

What determinants influence the adaptation of global normative pressure by Japanese firms ?

-The case of SDGs -

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Affiliation: Oki seminar, Faculty of Economics, the University of Tokyo

Name: Haruto Namiki, Rei Fujimoto, Rikuma Nitta, Seita Ojima, Suzuka Ioki

The representative: Rei Fujimoto



## **Abstract**

The purpose of this paper is to clarify the factors that generate individual differences in the response of firms to global normative pressures from the perspective of institutional theory. Existing studies have discussed institutional pressures limited to specific fields, but have not clarified global normative pressures. Therefore, this study considers SDGs as institutional pressures and hypotheses of the reaction factors to these SDGs from the perspective of internal factors related to board members and external factors related to the stakeholders surrounding the companies. We conducted survival analysis of the difference in the years when SDGs were first mentioned by each company as the individual difference in response. As a result, we found that as an internal factor, companies that have more female directors are likely to respond faster than the others, while replacement of the former CEO could slow down the response to adapting SDGs. In addition, as an external factor, it was suggested that companies that have many overseas subsidiaries in countries that are excellent at responding to SDGs may be quicker to respond, including implementation.

## **Keywords**

SDGs, institutional theory, normative pressure, survival analysis (7766 words)

## **Introduction**

Institutional theory has discussed the importance of firms' adaptation to institutions from the perspective that organizations are influenced by social values. By adapting to institutions, companies can gain legitimacy, which is defined as "a social judgment of acceptance, appropriateness, and desirability" (Zimmerman and Zeitz, 2002, p.414) . Since legitimacy serves as the basis for the acquisition and mobilization of other critical resources (Baik and Park, 2019), it has been thought that firms that do not adapt to institutions and gain legitimacy cannot survive (e.g., Zimmerman and Zeitz, 2002).

Institutionalists (e.g., DiMaggio and Powell, 1983) have believed that organizations can gain legitimacy by isomorphism into a legitimate organizational structure. However, organizations in the real world do not act passively and uniformly in the same institutional environment; in some cases, they are willing to work against legitimacy. As a result, explanations for the mechanisms that generate individual differences in response to the same institutional pressures have been discussed as one of the main issues in this field (Greenwood et al. ,2008; Scott, 2014). Empirical research has been conducted on the differences between companies that have been able to adapt to institutional pressures such as TQM (Westphal et al. ,1997; Zbaracki, 1998), ISO 9000 (Albuquerque, P., Bronnenberg and Corbett, 2007), and global human resource systems

(Bjorkman, Fey and Park, 2007; Quintanilla, Susaeta and Sanchez-Mangas, 2008).

Existing studies have often dealt with mimetic and normative pressures among the three types of pressures: coercive, mimetic and normative (DiMaggio and Powell 1983). This is because, compared to coercive pressure, where the practical disadvantages are clear if not followed, both types of pressure are more likely to produce individual differences in responses to adaptation to pressure.

However, there is one limitation of existing research. This is that the institutional pressures that existing studies have dealt with have not necessarily been global institutional pressures. In recent years, with the development of globalization, companies have had to adapt to global normative pressures, not only in their own countries. In particular, environmental and human rights issues are global concerns that are subject to global normative pressures to be followed on a global-wide basis (Tsalis, 2020). These normative pressures are difficult for companies to adapt to in some cases because the institutions are issued in a context that does not necessarily match the situation in their own country. However, due to global normative pressures, if they do not adapt, they may lose legitimacy at the global level. Therefore, the ability to adapt to global normative pressures is of greater concern. However, the institutional pressures that existing studies have dealt with so far are often best practices in specific fields, and

cannot be described as global normative pressures. In order to extend the line of existing research based on the actual phenomenon of "global normative pressure," this study focuses on imitative or normative pressures applied simultaneously on a global scale, and analyzes the differences between companies that were able to adapt to them early and those that were not. Specifically, taking the SDGs adopted by the United Nations in September 2015 as global normative pressure, we will clarify the difference between companies that were quick to mention the SDGs and those that were not, based on survival analysis of 88 Japanese companies.

The contribution of this study is twofold. First, it is an academic contribution to institutional theory. It provides a new perspective to the debate on the mechanism of individual differences in response to institutional pressures by clarifying the differences in response to global normative pressures that have arisen in recent years. Second, it makes a practical contribution to firms responding to global normative pressures.

This article is structured as follows. In the next section, we review previous research and organize the theoretical positioning of the problematic interest of this paper, and then formulate a hypothesis from an institutional perspective. In the methodology we clarify the sample of dependent variables, independent variables, adjustment variables, and control variables, as well as the operationalization method. We then

present the empirical results, show the theoretical and practical implications and limitations, and suggest directions for future research.

## **Theoretical Background**

Research based on institutional theory has focused on the behavior of firms in responding to institutional pressures and gaining legitimacy (DiMaggio and Powell, 1983; Scott, 1991). The phenomenon of homogenization, in which different organizations take different approaches to accepting a particular institution, is called isomorphism (DiMaggio and Powell, 1983). According to DiMaggio and Powell (1983), the pressures that cause the homogenization process are categorized into three: 1. Coercive pressure, which is the pressure caused by policies and legal systems 2. Mimetic pressure, which spreads because other organizations are adopting it 3. Normative pressure, which makes individuals feel, think, and act in ways that are consistent with social norms, standards, and conventions even though there is no regulation and the rationale is not clear. As a result of these pressures, companies have been shown to adapt to the same institutions in the same way (DiMaggio and Powell, 1983).

However, organizations do not behave passively and uniformly in the same institutional environment in real life. More specifically, there are two types of process of adapting. One is to adapt quickly in the same institutional environment and the other is those that adapt in response to mimetic pressures. Therefore, one of the main issues discussed in institutional theory has been the explanation of the mechanism of individual differences in response to the same institutional pressure (Greenwood et al., 2008; Scott, 2014). Table 1 summarizes some examples of institutional pressures, which have been treated as the main institutions in existing studies. In existing studies, quality management systems such as TQM (Kennedy and Fiss, 2009; Westphal et al., 1997; Zbaracki, 1998), ISO 9000 (Albuquerque, P., Bronnenberg and Corbett, 2007), and global human resource systems (Bjorkman, Fey and Park, 2007; Quintanilla, Susaeta and Sanchez -Mangas, 2008) were the examples which were examined. These studies found the differences between firms that were able to adapt to institutional pressures quickly and those that were not.

However, there is one limitation of these existing studies. Institutional pressures which were dealt in these studies, whether coercive, mimetic, or normative, have all been region-specific or limited to specific fields. For example, the adoption of divisional organization in the U.S. by Fligstein (1985) and diffusion of human resource practices

by Tolbert & Zucker (1983) are only considering institutional pressures on companies within a specific region. In addition, TQM mentioned by Kennedy and Fiss (2009) was also a pressure limited to a specific industry, hospitals. In other words, all of these studies have dealt with cases in which institutional pressures were generated from a field that was geographically or industry-wise close to the company in question, and the company responded to these pressures.

In recent years, however, companies have had to deal with institutional pressures not only from fields close to their own, but also from seemingly unrelated fields. A major cause of this is the advance of globalization. As globalization progresses, companies need to respond to institutional pressures not only in their own countries but also globally. In particular, environmental and human rights issues are global concerns that are subject to normative pressures across the globe (Montiel et al, 2021). As a result, there is a need to revise and rethink previous strategies, especially in multinational companies (Buckley, Doh, and Benischke, 2017). There are increasing normative pressures to respond, even if this is not directly a problem in their own country or industry. In some cases, these global normative pressures can be difficult for companies to respond to because the problems can arise from places that are not necessarily related to their own field. But because of global normative pressures, the disadvantages of losing

legitimacy by not adopting can also be significant. For example, when Fast Retailing co., ltd., one of Japan's leading apparel companies, was asked to explain its factory in China's Xinjiang Uyghur Autonomous Region, where human rights issues such as forced labor have been attracting attention, it declined to say so, citing political issues. However, this avoidance of explanation led to criticism from international human rights groups, and the import of products of the U.S. was suspended. From this case, we found that what was initially thought to be a social issue had a negative impact on the company's image(CNN, 2021). However, as mentioned above, the institutional pressures that existing studies have dealt with so far have not been what can be called global normative pressures. Therefore, there is room for a new discussion on the difference between companies that can quickly adapt to the "global normative pressure" and those that cannot, from the perspective of "global" normative pressure. Therefore, based on the discussion of existing research, this study develops hypotheses on the factors that speed up adaptation to global normative pressures from two perspectives: internal factors centered on board members and external factors related to the stakeholders of the companies.

(Table 1: Research cases of former studies)

	Researcher	Research case
Coercive Pressure	Tolbert & Zucker, 1983	The Diffusion of Civil Service Reform in the United States
Mimetic Pressure	Zbaracki, 1998	Introduction of TQM of 5 organizations in the U.S.
	Sherer & Lee, 2002	Diffusion of human resource practices in American law firms
Normative Pressure	Westphal et al., 1997	Introduction of TQM in American hospitals
	Fligstein, 1985	Adoption of divisional organization in the U.S.
	Kennedy and Fiss, 2009	Introduction of TQM in American hospitals

## **Hypotheses**

Previous research clarified that the factors that contribute to differences in responses to institutional pressures are internal factors; mainly board members who make corporate decisions (Byun and Kim, 2017; Schilke, 2018), and external factors related to the stakeholders who support the company (Zhan and Greve, 2018; Zeng, Xu, Yin, and Tam, 2012). In this study, we follow these studies and focus on board members and CEO change (internal factors) and the composition of shareholders and the status of overseas expansion (external factors) as those that may make a difference in adapting to global normative pressures. CEOs and shareholders are factors that have been the focus of attention in many studies when looking at adaptation to institutional pressures (Byun and Kim, 2017; Schilke, 2018; Zhan and Greve, 2018; Zeng, Xu, Yin, and Tam, 2012). On the other hand, as for overseas expansion, the reason is that it deals with global normative pressures, and the higher the degree of internationalization of a firm, the more likely it is to come into contact with stakeholders who exert such pressures.

### **Board members factors**

Upper echelon theory considers that the decisions of management affect the behavior of firms, and the relationship between board members and managerial behavior has been

studied (Finkelstein and Hambrick, 1990). In fact, existing studies on institutional pressures have also discussed board members (Byun and Kim, 2017). Therefore, this study will also focus on the board members.

When global normative pressures are taken into account, the first thing that attracts attention is the ratio of foreign directors. The higher the ratio of foreign directors, the more knowledge that is different from that of the home country the board members will have (Masulis, Wang, and Xie, 2012). In order to detect normative pressures that may arise outside the home country and to make decisions quickly on whether to adapt to them, it would be desirable to have a large number of foreign directors. Therefore, we have set the following hypothesis.

H1: Companies with a higher percentage of foreign directors are more likely to adapt to global normative pressures.

In addition, this study finds that from the viewpoint of board members, the percentage of female directors is also a factor that speeds up the adaptation to global normative pressures. According to Hofstede (1991), male-dominated societies tend to emphasize monetary performance and competition, while female-dominated societies

tend to value the environment and cooperation. Many of the global normative pressures that have emerged in recent years are not about short-term competition or monetary achievement, but about what should be taken into account across the globe. Consequently, it is likely that companies with more female directors are likely to be able to react more quickly to these normative pressures. Therefore, we have set the following hypothesis.

H2: Companies with a higher percentage of female directors are more likely to adapt to global normative pressures.

In the next part of this study, we believe that CEO change is a factor that speeds up the adaptation to global normative pressures. Generally speaking, the longer a CEO's tenure, the less likely he or she likes to change (Musteen, Barker III, and Baeten, 2006). Therefore, new CEOs may be more flexible to normative pressures. Schilke (2018) also found that organizations that are more integrated are slower to adapt to institutional pressures. This is because strong internal cohesion can lead to rigidity within the organization. Therefore, if the CEO retreats before global normative

pressures are introduced, he or she may be able to adapt more flexibly to new initiatives. Therefore, we have set the following hypothesis.

H3: Firms that replace their CEOs before global normative pressures become explicit are more likely to adapt to global normative pressures.

### **Stakeholder factors**

This study will not only focus on management factors, but also on external stakeholder factors. The first stakeholder is foreign shareholders. Shareholders are an important factor that influences whether a company adapts to institutional pressures (Zhan and Greve, 2018; Zeng, Xu, Yin, and Tam, 2012). In the case of global normative pressures, foreign shareholders are more likely than domestic ones to recognize the importance of such pressures and to put pressure on firms to comply with them. Therefore, we have set the following hypothesis.

H4: Firms with a higher percentage of foreign shareholders are more likely to global normative pressures.

Stakeholders other than shareholders may include customers, suppliers, and employees. When a company expands its business overseas and its stakeholders become internationalized, the company has to adapt to the systems of each country (Zimmerman and Zeitz, 2002). Therefore, the more a company has a large number of foreign subsidiaries, the more it will be in a situation where its stakeholders are located in a large number of countries, and the more it will have to deal with global normative pressures. In addition to pressures, companies may also be able to learn from global stakeholders by expanding business overseas. Companies can learn about the situation in other countries by expanding abroad (Doz, Santos and Williamson, 2001). Therefore, if they have a large number of overseas subsidiaries, they may be able to learn about the realities of global normative pressures and how to adapt to them. Therefore, we have set the following hypothesis.

H5: Companies with a larger number of foreign subsidiaries are more likely to adapt to global normative pressures.

Furthermore, not only the number of foreign subsidiaries, but also the quality of the local environment may be important. In other words, if a country is such that it



## **Methodology**

In testing the hypotheses raised in the previous section, this study takes the SDGs as an example of global normative pressures: the SDGs, enacted in September 2015, were established based on the input of many people, including governments, the private sector, civil society organizations, and intellectual institutions (Montiel et al., 2021). As goals for almost every country in the world until 2030, the SDGs are positioned as the most important frame of the global development agenda (Kolk, Kourula, and Pisani, 2017; Sachs, 2014). In addition, SDGs emphasize the importance of corporate efforts to achieve the SDGs (J.A. Zanten and Tulder, 2018). However, since there are no regulations on how to respond to the SDGs, and the goals require cooperation from the government and the private sector, it is up to individuals and organizations to decide whether or not to follow them. For these reasons, we considered the SDGs to be an appropriate example of global normative pressure. In this study, we test our hypothesis on global normative pressure by examining the differences in the speed of acceptance of the SDGs by Japanese companies.

## **Data**

In this study, we analyzed companies in four industries in Japan: food industry, electrical equipment industry, chemical industry, and automobile industry. We chose Japanese companies because, unlike some western countries where adherence to the SDGs is clearly defined as a legal requirement (i.e., coercive pressure), in Japan there is no legal requirement as of 2021, and we can consider it as a normative pressure.

There are three reasons why this study chose the above four industries. First, there are many companies that have already expanded overseas, and these industries are appropriate for the hypothesis of this study. In addition, Japanese companies in these industries occupy a high position in Japanese industry and can be treated as representative cases of Japanese companies. Furthermore, because they are representative cases, they are industries that are relatively subject to strong normative pressures toward the SDGs and are considered to be a desirable group of companies for clarifying differences among companies. Specifically, we picked 25 companies in each industry from the top market capitalization rankings published in the Nihon Keizai Shimbun. In the end, 88 companies (23 in the food industry, 23 in the chemical industry, 22 in the electric equipment industry, and 20 in the automobile industry) for which we were able to collect all the necessary data for analysis were selected for analysis.

In the study by Ferran, Enrique, Marc and Eva (2021), the commitment to the SDGs among large Spanish companies was analyzed by the content of integrated reports as an indicator to measure commitment to the SDGs. The integrated report is a message from the company to investors and may be used as a proxy variable for the company's efforts. In addition, since it is objective data, arbitrariness can be eliminated in the analysis (Regar and Pfarre, 2007). For these reasons, we used the integrated report as an indicator to measure the organization's attitude toward the SDGs.

In addition, the independent and control variables based on headquarters data were collected from the securities reports that contain official information of the companies. In addition, data on the overseas subsidiaries of these 88 companies was obtained from the Toyo Keizai Kaigai Shinshutsu Kigyo Soran, which compiles information on overseas subsidiaries established by Japanese companies around the world. For each country's SDG score, we used data as of 2015 from the Sustainable Development Report, published annually by the United Nations.

### **Analysis model**

This study uses survival analysis to identify the factors that influence the time it takes for companies to mention the SDGs in their integrated reports. In order to consider the issue of reverse causality in the analysis, the independent variables and control

variables were fixed at the time of 2015, when the SDGs were adopted. In addition, samples that did not mention the SDGs in the integrated report at the time of observation were treated as censored data. The relationships among these variables were analyzed using the Cox-hazard model. The specific variables are as follows.

### **Dependent variable**

The dependent variable in this study is the period (number of months) in which the company in question started working on the SDGs from September 2015, when the SDGs were enacted. As an objective indicator of when the company started working on the SDGs, this study prepared two variables for the start of working on the SDGs. The first is *Word Reference*, which is the date when the word "SDGs" first appeared in various reports. The second is *Materiality*, which sets the start date of initiatives as the timing when materiality, items to be addressed among the 17 SDGs goals, is set in various reports. Compared to the first initiative, the second initiative is more action-oriented in that it specifically examines the contribution that the company's business can make to the SDGs and reports on the results.

Based on this definition, we measured the probability that a company would start working on the SDGs by determining when the company started working on the SDGs. For companies that had not yet mentioned the SDGs even in October 2021, the time of

the final confirmation, we entered data up to that month of confirmation and treated it as censored data.

### **Independent variables**

The independent variables in this study can be divided into two major categories based on the hypothesis: the first is the variables related to the management within the company. The first is a variable that relates specifically to management within the company, specifically *Foreign director*, *Female director*, and *CEO change*. *Foreign director* is calculated as the number of foreign directors/total number of directors. *Female directors* were calculated by dividing the number of female directors by the total number of directors. For *CEO change*, we checked whether or not the representative was changed between fiscal 2014 and 2015, just before the adoption of the SDGs.

The second variable category is the influence from stakeholders that affect the company. Specifically, the second variable category includes *Foreign shareholders*, *Overseas sub*, and . *Foreign shareholders* is calculated by dividing the number of shares held by foreign corporations by the total number of shares outstanding. For *Overseas subsidiaries*, we selected the number of overseas subsidiaries of each parent company from Toyo Keizai's Comprehensive Directory of Companies with Overseas

Operations (2016 edition by company). Countries with more advanced SDG initiatives than Japan were defined as those with a higher SDG score than Japan for each country in the "Sustainable Development Report" published by the United Nations, and the number of overseas subsidiaries included in those countries was counted. All of these variables are base data at the time the SDGs were launched and are for fiscal 2015.

### **Control variables**

We controlled for other factors related to the size and financial status of the company that could affect its acceptance of the SDGs. In this study, we used *Sales*, *Age* (years of operation), *ROE*, and *R&D int* (R&D expenditure/sales) as control variables. Of these, logarithmic processing was used for the large values of *sales*. In addition, industry dummies were created in order to control for variations among the four industries collected as data. These control variables, as well as the independent variables, all use base data from 2015, the year the SDGs were adopted by the United Nations.

### **Model specification**

We conducted a Cox proportional hazards regression analysis with the logarithm of the hazard rate as the dependent variable, where the hazard rate of SDG acceptance is the probability that a company will adopt the SDGs at a specific time. The proportional hazards model is a semiparametric model that quantifies the impact of variables on

corporate acceptance of the SDGs. In other words, it is suitable for this research in that it can correctly regress companies that have not started working on the SDGs even as of October 2021, the last observation. In general, it can be expressed as follows

$$\log h(t|x) = \log h_0(t) + \beta x$$

where  $h_0(t)$  is the baseline hazard function,  $\beta$  is the unknown regression coefficient, and  $x$  is the independent and control variables, which are time independent variables based on the 2015 base data. The reason why we do not use time covariant variables here and incorporate only the base data for 2015 in the model is to take full advantage of the fact that, unlike other institutional pressures, the SDGs have a definite start date of September 2015.

For the estimation, we used R, which provides Survival, a package on survival analysis. The two dependent variables in this study are, as mentioned earlier, the number of months until the first mention of the word "SDGs" in various reports and the enactment of the materiality of the SDGs. The proportional hazards model requires proportional hazards property, i.e., the hazard ratio between two groups should always be constant, not limited to time. To verify this, we used `cox.zph`, a function for analyzing proportionality provided in the R package. As a result, the hypothesis was

not significantly rejected regardless of which dependent variable was used, thus rejecting the possibility that the assumption of proportional hazards was not met. In addition, hazard models may be affected by collinearity (Van den Poel and Larivie ' re, 2004). Therefore, variables were added sequentially to evaluate the stability of the parameters, as suggested by Van den Poel and Larivie ' re (2004) and Miller et al. (2008). By doing this. We confirmed that covariation did not affect the results. Three tests, likelihood ratio test, Wald test, and score test, were also conducted to verify the performance of each model.

## **Results**

First, the definition of variables are shown in Table2, and descriptive statistics of the main variables are shown in Table 3. In addition, the correlation table for each variable is shown in Table 4.

Table 5 shows the two models used to test the hypotheses of this study. In the case of both models, the models were below the significance level for all likelihood, Wald, and score tests ( $p \leq 0.01$ ). In addition, the VIF is below 5 in all analyzed models,

and there is no problem of multicollinearity (Hair, Anderson, Tatham, and Black, 1998).

In model 1, dependent variable is SDG acceptance as the start of references to the word "SDGs" in various reports. From here, H2 is supported and H3 is refuted, while the other hypotheses were rejected. From here, the results show that the higher the ratio of female directors, the more acceptance of the SDGs takes place, and conversely, the change in CEO hinders the acceptance of the SDGs.

In model 2, dependent variable is the acceptance of the SDGs as the start of the establishment of SDG materiality in various reports. Here, H5 and H6 were supported, and the other hypotheses were rejected. Among the independent variables based on the hypotheses, a larger number of overseas subsidiaries, especially a larger number of overseas subsidiaries in higher SDGs point countries than Japan, had a significantly positive effect on SDG acceptance.

In addition, considering the control variables, R&D intensity had a significant positive effect in Model 1, and sales had a significant effect in both Model 1 and 2. It is possible that it is easier to detect and respond to normative pressures in companies with large scale and high technology orientation because they have abundant resources. In addition, in both Model 1 and Model 2, it is clear that the food industry is

faster than other industries. This may be due to the fact that many of the SDGs are related to the food industry, and also because the industry places importance on its reputation among consumers.

Table 2. Definition of Variables

Variable	Definition	Source
1 Word Rate	period from SDGs were enacted to first referring the word "SDGs" (number of month)	annual report/sustainability report
2 Matcharity	period from SDGs were enacted to first setting SDGs matcharity(number of month)	annual report/sustainability report
3 Sales	Sales(log)	securities report
4 Age	Years of operation	securities report
5 ROE	ROE	securities report
6 R&DInt	R&D intensity	securities report
7 Food	Food industry(dummy)	N hon Ke zai Sh nbun
8 Electronic	Electronic equipment industry(dummy)	N hon Ke zai Sh nbun
9 Chemistry	Chemistry industry(dummy)	N hon Ke zai Sh nbun
10 Foreign director	Foreign nationals ratio on board	securities report
11 Female director	Female ratio on board	securities report
12 CEO change	CEO change(dummy)	securities report
13 Foreign shareholders	Foreign shareholders ratio	securities report
14 Overseas sub	The number of overseas subsidiaries	Kaigai K igyou Souran
15 Higher SDGs sub	The number of overseas subsidiaries in higher SDGs point country than Japan	Kaigai K igyou Souran/Sustainable Development Report

Table 3. Descriptive statistics

	<b>Variable</b>	<b>Mean</b>	<b>Std.Dev.</b>	<b>Min.</b>	<b>Max.</b>
1	Word Refe	25.386	15.235	0	69
2	Mateliarity	37.898	15.83	1	72
3	Sales	5.948	0.547	4.89	7.435
4	Age	84.488	25.491	16	145
5	ROE	10.017	7.237	-5.5	53.82
6	R&Dint	0.332	0.03	0.002	0.183
7	Food(dummy)	0.261	0.442	0	1
8	Electronic(dummy)	0.25	0.435	0	1
9	Chemistry(dummy)	0.261	0.442	0	1
10	Foreign directer	0.02	0.061	0	0.4
11	Female directer	0.047	0.061	0	0.375
12	CEO change(dummy)	0.125	0.333	0	1
13	Foreign shareholders	0.311	0.134	0.043	0.742
14	Overseas sub	35.875	34.144	2	251
15	Higher SDGs sub	5.841	6.728	0	37

Table 4. Correlation index (Notes: \*\*p~0.01, \*p~0.05

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Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Word Ratio	1														
2 Matcharity	0.615 **	1													
3 Sales	-0.352 **	-0.17	1												
4 Age	-0.118	-0.14	0.25 *	1											
5 ROE	0.120	0.06	-0.09	0.141	1										
6 R&DInt	-0.205	-0.02	0.14	-0.156	-0.017	1									
7 Food	-0.200	-0.31 **	-0.18	0.105	-0.219 *	0.44 **	1								
8 Electronic	-0.098	-0.07	0.16	-0.190	0.023	-0.563 **	-0.343 **	1							
9 Chemistry	0.109	0.09	-0.15	0.031	0.081	-0.1	-0.354 **	-0.343 **	1						
10 Foreign director	-0.162	-0.07	0.410 **	-0.040	0.077	0.041	-0.074	0.027	-0.087	1					
11 Female director	-0.265 *	-0.11	0.08	0.267 *	-0.080	-0.22 *	0.244 *	-0.152	0.054	-0.147	1				
12 CEO change	0.081	0.04	0.23	0.031	-0.051	0.265 **	-0.147	-0.060	-0.147	-0.062	-0.032	1			
13 Foreign shareholders	-0.153	0.06	0.32	-0.093	0.256 *	0.363 **	-0.376 **	0.389 **	-0.077	0.307 **	0.064	-0.001	1		
14 Overseas sub	-0.141	-0.05	0.54	0.063	-0.006	0.318 **	-0.33 **	0.290 **	-0.065	0.233 *	-0.056	0.167	0.314 **	1	
15 Higher SDCs sub	-0.177	-0.14	0.420	0.060	0.080	0.323 **	-0.322 **	0.363 **	-0.059	0.159	-0.11	0.009	0.351 **	0.830 **	1

Table 5. Result (Notes: \*\*\*p~0.001, \*\*p~0.01, \*p~0.05)

	Model 1 Independent variable: Word Reference			Model 2 Independent variable: Word Reference			Model 3 Independent variable: Materiality			Model 4 Independent variable: Materiality		
	$\beta$	Std.Err	<i>p</i>	$\beta$	Std.Err	<i>p</i>	$\beta$	Std.Err	<i>p</i>	$\beta$	Std.Err	<i>p</i>
<b>Control Variables</b>												
Sales	0.742	0.233	0.001 **	0.911	0.325	0.005 **	0.664	0.231	0.004 **	0.709	0.314	0.024 *
Age	0.006	0.006	0.255	0.004	0.006	0.463	0.005	0.280	0.006	0.006	0.006	0.252
ROE	0.003	0.017	0.852	-0.002	0.019	0.928	0.014	0.017	0.423	0.007	0.019	0.706
R&D int	14.750	5.242	0.005 **	24.14	6.286	0.0001 ****	5.226	5.305	0.325	5.634	5.497	0.305
Food	1.225	0.327	0.001 **	1.284	0.416	0.002 **	1.292	0.384	0.0007 ****	1.447	0.434	0.0009 ****
Electronic	0.086	0.348	0.805	-0.386	0.378	0.307	0.563	0.36	0.119	0.425	0.402	0.291
Chemistry	0.493	0.325	0.13	0.299	0.339	0.377	0.453	0.334	0.175	0.58	0.364	0.111
<b>Independent Variables</b>												
Foreign director				1.256	2.3	0.585				1.063	2.051	0.604
Female director				4.551	2.001	0.023 *				-1.441	2.367	0.543
CEOchange				-0.002	0.415	0.027 *				0.263	0.423	0.534
Foreign Shareholders				1.342	1.154	0.245				-0.253	1.19	0.832
Overseas sub				-0.007	0.006	0.27				-0.015	0.007	0.035 *
Higher SDGs sub				0.034	0.032	0.293				0.096	0.035	0.006 **
<b>Likelihood ratio test</b>												
Wald test		0.0004****			0.00005****			0.003**		0.006**		0.006**
Score test		0.001****			0.0003****			0.008**		0.01**		0.01**
		0.0008****			0.00008****			0.005**		0.007**		0.007**

## Discussion

From the results of the analysis, this study revealed the factors that facilitate adaptation to global normative pressures. First, it was found that there were differences in the adaptation to global normative pressures depending on managerial factors. The study revealed that the more female directors a company has, the faster it tends to respond to

global normative pressures. This may be a result of the addition of women who excel in environmental considerations and are more sensitive to global normative pressures such as the SDGs.

On the other hand, some results of the analysis contradict the hypothesis. First, there were no significant results for foreign directors in any of the models. There are several possible reasons for this. First, there is a possibility that the status of foreign directors is not necessarily high in Japanese companies. Japanese companies have always been Japanese dominated, and the number of foreign directors has only increased in recent years (Yoshihara, 2008). Therefore, there is a possibility that there are few foreign directors who have a significant influence on decision-making. In addition, this study did not control for the nationality of foreign directors. Considering global normative pressures, it is possible that the presence of foreign directors of more diverse nationalities would have been important. However, at least for Japanese firms, this study suggests that simply increasing the number of foreign directors does not promote adaptation to normative pressures.

On the other hand, the results of the CEO change were the opposite of the hypothesis. In other words, replacement of the previous CEO does not necessarily lead to adaptation to normative pressure. There are two possible reasons for this. First, immediately after

a change in management, people may be more focused on the internal organization and less on the outside. In addition, Japanese companies have a strong seniority system (Pudelko, 2006), and many of them have routine CEO succession, and it is said that strategic change is difficult to occur in routine CEO succession (Nakauchi and Wiersema, 2015), and new CEOs may not be able to tackle new challenges . This study suggests that Japanese firms may not be able to cope with global normative pressures if it has been a short time since the CEO change.

As for external stakeholders, the study revealed that companies that have subsidiaries in countries where the SDGs as an institution are more developed tend to incorporate the SDGs into their specific strategies. On the other hand, management factors did not make a significant difference in the incorporation of the SDGs into strategy, although they did influence the mention of the SDGs. What can be concluded from this is that companies that have contact with external stakeholders, even those directly related to their business, need to show concrete efforts to respond to global normative pressures. In particular, the fact that the greater the number of subsidiaries adapting to normative systems, rather than just the number of foreign subsidiaries, the greater the adaptation to normative pressures, suggests that contact with stakeholders in these countries is necessary to create pressure to reduce normative pressures to the

implementation stage, or to learn how to do so. It suggests that this is necessary. In fact, in countries such as Europe where the SDGs points are highly evaluated, Directive 2014/95/EU has set minimum requirements for corporate disclosure of non-financial information and other guidelines are being developed. As an external stakeholder, however, it is important to note that the more information a company can share with its Japanese headquarters, the better.

However, as an external stakeholder, the ratio of overseas shareholders did not make a significant difference. This result can be interpreted from two perspectives. One is the possibility that Japanese companies do not attach importance to shareholder pressure. In fact, a recent study has shown that Japanese companies do not necessarily act only on shareholder pressure, but also on balance with other stakeholder groups (Endo, 2020). Another possibility is that foreign shareholders themselves do not necessarily feel the need to respond to normative pressures: global norms such as the SDGs may not have been seen as beneficial to shareholders in the short term, and may not necessarily have increased normative pressures. Another possible reason for the lack of results could be that the nationality of the shareholders was not controlled. This study suggests that the influence of shareholders in Japanese companies' responses to global normative pressures may not necessarily be strong.

## Conclusion

This paper examines the factors that create individual differences between companies that adapt to global normative pressures and those that do not, by dividing them into internal factors centered on board members and external factors related to the stakeholders of the company by examining the data on Japanese companies' efforts toward the SDGs.

As a result, this paper reveals that the more female ratio on board the companies as an internal factor, it is likely that the faster the response regarding global normative pressures is. On the other hand, replacement of the previous CEO may slow down the response to global normative pressures. Furthermore, as an external factor, the results suggest that firms with a large number of overseas subsidiaries in countries that are better able to respond to SDGs may be able to respond faster to the normative pressures, including adding materiality. It was suggested that the presence of a management team that is sensitive to normative pressures, the presence of a CEO with some tenure, and the creation of relationships with stakeholders in countries that excel in normative institutions may speed up the response to global normative pressures.

The scholarly contribution of this study is its reference to globally applicable normative institutions, a topic rarely addressed in institutional theory. This study analyzes the mechanisms by which individual differences in isomorphism arise from overarching factors other than practical interests in the context of the SDGs. By adding the context of "global normative pressures," the academic contribution of this study is to advance research on the factors that generate individual differences between firms that adapt to institutional pressures and those that do not.

The study is also rich in practical implications. In general, the decision on whether to adapt to institutional pressures that are not directly linked to profits is uncertain for companies. In particular, normative pressures that are not legally binding are left to each company to decide. In such a situation where companies are required to make decisions in the midst of high levels of uncertainty, it is of great value that this study has shown that the participation of board members that are sensitive to normative pressures within companies, specifically women, is important in responding to global normative pressures. If sensitivity to external factors is increased, it suggests that companies may be able to respond quickly to gain legitimacy even in situations of high uncertainty regarding normative pressure, such as in recent years.

However, there are a number of challenges to this research. The SDGs are currently the most representative global normative pressure, but it remains to be seen whether it can be applied to new normative pressures that will emerge in the future. Next, this study only deals with a specific industry of Japanese companies. In the future, it will be necessary to expand the data and examine its generality by extending the discussion to other industries and even to non-Japanese firms. Third, the lack of results for foreign directors and foreign shareholders may be due to the fact that we did not control for their nationality. In the future, it will be necessary to pay attention to these nationalities in the analysis. Fourth, this study analyzed the adoption of SDGs from annual reports. While the analysis of annual reports can be based on certain criteria, it is not able to distinguish differences in the qualitative aspect of how specifically companies are responding to institutional pressures. Some companies appear to have adopted them but only formally (Meyer and Rowan, 1977), while others only mention them but do not seriously implement them (Ansari, Fiss, and Zajac, 2010). Therefore, future research is needed that combines data other than annual reports to examine differences in the quality of responses to the system. Finally, because the analysis in this study was conducted with the independent variables fixed to the initial situation, it was not able to take into account the impact of subsequent

events. Such an analysis can clarify the impact of the situation at the time when normative pressure occurred, but it cannot look at the impact of subsequent corporate management. Therefore, in the future, it will be necessary to introduce time-covariant variables into the independent and control variables to make it possible to observe changes over time. Such an analysis will also enable us to distinguish between the "diffusion" stage and the "implementation" stage of institutional pressure. This is also an issue for the future.

In spite of the above issues, we have interpreted the recent phenomenon of responding to global normative pressures from the perspective of institutional theory and clarified the factors that influence differences in corporate behavior.

These discoveries have made a significant contribution both academically and practically. In the future, this research will provide an important theoretical and empirical foundation for future studies to clarify corporate behavior in response to the phenomenon of global normative pressure.

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## Appendix

company	RICOH Japan
name	Ms. Yasuko Ota (Corporate Communication Division)
date	24/6/2021, 21:00-22:00 (online)

