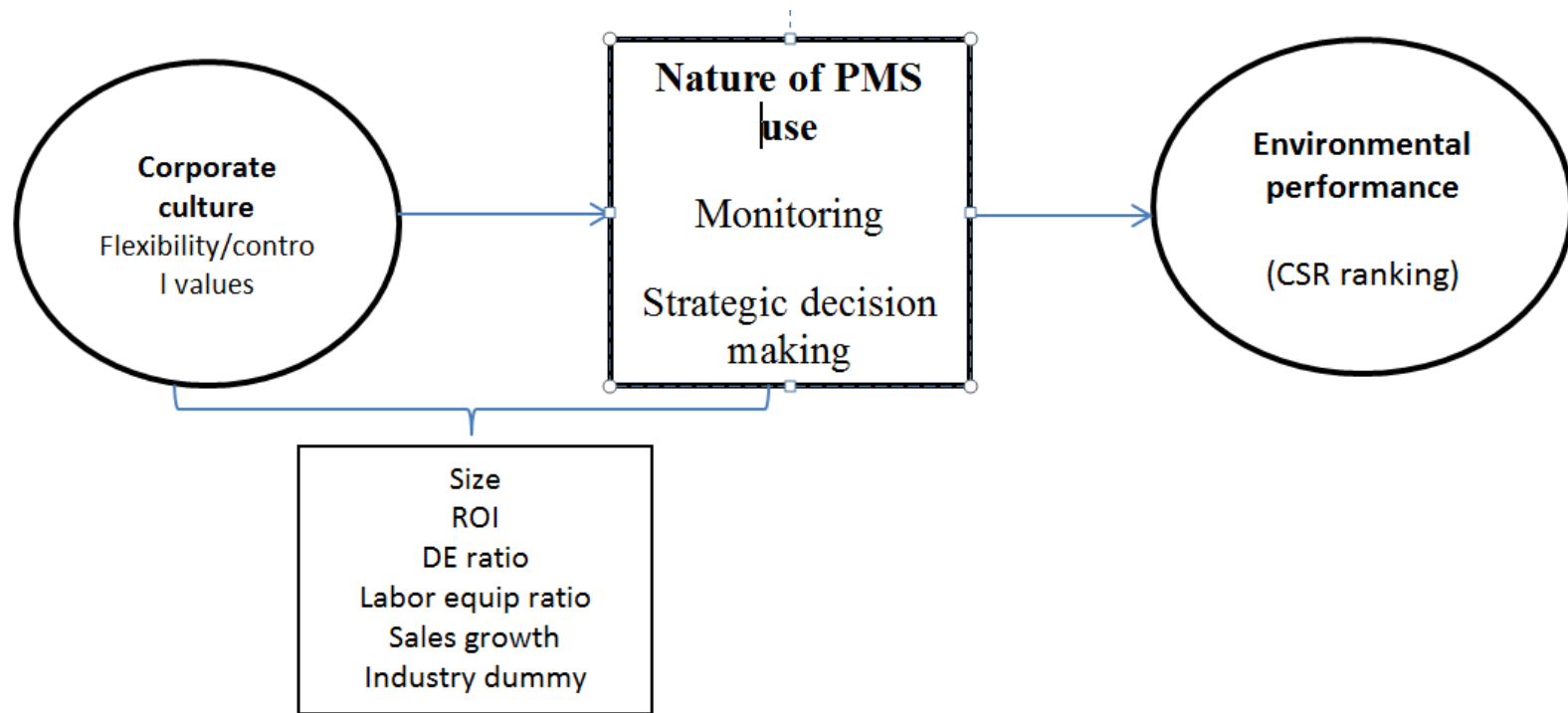
Fig. 3. Theoretical model.

Table 1. Description of variables

Variables	Meaning
K	Corporate culture questions
Y	Either Monitoring or Strategic uses of PMS
AVRKF1	Average of corporate culture Feature 1 (Clan culture)
AVRKF2	Average of corporate culture Feature 2 (Adhocracy culture)
AVRKF3	Average of corporate culture Feature 3 (Hierarchy culture)
AVRKF4	Average of corporate culture Feature 4 (Market culture)
LR	Natural log of revenue
DER	DE ratio
LER	Labor equip ratio
SG	Sales growth
ROI	Return of investment
ID	Industry dummy (1=non-manufacturing sector)

Table 2. Questions E (Monitoring use of PMS)

E – Monitoring use of PMS
1. In implementing CSR activities, your company sets diverse objectives.
2. Your company implements KPI that includes CSR.
3. Your company measures and monitors the results of CSR activities.
4. You company reports the results of CSR activities within and outside the company.
5. The evaluation of CSR activities affects CSR planning for the next fiscal year.
6. CSR-related indicators are included in the performance evaluation and remuneration systems.

Table 3. Questions L (Strategic decision making use of PMS)

L – Strategic decision making use of PMS
1. Continuous development of new products and services.
2. Providing customers with various kinds of products and services.
3. Changing the characteristics of products and services according to customers' needs.
4. Providing products and services quickly according to the changes in the market demand.
5. Prioritizing pursuit of quality improvement of products and services.
6. Developing differentiated marketing for domestic and foreign markets.
7. Expanding proactive investment to increase our reputation and recognition.
8. Producing products and services as efficiently as possible.
9. Prioritizing pursuit of products and services cost reduction.
10. Sell low-priced products and services to domestic and foreign markets.

Table 4. Questions K (Corporate culture)

K Feature 1 – Clan culture
1. We are the company that values intimate human relations like in the family.
2. Our leaders take care of their subordinates and value good relationships.
3. Our strength is loyalty and mutual trust towards our company.
4. We prioritize human resources and value unity.
K Feature 2 – Adhocracy culture
5. We are innovative company that despite the risk take on challenges.
6. Our leaders value innovation and risk taking.
7. Our strength is commitment to the innovation and technological development.
8. We prioritize challenging new things and value opportunity search.
K Feature 3 – Hierarchy culture
9. We are an organization that emphasizes provisions and procedures that strictly control the behaviour of employees.
10. Our leaders place emphasis on efficiency by organization and smooth business operation.
11. Our strengths are documented official rules and policies.
12. We prioritize stability and emphasize efficient management.
K Feature 4 – Market culture
13. We are the result-oriented company that value goal achievement.
14. Our leaders stress clear goals and results.
15. Our strengths are successful fulfillment of duties and goals achievement.
16. We prioritize competitive behavior and achieving results.

Table 5. Descriptive statistics

Variables	Obs	Average	S.D.	Min	Max
Whole sample					
AVRKF1	173	5.11	1.19	1.5	7
AVRKF2	173	4.64	1.44	1	7
AVRKF3	173	4.86	1.22	1.5	7
AVRKF4	173	4.97	1.23	1.25	7
AVRE	173	4.61	1.98	1	7
AVRL	173	5.22	1.41	1.5	7
ID	175	0.451	0.499	0	1
LR	175	12.088	1.890	6.57	15.61
DER	162	142.6	171.3	9.5	1781.24
SG	162	28.113	9.17	-35.32	49.34
LER	162	175.206	228.38	0.85	1405.5
ROI	162	9.7	10.5	-16.21	92.71
Manufacturing Sector					
AVRKF1	84	5.12	1.02	1.5	7
AVRKF2	84	4.76	1.33	1	7
AVRKF3	84	4.93	0.95	2	7
AVRKF4	84	4.96	1.2	1.25	7
AVRE	84	4.64	1.53	1	7
AVRL	84	5.43	0.96	1.5	7
LR	84	12.1	1.64	6.5	15.4
DER	84	11.3	79.33	9.5	407.41
SG	84	1.56	8.46	-35.32	25.78
LER	84	127.23	106.2	2.96	484.81
ROI	84	9.09	8.41	-16.21	42.96
Non-manufacturing Sector					
AVRKF1	59	5.02	0.87	2.5	6.25
AVRKF2	59	4.28	1.3	1	7
AVRKF3	59	4.75	0.89	2.5	6.75
AVRKF4	59	5.01	0.80	2.75	7
AVRE	59	4.15	1.54	1	6.8
AVRL	59	4.83	0.72	3.1	6.4
LR	59	11.53	1.98	7	15.61
DER	59	173.62	254.46	14.39	1781.24
SG	59	4.23	10.13	-17.79	49.34
LER	59	231.60	287.57	0.85	1363.7
ROI	59	11.16	13.2	-0.2	92.71

Notes: E and L are Monitoring and Strategic decision making uses of PMS, respectively.

Fig. 4. Average corporate culture K Feature 1 (Clan culture) and Average L
(Strategic decision making use of PMS)

Fig. 5. Average corporate culture K Feature 1 (Clan culture) and Average E
(Monitoring use of PMS)

Fig. 6. Average corporate culture K Feature 2 (Adhocracy culture) and Average L (Strategic decision making use of PMS)

Fig. 7. Average corporate culture K Feature 2 (Adhocracy culture) and Average E (Monitoring use of PMS)

Fig. 8. Average corporate culture K Feature 3 (Hierarchy culture) and Average L
(Strategic decision making use of PMS)

Fig. 9. Average corporate culture K Feature 3 (Hierarchy culture) and Average E
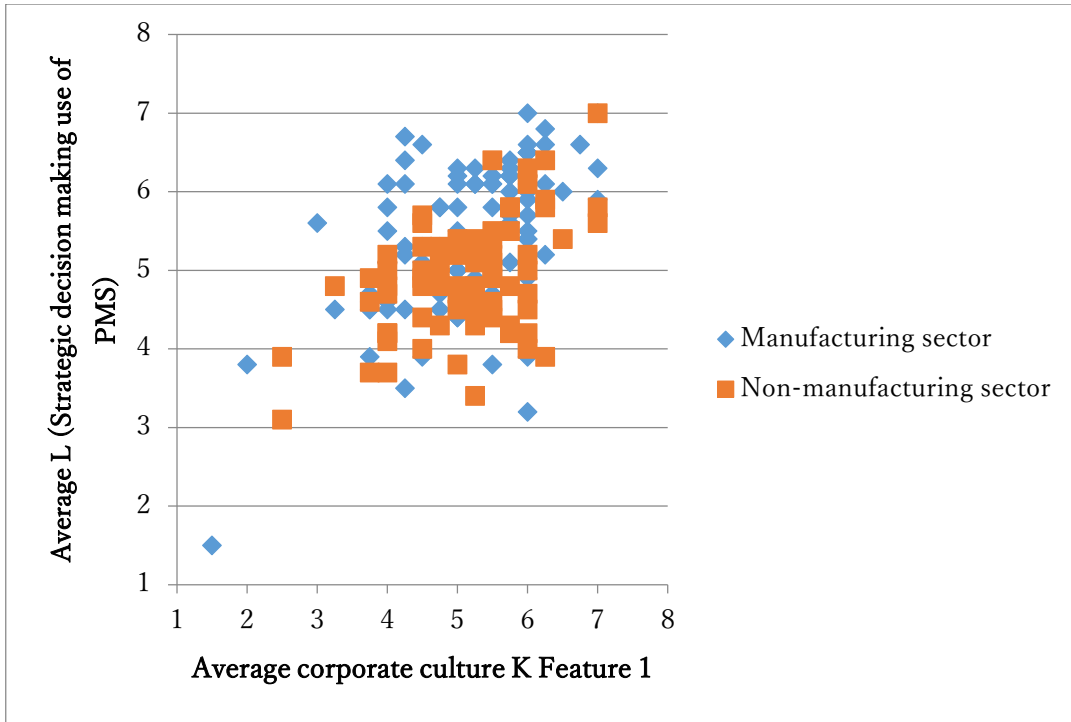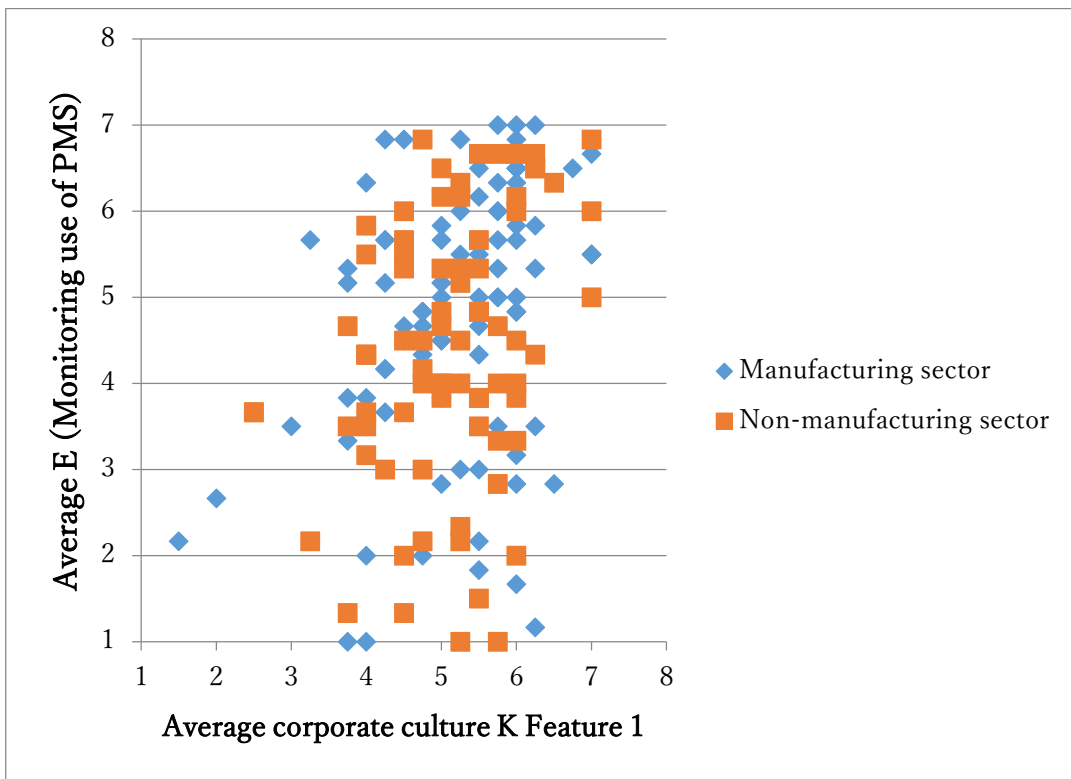(Monitoring use of PMS)

Fig. 10. Average corporate culture K Feature 4 (Market culture) and Average L
(Strategic decision making use of PMS)
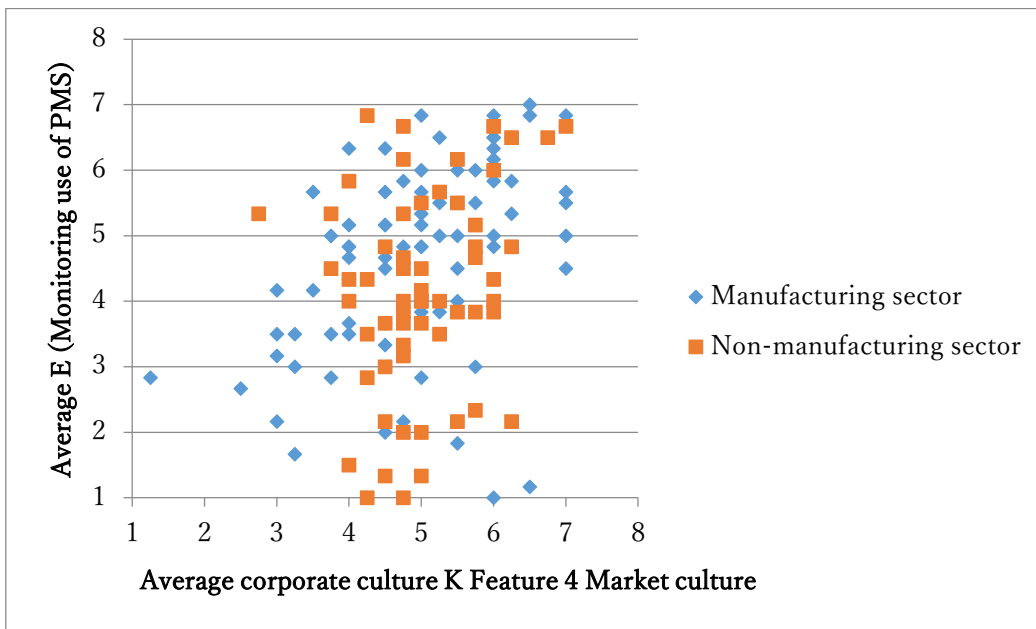
Fig. 11. Average corporate culture K Feature 4 (Market culture) and Average E
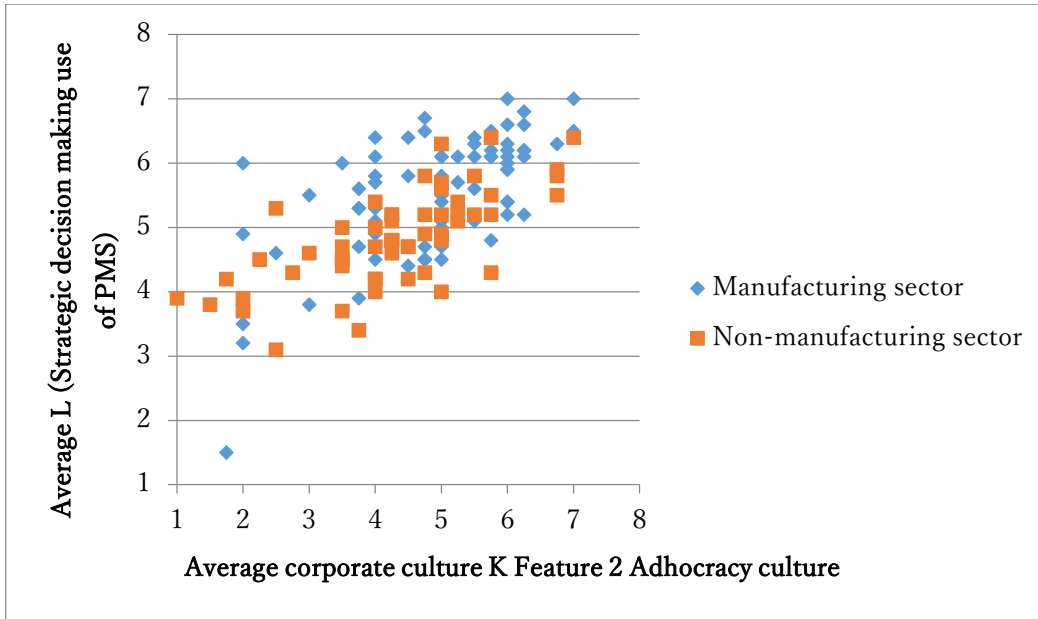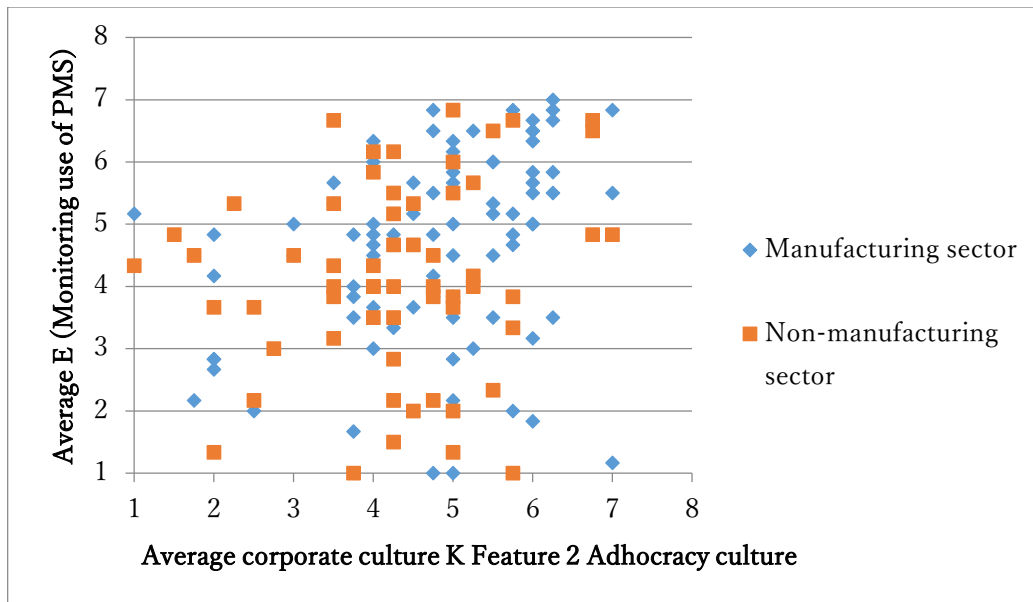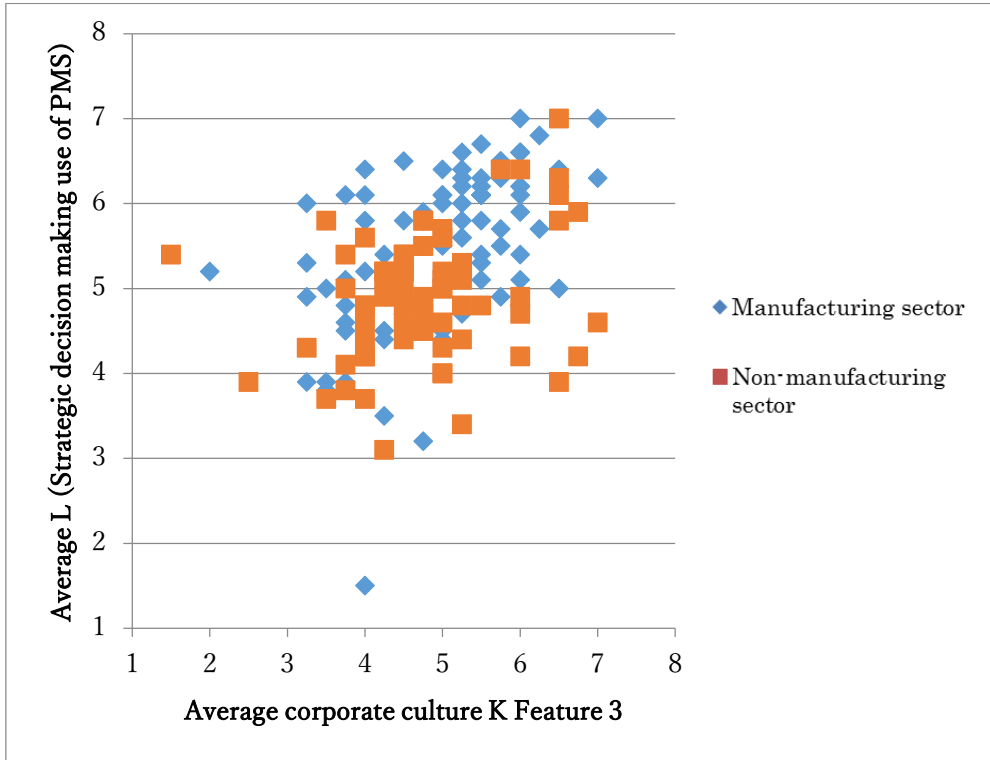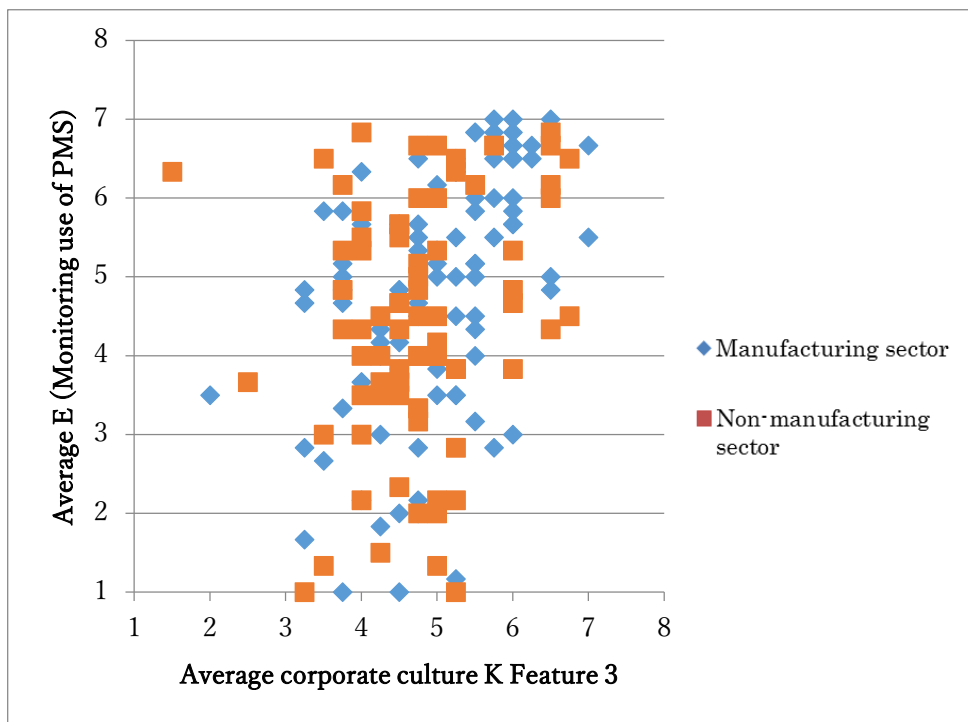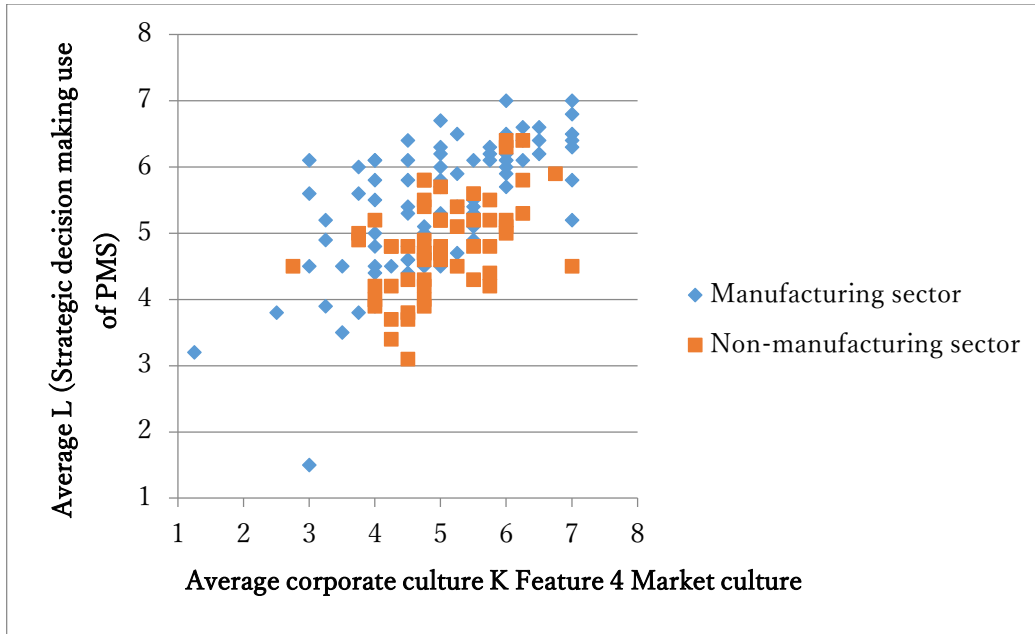(Monitoring use of PMS)

Table 6. Results of regression of Strategic decision making and Monitoring uses of PMS (Average culture scores)

Independent variables	Strategic decision making use of PMS			Monitoring use of PMS		
	Manufacturing	Non-manufacturing	Whole sample	Manufacturing	Non-manufacturing	Whole sample
Constant	0.86	1.14*	1.05***	-3.83***	-2.39*	-3.45***
	(0.62)	(0.57)	(0.42)	(1.20)	(1.5)	(0.87)
AVRKF1	0.25***	0.18**	0.2***	0.19	0.05	0.13
	(0.002)	(0.09)	(0.06)	(0.15)	(0.23)	(0.12)
AVRKF2	0.27***	0.26***	0.25***	-0.02	-0.06	-0.03
	(0.07)	(0.05)	(0.47)	(0.14)	(0.14)	(0.10)
AVRKF3	0.08	0.000	0.04	0.39**	0.12	0.29**
	(0.20)	(0.08)	(0.06)	(0.17)	(0.22)	(0.13)
AVRKF4	0.18**	0.14*	0.21***	0.26	0.03	0.25*
	(0.08)	(0.09)	(0.06)	(0.16)	(0.23)	(0.12)
LR	0.04	0.06*	0.13***	0.34***	0.51***	0.95***
	(0.05)	(0.03)	(0.07)	(0.09)	(0.10)	(0.14)
DER	-0.00	0.00*	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.001)
SG	0.01	-0.01*	-0.003	-0.02	-0.02	-0.07**
	(0.01)	(0.006)	(0.005)	(0.01)	(0.01)	(0.01)
LER	0.001	0.00	0.00	0.00	-0.001*	-0.001
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	0.001
ROI	0.004	0.01**	0.01*	0.00	0.01	0.01
	(0.01)	(0.00)	(0.005)	(0.01)	(0.01)	(0.010)
ID	-	-	-0.48***	-	-	-0.12
	-	-	(0.11)	-	-	(0.23)
Obs	84	59	145	84	59	145
R-squared	0.46	0.64	0.33	0.45	0.47	0.45
Adj R-squared	0.41	0.58	0.29	0.38	0.38	0.41

Note ***, **, and * stand for statistically significant level at 1%, 5%, and 10%, respectively. Numbers in parentheses are standard errors.

Table 7. Results of regression of Strategic decision making and Monitoring uses of PMS (Each question)

Independent variables	Strategic decision making use of PMS			Monitoring use of PMS		
	Manufacturing	Non-manufacturing	Whole sample	Manufacturing	Non-manufacturing	Whole sample
Constant	1.32*	1.35**	1.39***	-2.93**	-2.74	-
	(0.69)	(0.66)	(0.46)	(1.42)	(1.81)	(0.99)
KF1 Q1	-0.01	-0.05	-0.03	0.07	-0.13	0.01
	(0.08)	(0.08)	(0.05)	(0.15)	(0.22)	(0.11)
KF1 Q2	0.23**	0.13	0.16**	-0.15	0.35	0.14
	(0.11)	(0.18)	(0.07)	(0.22)	(0.32)	(0.15)
KF1 Q3	0.15	-0.01	0.14*	0.14	0.17	0.12
	(0.12)	(0.09)	(0.07)	(0.24)	(0.26)	(0.15)
KF1 Q4	-0.09	-0.05	0.01	0.09	-0.09	-0.01
	(0.11)	(0.08)	(0.07)	(0.23)	(0.23)	(0.15)
KF2 Q5	-0.02	0.01	-0.04	-0.20	-0.38	-0.25*
	(0.10)	(0.09)	(0.06)	(0.20)	(0.25)	(0.14)
KF2 Q6	0.01	0.02	0.03	-0.04	0.11	0.01
	(0.09)	(0.10)	(0.07)	(0.19)	(0.29)	(0.14)
KF2 Q7	0.07	0.15*	0.10	0.10	0.35	0.21
	(0.11)	(0.09)	(0.07)	(0.22)	(0.24)	(0.15)
KF2 Q8	0.18*	0.10	0.13*	0.15	-0.14	0.05
	(0.10)	(0.10)	(0.07)	(0.21)	(0.28)	(0.15)
KF3 Q9	-0.02	-0.01	-0.02	0.17	0.10	0.07
	(0.07)	(0.08)	(0.05)	(0.15)	(0.22)	(0.12)
KF3 Q10	-0.13	0.29***	0.00	-0.19	0.01	-0.04
	(0.11)	(0.10)	(0.06)	(0.22)	(0.27)	(0.14)
KF3 Q11	0.21***	-0.18*	0.08	0.14	-0.20	0.04
	(0.08)	(0.09)	(0.06)	(0.17)	(0.25)	(0.12)
KF3 Q12	-0.10	-0.04	-0.10*	0.03	-0.05	0.06
	(0.09)	0.09	(0.06)	(0.18)	(0.26)	(0.13)
KF4 Q13	0.24**	0.13	0.15**	0.63***	-0.18	0.26*
	0.17	(0.10)	(0.07)	(0.24)	(0.27)	(0.14)

KF4 Q14	-0.12	-0.09	-0.05	-0.47**	-0.02	-0.24*
	(0.11)	(0.11)	(0.07)	(0.22)	(0.30)	(0.14)
KF4 Q15	-0.06	0.12	0.02	0.21	0.44	0.17
	(0.11)	(0.11)	(0.06)	(0.23)	(0.29)	(0.15)
KF4 Q16	0.10	-0.03	0.07	-0.08	-0.13	0.02
	(0.11)	0.08	(0.06)	(0.23)	(0.23)	(0.14)
LR	0.08	0.08*	0.13*	0.39***	0.53***	0.99***
	(0.05)	(0.04)	(0.07)	0.10	(0.11)	(0.14)
DER	0.00	0.00	0.00	0.002	0.00	0.00
	(0.001)	(0.00)	(0.00)	(0.002)	(0.001)	(0.001)
SG	0.001	0.00	-0.003	-0.03*	-0.005	-0.02*
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)
LER	0.00	0.00	0.00	0.00	-0.001**	-0.001
	(0.001)	(0.00)	(0.00)	(0.001)	(0.001)	(0.001)
ROI	0.01	0.002	0.01*	0.01	0.004	0.01
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)
ID	-	-	-0.42***	-	-	0.01
	-	-	(0.12)	-	-	(0.25)
Obs	84	59	145	84	59	145
R-squared	0.72	0.77	0.69	0.54	0.62	0.50
Adj R-squared	0.62	0.64	0.63	0.38	0.40	0.41

Note ***, **, and * stand for statistically significant level at 1%, 5%, and 10%, respectively. Numbers in parentheses are standard errors.

Chapter 4. Influence of various shareholders on CSR performance based on the stakeholder theory

Yan Tang*, Michiyuki Yagi*, and Katsuhiko Kokubu*

Abstract

This study examines the influence of different types of shareholders on the corporate social responsible performance. Using a sample of 564 Japanese firms during the year 2015 and 2016 based on stakeholder theory, this study hypothesizes that ownership structure has influence on firm's CSR performance. We break down the ownership into different groups of shareholders: institutional, foreign, and managerial ownership. Results of regression model show that institutional ownership and foreign ownership have the significantly positive effect on the corporate social responsible performance. In contrast, top manager is negatively associated with firm's corporate social responsible performance.

Key words: Corporate social responsible performance, stakeholder theory, shareholder, ownership structure

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1. Introduction

With the problem of global population, finite resource availability, and resilience of the Earth system, agenda 21 first highlighted the need for a transition toward sustainable consumption and production (SCP) at the Rio Earth Summit in 1992. More recently the United Nations' Sustainable Development Goals (SDGs) reaffirmed the overarching importance of SCP (United Nations, 2017). SDGs, otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity. There are 17 goals and each goal has specific targets to be achieved over the next 15 years.

Goal 12 is to ensure SCP patterns. SCP aims at 'doing more and better with less,' increasing net welfare gains from economic activities by reducing resource use, degradation, and pollution along the whole lifecycle, while increasing quality of life. It involves different stakeholders, including business, consumers, policy makers, researchers, scientists, retailers, media, development cooperation agencies, and among others.

This study examines the relationship between different types of shareholders and corporate social responsibility (CSR) performance based on the stakeholder theory. More specifically, the purpose of this study is to examine the influence of institutional ownership, foreign ownership, and managerial ownership on CSR performance of Japanese firms in year 2015 and 2016. Results of regression model show that institutional ownership and foreign ownership have the significantly positive effect on the corporate social responsible performance. In contrast, top manager is negatively associated with firm's corporate social responsible performance.

This rest of the study is organized as follows. Section 2 introduces the theoretical background of stakeholder theory and how it has been employed to study CSR related topics. This section also hypothesizes the relationship between ownership structure and CSR performance. Section 3 explains methods and data selection. The descriptive statistics of data and regression results are explained in section 4. Section 5 concludes the study.

2. Background

2.1 Stakeholder theory and CSR

Stakeholder theory has gained currency in the business and society literature in recent years in light of its practicality from the perspective of managers and scholars. Freeman (1984) defines a stakeholder as 'any group or individual who can affect or is affected by the achievement of the firm's objectives'. Stakeholders of the firm include stockholders, creditors, employees, customers, suppliers, public interest groups, governmental bodies, and so on. The theory is organized under two principal questions: what is the purpose of the firm? and what responsibility does management have to stakeholders? The firm wants and needs to interact with interest groups in order to achieve their goals (Freeman, 2000). According to Donaldson and Preston (1995), the theory can be examined from three different perspectives: namely, the descriptive, the instrumental and the normative perspectives. The descriptive perspective assumes an empirically oriented use of the theory to show how concepts correspond to reality. The instrumental perspective relates to the use of the theory to show the connection between stakeholder management and multi-dimensional corporate performance. Finally, the normative perspective is used to examine how stakeholders should behave and the motivations underlying their actions. Three aspects of this theory are mutually supportive and it can be useful to explain and guide the structure and operation (Russo and Perrini, 2010).

Ullmann (1985) concluded that stakeholder theory provides an appropriate justification for incorporating strategic decision making into studies of corporate social responsibility activities. Stakeholder theory forms a theoretical foundation in which to analyze the impact of prior economic performance, strategic posture toward social responsibility activities. (Roberts, 1992).

Stakeholder theory provides a useful theoretical framework of corporate governance for linking businesses' responsibilities with corporate value creation. While CSR aims to define what responsibilities business ought to fulfill, the stakeholder concept addresses the issue of whom business is or should be accountable to. Both concepts are closely inter-related (Jamali, 2008).

CSR is seen as 'a process to integrate social, environmental, ethical, human rights, and consumer concerns into their business operations with the aim of maximizing the creation of shared value for their owners and for their other stakeholders and society at large' (European Commission,

2011). This conceptualization of CSR fits nicely with the stakeholder theory approach that views CSR as an extension of corporate governance, whereby a firm's duties extend beyond its shareholders to a broader group of stakeholders. (Theodoulidis et al., 2017)

A growing number of companies have incorporated CSR into their marketing strategies. When some shareholders own significant percentage of the stock, they will have the power to affect corporate decisions. Oh et al. (2011) assumed that CSR participation is a result of decisions made by the corporate managers under the pressure from the shareholders. This study represents an attempt to utilize stakeholder theory to explore the relationship between ownership types (institutional investors, foreign investors, managerial investors) and CSR performance in Japan.

2.2 Shareholder structure and CSR

(1) Institutional investors

Institutional investors include public and union pension funds, mutual funds, investment bankers, insurance companies, and private firms. They often own significant percentages of the firm's stock and cannot easily sell their shares, they are likely to be more attentive to the firm's strategic decisions than other shareholders. Most of the institutional investor seek stable returns on their investments in long run, they are interested in long-term profitability of the companies in their portfolios and have the incentive to get engaged in corporate strategic management (Soliman et al., 2012). Investing in socially responsible business and maintaining the CSR ratings of the firms is one way for institutional investor to signal to its potential clients that this institutional investor is reliable and responsible (Oh et al., 2011). Given this description, we predict that institutional ownership will be a positive association between institutional ownership and CSR performance.

H1：Institutional ownership has positive relationship with the firm's CSR performance.

(2) Foreign investors

In Japan, foreign investors have emerged as major shareholders since the 1990s, due to the globalization of business and financial liberalization. Although traditional Japanese companies

have their own moral values, Japanese companies have been affected by Western-style management practices which are assumed to have higher CSR engagement to some degree. In order to assert the positive influence of foreign ownership on CSR, it is necessary to identify the foreign owners' profiles that may indicate their investment orientations and preference. (Oh et al., 2011).

There are some arguments relies on the idea of information asymmetries for foreign investors and uncertainty reduction that CSR investments may bring. Foreign corporate investors, who possess less information than their domestic counterparts, may show a greater preference for corporate social performance corporations, willing to consider the non-financial elements of investees' business to avoid risk or to reduce agency costs. Through the discussions above, we expect that foreign ownership will be associated with firms' CSR performance.

H2：Foreign ownership has positive relationship with firms' CSR performance.

(3) Managerial ownership

For top managers, there are two perspectives to manage the firm. One is to stand on shareholder perspective, its states that managers primarily have a duty to maximize shareholder returns. There is one and only one social responsibility of business -to use its resources and engage in activities designed to increase its profits. So, the managers may be more likely to pursue short-term strategies that boost the company's profits and positively affect their compensation.

On the other hand, according to the stakeholder theory, managers are agents of all stakeholders and have two responsibilities: to ensure that the ethical rights of no stakeholder are violated and to balance the legitimate interests of the stakeholders when making decisions. The objective is to balance profit maximization with the long-term ability of the corporation to remain a going concern (Smith, 2003). Overall, according to the two perspectives of managers, there are two hypotheses can be given.

H3a. Managerial ownership has positive relationship with Firm's CSR performance.

H3b. Managerial ownership has negative relationship with Firm's CSR performance.

3. Research Methodology

3.1 Model

Shareholders play an important role as one of stakeholder. Prior research suggests that shareholder structure is associated to CSR in developing countries. The purpose of this study is to attempt to utilize stakeholder theory to explore the relationship between ownership types (institutional investors, foreign investors and managerial investors) and CSR performance in Japan.

In this study, the regression analysis was used to test the relationship between the various shareholders and the CSR performance (*CSR*). The regression model for this study takes the following form:

$$CSR_{it} = \beta_0 + \beta_1 IO_{it} + \beta_2 FO_{it} + \beta_3 MO_{it} + \gamma_1 Debt_{it} + \gamma_2 ROA_{it} + \gamma_3 logEmp_{it}$$
$$+ \gamma_4 DumY_t + \gamma_5 DumI_i + e_{it}$$

$$(1)$$

where *CSR* is the score of the CSR performance. We use four types of CSR performance scores: entire performance score and each dimension of CSR performance (human resources (HR) utilization, environment, corporate governance and social performance) as dependent variables. *IO*, *FO*, and *MO* refer to the institutional ownership, the foreign ownership, and the managerial ownership, respectively. Following variables are control variables. *Debt* is the debt ratio. *ROA* is return on assets. logEmp denotes the number of employees in the log-form. *DumY* and *DumI* are the dummy variables refer to years and industries respectively.

3.2 Data

We use data from the Toyo Keizai Japan CSR Ranking and NEEDS-Cges (Corporate Governance Evaluation System) database. There were 700 companies listed in Toyo Keizai CSR ranking and 3587 companies listed in NEEDS-Cges for each year. Because of the missing data, there were 564 Japanese companies between 2015 and 2016, that can be used, resulting in a total of 1128 observations.

The 564 Japanese companies belong to 29 sectors according to the industry classification (Manufacturing sectors are following 16 sectors: Foods, Textiles and Apparels, Pulp and Paper,

Chemicals, Pharmaceutical, Oil and Coal Products, Rubber Products, Glass and Ceramics Products, Iron and Steel, Nonferrous Metals, Metal Products, Machinery, Electric Appliances, Transportation Equipment, Precision Instruments, and Other Products. Non-manufacturing sectors are following 17 sectors: Fishery, Agriculture & Forestry, Mining, Construction, Electric Power and Gas, Land Transportation, Marine Transportation, Air Transportation, Warehousing and Harbor Transportation, Information & Communication, Wholesale Trade, Retail Trade, Real Estate, and Services). And there are 4 sectors excluded, they are Banks, Securities and Commodities Futures, Insurance, and Other financial business. Industries were divided in to manufacturing sector and non-manufacturing sector based on sector classification of Tokyo Stock Exchange (TOPIX Sector Indices) in this study.

The total CSR score was used as the dependent variable in this study. Toyo Keizai has formulated CSR ranking based on taking perfect overall score of 600 points, comprising four criteria in the CSR field (a total of 300 points possible), namely HR utilization (100 points possible), the environment (100 points possible), corporate governance and social performance (a combined 100 points possible). In this study, the score of HR utilization, environment, corporate governance and social performance and the total CSR score are used as the dependent variable.

Regarding ownership variables, institutional ownership (IO) is calculated as the percentage of shares owned by the institutional investors. Foreign ownership (FO) is measured by the percentage of shares owned by foreign investors. And the percentage of CEO owned shares is used to measure managerial ownership (MO).

Regarding control variables, some difference of CSR performance may result from corporate features such as firm size, financial performance, debt level, and industry. Firm size is measured by taking logarithm of the numbers of employees. We controlled for financial performance by including return on assets (ROA) (Soliman et al., 2013). The ratio of debt represents debt level in regression. And industries were divided in to manufacturing sector and non-manufacturing sector based on sector classification of Tokyo Stock Exchange (TOPIX Sector Indices). The industries are represented by dummy variables in this study. As well as the time variable is represented by dummy variable.

4. Results

4.1 Descriptive statistics

Table 1 presents the descriptive statistics. The average total CSR score was 202.91, with a minimum of 99.90 and a maximum of 293.40. And the social performance dimensions had the highest average score compared with others. The average number of percentage of institutions owning shares in companies was about 29.10, with a minimum of 0 and a maximum of 74.97. The average number of percentage of foreign owning shares was about 20.04, the minimum and maximum number is 0 and 86.63 respectively. And the average percentage of CEO owned shares was 1.53, with a minimum of 0 and a maximum of 68.27.

Table 2 shows the results of correlation analysis. It was used to check the relationship between independent and dependent variables. Figures 1 to 3 show the relationship between three types of shareholders using scatter plots.

4.2 Results of Regression Model

Table 3 shows the results of the regression analysis. Column 1 in table 3 shows the relationship between shareholders and total CSR performance. The institutional ownership (IO) and foreign ownership (FO) is positive and significantly related to the CSR performance. And the managerial ownership (MO) is negative and significantly related to the CSR performance, the results enabled us to accept hypotheses1, 2. And for hypothesis 3, the result enable us to accept hypothesis 3b. It shows that top managers of Japanese firm likely to pay more attention to the profits.

Columns 2 to 4 show the regression results of the relationship between CSR dimensions and different shareholders. Overall institutional ownership is significantly positive related to all three dimensions. Foreign ownership also has the significantly positive relationship to the three dimensions. The managerial ownership is significantly negative related to the environment, but has no effect on the HR utilization and corporate governance and social performance.

The insignificant relationship of managerial ownership and HR utilization, and the social performance can be interpreted as manager owners with either high or low ownership may support, be neutral for, or not be interested in the investments in these dimensions to a similar degree. In order to respond to external influences, satisfy external stakeholders, and prepare for potential future

risks, firms cannot ignore the CSR dimensions, which are closely tied to the firms' external reputation (Paek et al., 2013).

5. Conclusions

This study investigates the relation of different types of shareholders and firm's CSR performance of Japanese firms. Through the result, we found that three types of shareholders have significant influence the firm's CSR performance. The institutional ownership and foreign ownership have significantly positive relationship with CSR performance. And we found that top managers in Japan are likely to be less interested in improve CSR than institutional investors and foreign investors.

The results of institutional ownership indicate that Japanese institutional investors are concerned with the impact of CSR decisions. This finding suggests that institutional investors pay more attention to the CSR. They should invest more heavily in firms with higher levels of CSR performance. At the same time, managers have to be proactive in accommodating the requirements of institutional investors (Saleh et al., 2010). In the case of the Japanese company, most of the foreign investors come from USA and Europe and may place a relatively greater emphasis on socially responsible business practices. Through the results, the foreign ownership has positive relationship with CSR performance, allowing foreign owners to own more of the domestic companies which facilitate socially responsible management and social investments (Oh et al., 2011). Top managers likely to be less interested in improving their firms CSR performance than institutional investors and foreign investors. They may focus more on the profit of the business. Firms need to pay more attention to deal with conflicting voices from different shareholders.

There are also limitations in this research should be noted. Firstly, the data in this research only included two years data. So, we cannot tell how stable the relationships between ownership structure and CSR. For the further research, it should be included longitudinal examinations. Secondly, for managerial ownership, this study only uses the percentage shares of CEO to measure the managerial ownership, but there are some other shareholders of managerial like top managerial

group, outside directors. They have the power to influence the firm's decisions, so the future research should involve more detail of managerial ownership.

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Table 1. Descriptive statistic

Variable	Obs	Mean	Std.Deviation	Min	Max
CSR	1,128	202.911	49.444	99.900	293.400
HR	1,128	64.707	17.518	20.000	98.700
Environment	1,128	66.870	20.444	20.000	100.000
Social	1,128	71.333	16.495	23.400	100.000
Institutional ownership	1,128	29.094	17.718	0.000	74.970
Foreign ownership	1,128	20.037	14.559	0.000	86.630
Managerial ownership	1,128	1.525	5.151	0.000	68.271
Log employee	1,128	3.194	0.558	1.000	5.286
DE	1,128	48.017	18.234	6.580	97.730
ROA	1,128	6.391	4.493	-15.742	33.398
DumY	1,128	0.716	0.451	0.000	1.000
DumI	1,128	0.500	0.500	0.000	1.000

Table 2. Correlation matrix

	CSR	HR	Environment	Social	IO	FO	MO	Logemployee	DE	ROA	DumI	DumY
CSR	1.000											
HR	0.897***	1.000										
Environment	0.898***	0.660***	1.000									
Social	0.932***	0.809***	0.753***	1.000								
IO	0.571***	0.519***	0.510***	0.530***	1.000							
FO	0.523***	0.513***	0.442***	0.477***	0.859***	1.000						
MO	-0.232***	-0.165***	-0.279***	-0.175***	-0.203***	-0.166***	1.000					
Logemployee	0.634***	0.576***	0.569***	0.584***	0.511***	0.484***	-0.205***	1.000				
DE	0.213***	0.139***	0.217***	0.222***	0.016	-0.071**	-0.113***	0.218***	1.000			
ROA	-0.018	0.068**	-0.079***	-0.027	0.225***	0.312***	0.083***	0.061**	-0.401***	1.000		
DumI	0.260***	0.127***	0.371***	0.185***	0.148***	0.087***	-0.167***	0.174***	-0.068**	-0.032	1.000	
DumY	0.018	0.006	0.014	0.029	0.039	0.044	0.001	-0.003	-0.038	0.000	0.000	1.000

Table 3. Results of regression model

Variables	(1) CSR	(2) HR	(3) Environment	(4) Social
IO (Institutional ownership)	0.638***	0.129***	0.272***	0.237***
	(0.116)	(0.0458)	(0.0495)	(0.0420)
FO (Foreign ownership)	0.520***	0.270***	0.126**	0.124**
	(0.142)	(0.0563)	(0.0608)	(0.0516)
MO (Managerial ownership)	-0.347*	-0.0334	-0.329***	0.0153
	(0.206)	(0.0815)	(0.0879)	(0.0747)
logEmp (Log employee)	34.94***	12.05***	11.99***	10.91***
	(2.239)	(0.885)	(0.956)	(0.812)
Debt (Debt ratio)	0.281***	0.0558**	0.121***	0.104***
	(0.0642)	(0.0254)	(0.0274)	(0.0233)
ROA	-1.012***	-0.117	-0.553***	-0.342***
	(0.261)	(0.103)	(0.112)	(0.0948)
DumY (Year dummy)	0.716	-0.197	0.263	0.650
	(2.030)	(0.803)	(0.866)	(0.736)
DumI (Industry dummy)	15.64***	0.871	11.85***	2.915***
	(2.345)	(0.928)	(1.001)	(0.850)
Constant	44.23***	14.62***	7.738***	21.87***
	(6.973)	(2.758)	(2.977)	(2.529)
Observations	1,128	1,128	1,128	1,128
R-squared	0.530	0.415	0.499	0.445

Notes *** and ** stand for statistically significant level at 5% and 10%, respectively. Numbers are estimated coefficients. Numbers in parentheses are standard errors.
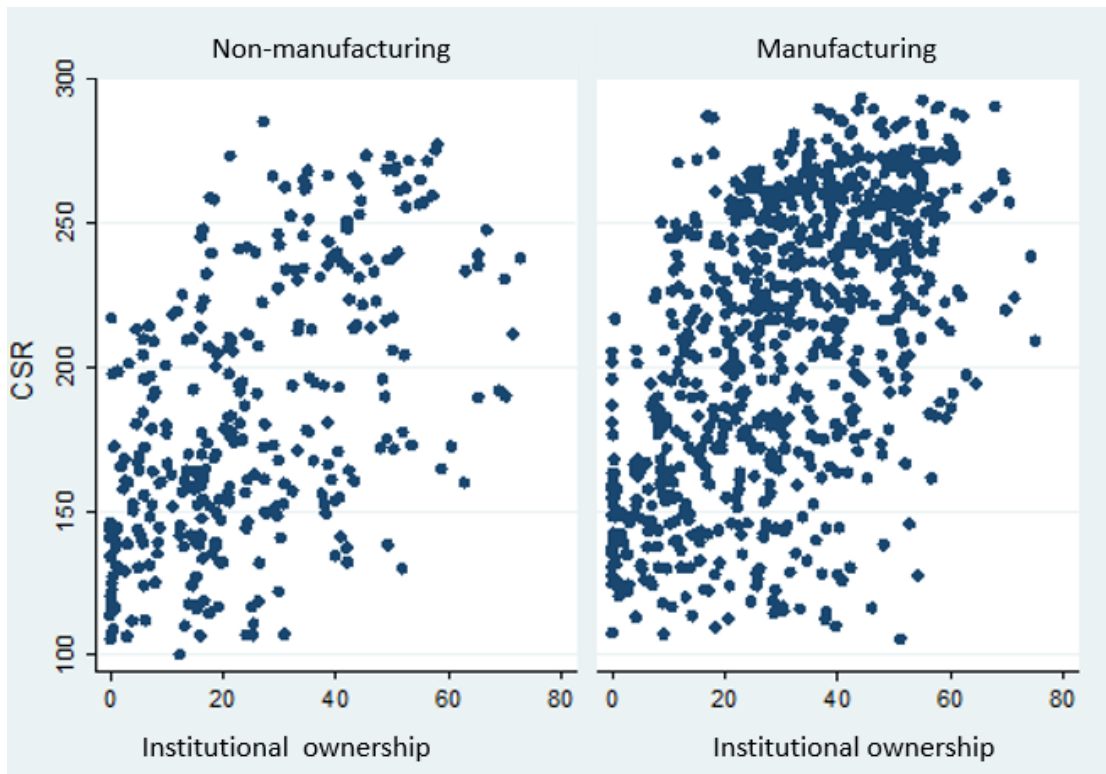
Figure 1. Scatter plots of the relationship between institutional ownership and CSR performance
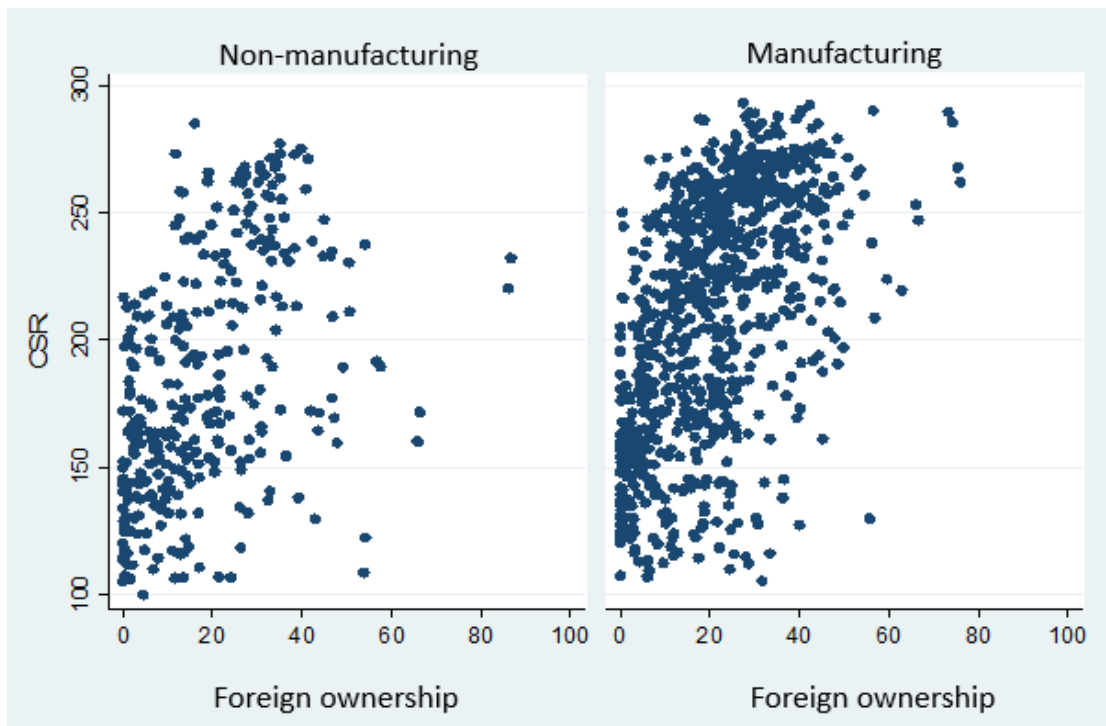

Figure 2. Scatter plots of the relationship between foreign ownership and CSR performance
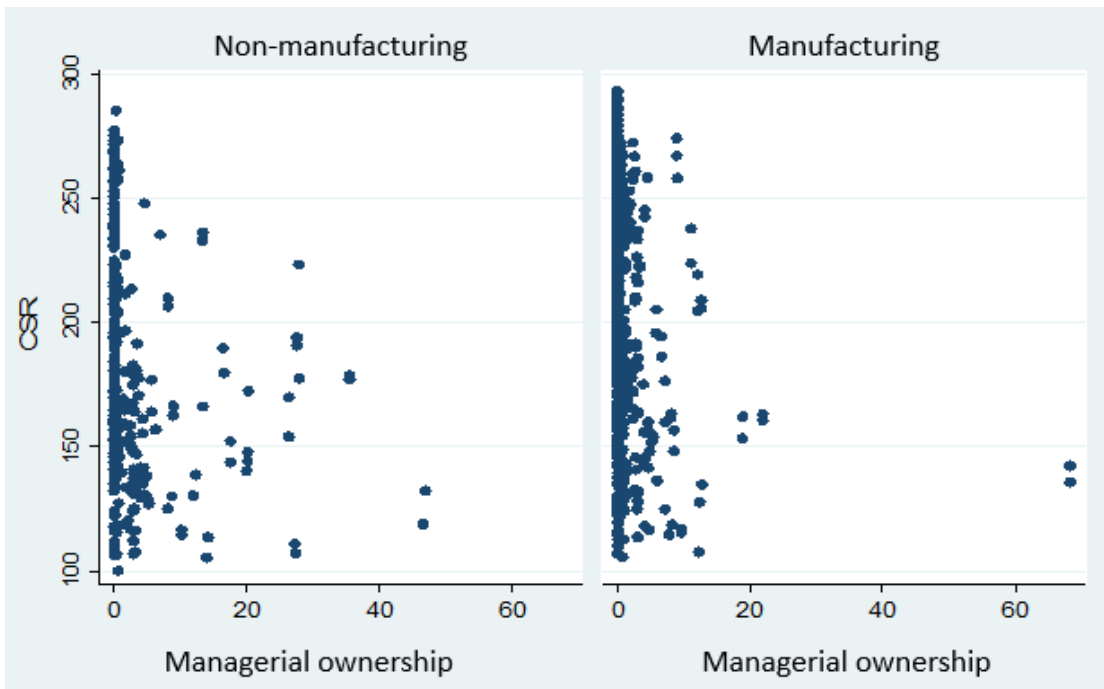
Figure 3. Scatter plots of the relationship between managerial ownership and CSR performance

Chapter 5. Roles of board directors in charge of CSR from the perspective of resource dependence theory

Yian Ku[*], Michiyuki Yagi[*], and Katsuhiko Kokubu[*]

Abstract

Engaging in corporate social responsibility, firms have started setting position named corporate social responsibility director who are responsible for corporate social responsibility affairs. This study examines if corporate social responsibility director really benefits corporate social responsibility engagement of the firms and if the contribution of full-time position differentiates from the part-time one. This study focuses on Japan and chooses 1356 samples from 2014 to 2016. Based on resource dependence theory, this study hypothesizes that the corporate social responsibility director has positive relation with both disclosure and reputation. Results of regression model show that corporate social responsibility director has significantly positive relation with both disclosure score and CSR performance measured by Bloomberg and Toyo Keizai Inc., respectively, and the full-time director seems to have much more influences than the part-time director does.

Key words: resource dependence theory; sustainable development goals; corporate governance; corporate social responsibility director; disclosure and reputation

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1. Introduction

The 2030 Agenda for Sustainable Development set 17 Sustainable Development Goals (SDGs), implemented from September 25th, 2015, in order to end poverty, protect the planet, and ensure prosperity for all (United Nations, 2017a). According to United Nations (2017b), as more and more people anticipate getting into the middle class around the globe, it will increase resource-demand while the current natural resources are already constrained. Consequently, if we do not take any actions to deal with this issue, it will lead to irreversible damage toward the environment. For businesses, how to find new solutions to ensuring sustainable consumption and production (SCP: Goal 12 of SDGs) patterns becomes a popular issue. The enterprise is supposed to have better understanding of environmental and social impacts of products and services, then designing solutions to reducing impacts and improving well-being.

Consequently, we can say that corporate have a moral obligation in terms of environmental and social activities and impacts. Corporate social responsibility (CSR) is used to justify why companies ought to put attention on socially responsible actions (Sridhar, 2012). CSR at least covers voluntary attention to the ethical, social, and environmental implications of business and is defined as 'situations where the firm goes beyond compliance and engages in voluntary actions that appear to further some social good, beyond the interests of the firm and that which is required by law' (Kolk & Pinkse, 2010). It is suggested that CSR reporting issues have become a necessary facet of businesses to show how the firm contributes to CSR affairs (Khan, 2010). Engaging in CSR, firms have started setting position named CSR director who are responsible for corporate social responsibility. Corporate governance (CG) creates balance among economic, social , individual , and communal goals, so the governance framework engages in allocating resources equally and efficiently, which requires accountability for the stewardship of those resources and for aligning the interests of individuals, corporations and society as near as possible (Khan, 2010).

This study examines if CSR director really benefits corporate social responsibility engagement of the firms and if the contribution of full-time position differentiates from the part-time one. This study focuses on Japan and chooses 1356 samples from 2014 to 2016. Based on resource

dependence theory, this study hypothesizes that the corporate social responsibility director has positive relation with both disclosure and reputation. Results of regression model show that corporate social responsibility director has significantly positive relation with both disclosure score and CSR performance measured by Bloomberg and Toyo Keizai Inc., respectively, and the full-time director seems to have much more influences than the part-time director does.

The rest of the study is structured as follows. Section 2 introduces the theory frequently adopted when we discuss CG, including agency theory and resource dependence theory, and the reason why we choose resource dependence theory as the tone. Section 3 goes further to develop the hypotheses and introduces the framework. Right after that, we explain how we select the samples and interpret the result. Lastly, Section 4 shows estimated results and Section 5 moves to conclusion, limitations, and future research.

2. Background

2.1 Resource Dependence Theory

The traditional view of CG is that suppliers who finance corporations would like to assure their return on their investment by introducing CG, which is a profit centered model; however, CG starts to change to social responsibility model in recent years (Shahin & Zairi, 2007). According to De Villiers et al. (2011), after the scandals of CG in the early 2000s, the introduction of Sarbanes Oxley Act of 2002 ruled the new standards of accountability of board of directors of U.S. public firms, such as the board structure and board attitude toward transparency. In addition, as the issues of CSR become more and more significant, what role the board plays in CSR issues becomes a popular topic in recent years.

The previous study suggests two functions of the board: (1) monitoring management to align its activities with shareholders' interests from the viewpoint of agency theory and (2) facilitating access to resources from perspective of resource dependence theory. Agency theory is an attractive theory because it provides a view to include conflicts of interest, incentive problems, and problems of

controlling system. Therefore, the previous studies regarding CG or disclosure analyze how to protect shareholders' interests by reducing information asymmetries (Michelon & Parbonetti, 2012). Although previous researches pointed out that board composition affects the effectiveness of control on top management. Thus, reducing the probability of frauds and earnings management, increasing the quality of mandatory and voluntary disclosure is more controversial (Michelon & Parbonetti, 2012).

Although agency theory is the dominant theory used in the research on boards of directors, resource dependence theory also shows that it is much more supported than other board perspectives, including agency theory (Hillman et al., 2009). According to De Villiers et al. (2011), it investigates the relationship between firm environmental performance and board characteristics from perspective of boards' monitoring and of resource provision abilities. The authors chose the two parts of characteristics. One represents the board's role of monitoring, while another one emphasizes the role of resource provision. In this research, the role of resource provision is much supported than the role of monitoring.

According to Velte & Stawinoga (2016), resource dependence theory states that the primary key to gaining above-average profit lies in access to necessary strategic resources. A firm can be imagined as a bundle of resources, and each company is supposed to own heterogeneous, different resources, which determines the competitive advantages and strategies (Falkenberg & Brunsæl, 2011). As a result, CG could be defined as the determination of the broad by which organizational resources will be deployed and the resolution of conflicts among the myriad of participants in organizations (Kolk & Pinkse, 2010).

Different from the role of board of director, which plays as a monitor under agency theory, another function of the board is to bring in resources that can be thought as strength or weakness of a given firm. Board of director plays as a partner of the management and helps to set effective policies and strategies. Resource dependence theory proposes four benefits that corporate boards can provide: (1) advice and counsel, (2) legitimacy, (3) channels for communicating information between external parties and the firm, (4) preferential access to commitments or support from outside. Therefore, the

logic of resource dependence theory suggests that a board's provision of resources is related to firm's performance (Hillman & Dalziel, 2003).

2.2 Research framework and hypothesis development

This study refers to Michelon & Parbonetti, (2012)'s work shown in Figure 1. This study revises the framework to Figure 2, which includes the consideration of reputation. According to Michelon & Parbonetti, (2012), stakeholder engagement is crucial to build an understanding of stakeholders' expectations and good CG and accountability should focus on addressing those social, environmental, economic, and ethical expectations.

Because the stakeholders can collectively affect the corporations by providing or withholding resources, corporations increasingly realize the importance of transparency and accountability (Sridhar, 2012). Sustainability disclosure represents a strategy used to respond to the expectations of society, providing information about social and environmental impacts of corporate activities to stakeholders (Michelon & Parbonetti, 2012).

The CSR director is a main board role to integrate sustainability into the core strategy and current operation (Woods & Cartland, 2013), so we can suppose that CSR director plays an important role in enhancing company reputation and legitimacy by establishing relations with stakeholders, helping controlling resources and choosing organizational strategy.

With respect to legitimacy, corporate governance can play a crucial role in managing the provision of information to stakeholders since CSR director enacts and oversees disclosure strategies and policies in the reports (Michelon & Parbonetti, 2012). On the other hand, because CSR director is in charge of sustainability strategy, CSR director can leverage the resources on hand in order to achieve sustainable competitive advantage, which can lead to reputation (Shahin & Zairi, 2007; Falkenberg & Brunsæl, 2011).

Based on the statements of Peters & Romi (2012), there is an increase in the use of CG mechanisms, creating board committees or executive officer positions concentrating on corporate sustainability and environmental concerns. However, less attention is paid to the new position, CSR

director, whose responsibility includes integrating concerns of external stakeholders, corporate strategy, and practices of CG. Therefore, it is anticipated that CSR director would contribute to communicating with stakeholders. A key action used to respond to the condition of the organization's environmental legitimacy is voluntary environmental disclosures. In Peters & Romi (2012)'s research, the relation between the presence of CSR director and the likelihood of disclosure is marginally significant. The research of Michelon & Parbonetti (2012) also found that the presence of a director in charge of CSR issues is positively correlated with disclosure in the annual report.

Here, we would like to take Japan as research subject and discuss further the effect of full-time and part-time CSR director on disclosure score, which acts as the proxy of legitimacy, and CSR performance, which acts as the proxy of reputation. Legitimacy depicts how company attempts to meet and adhere to the expectations of a social norms, values, rules, and meanings; however, reputation centers on comparison of organizations to determine their relative status (Deephouse & Carter, 2005). Because CSR director has impacts on not only legitimacy but also reputation, we made the two hypotheses as follows:

Hypothesis 1: Firms with a CSR director will be more likely to have higher disclosure score.
Hypothesis 2: Firms with a CSR director will be more likely to have higher CSR performance.

3. Research Methodology

3.1 Model

The purpose of this study is to examine the degree of relationship between the position of CSR director and CSR performance or disclosure score in Japan. Specifically, we have classified the CSR director into full-time, part-time, and without director to see if that variable causes different extent of influence on CSR or disclosure performance. The motivation of this study is that effective corporate governance could ensure the stakeholders' interests (Said et al., 2009). Setting the position like CSR director becomes a trend though it is still small number now (Woods & Cartland, 2013).

This study will contribute not only to clarifying the effects of CSR director on CSR or disclosure performance but also to comparing the essential factors under each way of measurement to see whether there is any difference.

The regression model of this study is as follows:

$$CSR = \beta_0 + \beta_1 FT + \beta_2 PT + \beta_3 NB + \beta_4 ID + \beta_5 ROE + \beta_6 SIZE + \beta_7 LEV + \beta_8 TQ$$
$$+ \beta_9 IND + \varepsilon \tag{1}$$

The *CSR* denotes CSR performance or disclosure score. While focusing on the effect of CSR director on CSR performance or disclosure score, as this study finds that there are mainly three taxonomies of full-time, part-time, and without director. Accordingly, we set *FT* and *PT* as dummy variables to represent the effect of full-time director and the part-time director. Other eight variables are control variables: the number of board members (NB), the proportion of independent directors (ID), the profitability (ROE), the leverage (LEV), the firm size (SIZE), opportunity of growth which takes Tobin's Q (TQ) as proxy, and the industry (IND) drilled down into manufacturing and non-manufacturing in order to observe the industrial differences.

According to Hillman et al. (2009), the board size (NB) is a main focus in some previous studies when using resource dependence theory. It is supported that board size is related to firm's level of internationalization, which is a symbol of environmental dependence, or even to financial performance. Firms that facing different levels of uncertainty and environmental dependency will affect the size or composition of the board. As large board can have more prestigious or experienced members who owns expertise to deal with environmental issues, board size is regarded as an important resource dependence related factor (De Villiers et al., 2011).

It is suggested that degree of board independence will foster board effectiveness. Based on the argument of Said et al. (2009) and De Villiers et al. (2011), outsiders or directors who are not current or past owners or employees of the firm may better protect the interests of shareholders because they can be more dispassionate in their evaluation of ongoing strategies. It is also shown that the

increasing numbers of independent directors at board level helps assure board independence from management, its ability to represent multiple perspectives within its environment, and the mediation among various stakeholders (Michelon & Parbonetti, 2012). Empirical study also found that socially responsible firms have more outside or independent directors than those non-socially responsible firms (Said et al., 2009). In order to exclude the effect of scale, we use the ratio of the number of independent directors divided by the total number of directors (ID) as control variable.

The previous studies found that profitable firms tend to have better environmental performance because those firms are able to cover the environmental costs (De Villiers et al., 2011). As a result, based on the above statement of social impact hypothesis, we can say that the firm with good financial performance is likely to have resources to participate CSR affairs or report CSR information. It indicates how much pressure a firm receives from the investment community, especially important for disclosure of corporate governance information (Kolk & Pinkse, 2010). Consequently, profitability (ROE), measured by net income divided by total equity, is considered as one of the important control variables (Peters & Romi, 2012; Michelon & Parbonetti, 2012).

If the firm's level of debt increases, the market may require greater amount of information in order to handle the operation and management, providing incentive for firm voluntarily disclosing information, suggesting a positive association. Therefore, leverage (LEV), measured by total liability divided by total equity, is included (Peters & Romi, 2012). Empirical study also examined that there is a positive association between debt levels and environmental disclosures, suggesting more information disclosed in firms with higher leverage (De Villiers et al., 2011).

According to previous studies on corporate disclosure, corporate size (SIZE) has been found to be associated with disclosure extent positively and significantly. In other words, the larger the firm is, the higher the extent of disclosure would be (Michelon & Parbonetti, 2012). In addition, larger firms are more likely to identify environmental issues and manage those effectively (De Villiers et al., 2011) and have greater amount of resources to invest in capital-intensive projects (Peters & Romi, 2012).

The Tobin's Q (TQ) is used to control for the growth opportunities of firm. If Tobin's Q is greater than 1, the entrepreneur is much more willing to make investment to ask for growth, while if Tobin's Q is less than 1, the entrepreneur tends to decrease the investment. In growth periods, firms do not have sufficient resources to contribute to disclosure or setting committee in charge of CSR affairs. The companies may disclose more sustainability-related information in order to differentiate from other firms with similar growing pace (Peters & Romi, 2012).

Firms in environmentally sensitive industries tend to disclose more environmental information and are likely to manage their environmental impacts effectively (De Villiers et al., 2011). Industry type (IND) of this study is based on 33 sectors classification of Tokyo Stock Exchange (TOPIX Sector Indices). Manufacturing sector, which is classified as 1, includes the following 16 sectors: foods, textiles and apparels, pulp and paper, chemicals, pharmaceutical, oil and coal products, rubber products, glass and ceramics products, iron and steel, nonferrous metals, metal products, machinery, electric appliances, transportation equipment, precision instruments, and other products. Non-manufacturing sector, which is set as 0, contains the following 17 sectors: fishery, agriculture & forestry, mining, construction, electric power and gas, land transportation, marine transportation, air transportation, warehousing and harbor transportation, information & communication, wholesale trade, retail trade, banks, securities and commodities futures, insurance, other financing business, real estate, and services.

3.2 Data

Two data sets have been used in this study, CSR performance measured by Toyo Keizai Inc. and disclosure scores measured by Bloomberg. The research setting is Japan. Data ranges from 2014 to 2016 to observe the trend and change in these years and selected the samples measured by both of the databases. The Corporate Social Responsibility Database conducted by Toyo Keizai Inc. collected the data by sending questionnaires to firms, and there are 1210, 1305, and 1325 enterprises' CSR performance evaluated from 2014 to 2016; in Bloomberg's dataset, 1168, 2084, 2025 corporations are

collected and their disclosure extents are measured from 2014 to 2016. Then, we excluded those discontinued, incomplete samples. Lastly, 452 sampled companies are selected.

According to the measurement standard conducted by Toyo Keizai, the CSR performance consists of human resources, environment, and corporate governance, each of which occupies 100 points, so the total is 300 points. On the other hand, Bloomberg score is based on the extent of a company's Environmental, Social, and Governance (ESG) disclosure from company-sourced filings such as Corporate Social Responsibility Reports, Annual Reports, DEF 14A, 10-K, Corporate Governance Reports, and any public disclosures on company websites. The score ranges from 0.1 for companies that disclose a minimum amount of ESG data to 100 for those that disclose every data point collected by Bloomberg.

4. Results

4.1 Descriptive statistics

Table 2 describes our samples of companies in terms of dependent, independent, and control variables from 2014 to 2016 with 452 firms, so there are 1356 samples in total. The dependent variables are ESG (disclosure score), the disclosure score conducted by the Bloomberg, and CSR (performance score), the evaluation of CSR engagement conducted by Toyo Keizai. In ESG part, the average is 32.909 points; the highest score is 61.980 (compared to the highest possible score of 100) and the lowest score is 0.826 (compared to the lowest possible score of 0). The mean of CSR points is 221.819, while the maximum and minimum is 294.100 (compared to the highest possible score of 300) and 118.800 (compared to the lowest possible score of 0) respectively.

Regarding independent variables, if we refer to the setting of CSR director, the full-time occupies 9%, the part-time has 79%, and the without one has 12% of the samples. The average number of board members is 10.040, and the maximum and minimum is 26 and 3 respectively. The mean for the ID (proportion of independent directors) is 0.205. In other words, more than 20% of the board is composed of independent directors. The mean profitability measured by ROE is 7.1%. In this data set,

67% of the firms belongs to manufacturing industry, while the other 33% belongs to non-manufacturing industry.

Table 3 presents the Pearson correlations matrix among the dependent, independent variables, and control variables. We can see that both FT and PT are positively correlated to dependent variables, ESG and CSR. If we look to control variables, only TQ is not significantly correlated to ESG while only ROE is not correlated to CSR.

4.2 Regression results

Tables 4 and 5 show results of the regression model in terms of disclosure score (*ESG*) and CSR performance (*CSR*), respectively. In Table 4, the entire adjusted R-squared is 0.312, and both full-time (FT) and part-time (PT) director appear significantly positive effect on disclosure score. However, if we turn to the result of individual year from 2014 to 2016, both full-time and part-time do not show significant result in 2016. The lack of significance for the other independent variables means that we cannot confirm a relationship between that control variable and disclosure score. The regression coefficients for the control variables ROE, SIZE, and IND are significant and have the expected signs.

In Table 5, the entire adjusted R-squared is 0.546, and both full-time and part-time has significant, positive relationship with CSR performance. The regression coefficients for the control variables ID, SIZE, and IND are significant and have the expected signs.

NB shows negative relation and the result is not significant, which is out of our expectation of positive relation. According to Said et al. (2009), the large board size may lead to increased communication and coordination problems, lessening the board control management, which may be one of the possible reasons. Thereby, although more board members are supposed to bring in more resources engaging in sustainability, the large board size may hinder the communication, preventing those resources from being brought into the organization.

Concerning ID, although ID shows positively significant result, supporting the previous studies that the independent directors can assist to ensure stakeholders' interests because they can calmly evaluate the ongoing strategy. However, in ESG's result, it is neither positive nor significant.

Furthermore, the ROE has marginally significant and negative relation with ESG, but has insignificant, positive relation with CSR, showing different result from previous studies. It reveals that when company has poor profitability, companies may tend to complete the disclosure in order to shift the focus, while the firm may not improve its CSR engagement even when it has great profitability and own much more resources. As a result, we suppose that shift of focus may be a better explanation.

In both models, the IND are positively related to both of the dependent variables, showing that the firms belonging to manufacturing sector are much more willing to engage in sustainability issues that firms in non-manufacturing sector because of the sensitive industry attribute.

5. Discussion and conclusion

This study examines if CSR director performs from two perspectives, legitimacy and reputation, from the viewpoint of resource dependence theory, using Japanese firm data. We extend the previous studies on the position of CSR director (Peters & Romi, 2012). From the results of regression model, both full-time and part-time positively affect the dependent variables of ESG and CSR, while full-time has much more influences than part-time. Therefore, the position of CSR director can really benefit the legitimacy and reputation. Connected to the SDGs, ensuring consumption and production patterns, if the business would like to lessen environmental and social impacts, setting a position of CSR director engages in those issues may be a good choice.

Regarding limitations, when we attempted to make the samples consistently in the same time series, we had no choice but gave up some incomplete or inconsistent samples. Therefore, it could be considered as a limitation because the samples may not be so comprehensive in Japanese market. In addition, endogeneity issue (the omitted variables that represents a firm's overall sustainability strategy) could potentially affect our regression results (Peters & Romi, 2012). As in the previous

researches, other control variables should be considered, such as audit committee, CEO duality, and ownership structure. We also acknowledge that our dependent variables suffer from limitations. Although those data are measured and retrieved from objective, credible third parties, the measurement result may be influenced by condition like bias or survey responder's misunderstanding (Peters & Romi, 2012). Because setting the position of CSR director in charge of CSR issues has become a trend, the future researches can focus on other markets or countries to see if CSR director positively influences the disclosure toward stakeholders or CSR engagement.

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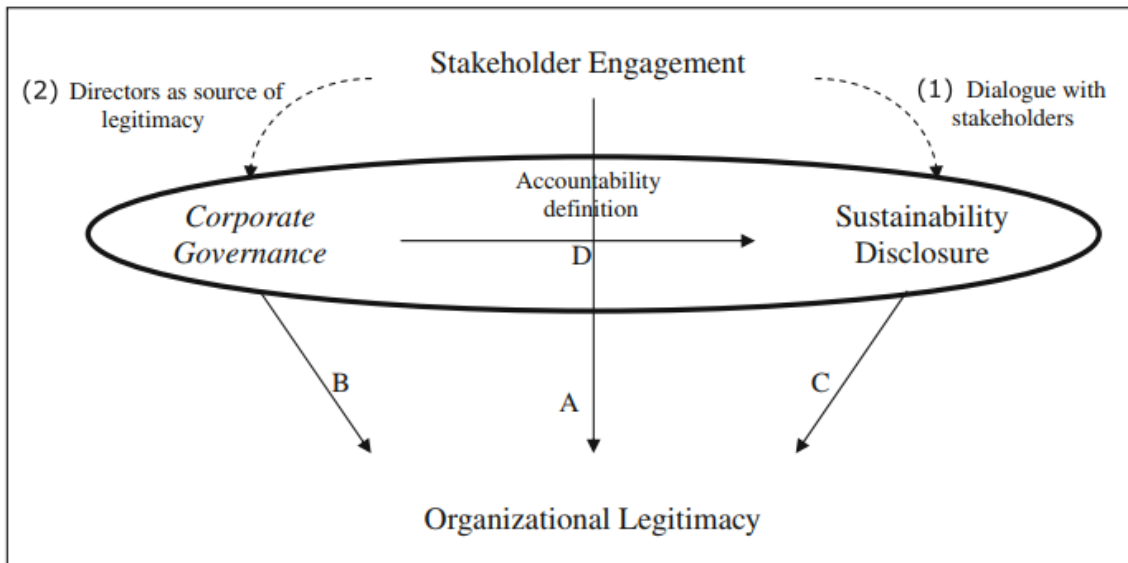
Figure 1: Michelon & Parbonetti (2012)'s framework
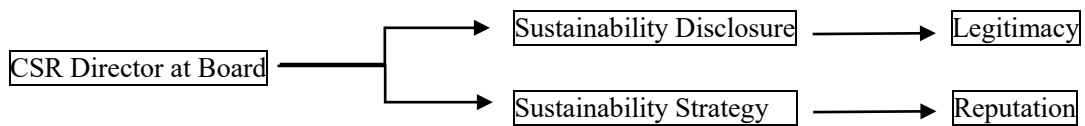
Figure 2: Revised Michelon & Parbonetti (2012)'s framework

Table 1. Constructs of the Independent and Control Variables

Explanatory variables	Measurement
Full-time (FT)	1 if the firm's CSR director is full-time, 0 otherwise
Part-time (PT)	1 if the firm's CSR director is part-time, 0 otherwise
Board of directors (NB)	Number of members
Independent directors (ID)	Proportion of independent directors
Profitability (ROE)	Return on equity
Leverage (LEV)	Total debt divided by shareholders' equity
Size (SIZE)	Natural logarithm of total assets
TobinsQ (TQ)	Growth measured as the market value of common equity plus book value of preferred stocks, book value of long term debt and current liabilities, divided by book value of total assets
Industry type (IND)	1 if the firm's industry type belongs to manufacturing style, 0 otherwise

Table 2. Descriptive statistics

Variable	Obs	Mean	S.D.	Min	Max
ESG (disclosure)	1356	32.909	11.879	0.826	61.980
CSR (performance)	1356	221.819	39.764	118.800	294.100
FT	1356	0.090	0.288	0.000	1.000
PT	1356	0.790	0.404	0.000	1.000
NB	1356	10.040	3.216	3.000	26.000
ID	1356	0.205	0.150	0.000	0.769
ROE	1356	0.071	0.104	-1.740	0.488
LEV	1356	1.562	1.576	0.006	20.589
SIZE	1356	5.542	0.648	3.961	7.617
TQ	1356	1.139	0.443	0.000	4.846
IND	1356	0.670	0.470	0.000	1.000

Table 3. Correlation Matrix

Variables	ESG	CSR	FT	PT	NB	ID	ROE	LEV	SIZE	TQ	IND
ESG	1										
CSR	0.579***	1									
FT	0.113***	0.206***	1								
PT	0.047**	0.097***	-0.625***	1							
NB	0.164***	0.214***	0.085***	0.017	1						
ID	0.068***	0.260***	0.046**	0.043*	-0.187***	1					
ROE	-0.064***	0.005	-0.097***	0.054**	-0.015	0.083***	1				
LEV	0.123***	0.190***	0.072***	0.014	0.130***	0.034	-0.150***	1			
SIZE	0.456***	0.680***	0.141***	0.103***	0.404***	0.198***	-0.002	0.326***	1		
TQ	0.028	0.112***	-0.009	0.011	-0.008	0.317***	0.236***	-0.084***	0.093***	1	
IND	0.303***	0.183***	-0.006	-0.014	-0.097***	0.010	-0.029	-0.130***	-0.034	0.010	1

Note ***, **, and * stand for statistically significant level at 1%, 5%, and 10%, respectively.

Table 4. Results of Regression Model (ESG Disclosure Score)

	(1)		(2)		(3)		(4)	
Dep. Variable	ESG		ESG		ESG		ESG	
Year	Entire		2016		2015		2014	
Constant	-19.500***	(2.464)	-13.647***	(4.420)	-25.452***	(3.861)	-23.884***	(3.748)
FT	3.577***	(1.240)	0.773	(2.335)	4.213**	(1.882)	4.238**	(1.811)
PT	1.853**	(0.878)	0.229	(1.642)	2.226*	(1.313)	2.960**	(1.305)
NB	-0.013	(0.096)	0.012	(0.185)	0.113	(0.146)	0.039	(0.139)
ID	-2.373	(2.010)	-4.392	(4.179)	2.081	(3.153)	4.254	(2.823)
ROE	-5.383**	(2.681)	-3.182	(4.397)	-13.239**	(5.891)	-6.800*	(3.995)
LEV	0.034	(0.184)	0.041	(0.399)	0.041	(0.285)	-0.073	(0.250)
SIZE	8.305***	(0.511)	6.367***	(0.920)	9.266***	(0.796)	9.124***	(0.785)
TQ	0.111	(0.657)	1.046	(0.949)	1.410	(1.188)	0.266	(1.229)
IND	8.051***	(0.577)	9.091***	(1.059)	7.676***	(0.878)	7.493***	(0.863)
Observations	1356		452		452		452	
R-squared	0.317		0.251		0.428		0.430	
Adj R-squared	0.312		0.236		0.416		0.418	

Notes ***, **, and * stand for statistically significant level at 1%, 5%, and 10%. Numbers are estimated coefficients. Numbers in parentheses are standard errors.

Table 5. Results of Regression Model (CSR Performance Score)

	(1)		(2)		(3)		(4)	
Dep. Variable	CSR		CSR		CSR		CSR	
Year	Entire		2016		2015		2014	
Constant	-23.213***	(6.702)	-20.676*	(11.376)	-20.773*	(11.905)	-24.825**	(12.040)
FT	30.872***	(3.372)	32.579***	(6.011)	29.976***	(5.804)	29.899***	(5.818)
PT	16.783***	(2.387)	19.431***	(4.228)	14.534***	(4.050)	16.575***	(4.192)
NB	-0.238	(0.261)	-0.413	(0.476)	-0.258	(0.450)	-0.070	(0.448)
ID	28.607***	(5.467)	19.079*	(10.758)	32.038***	(9.720)	35.080***	(9.070)
ROE	4.236	(7.291)	11.660	(11.319)	-13.530	(18.164)	2.596	(12.834)
LEV	-0.076	(0.501)	0.009	(1.026)	0.481	(0.878)	-0.346	(0.804)
SIZE	38.266***	(1.389)	37.623***	(2.367)	37.943***	(2.453)	39.235***	(2.521)
TQ	1.323	(1.787)	3.707	(2.442)	3.212	(3.664)	-5.486	(3.948)
IND	17.336***	(1.570)	15.554***	(2.726)	18.043***	(2.709)	18.226***	(2.772)
Observations	1356		452		452		452	
R-squared	0.549		0.546		0.557		0.551	
Adj R-squared	0.546		0.536		0.548		0.542	

Notes ***, **, and * stand for statistically significant level at 1%, 5%, and 10%. Numbers are estimated coefficients. Numbers in parentheses are standard errors.

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