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ORIGINAL PAPER

Does the economic motivation of firms to address the United Nations' Sustainable Development Goals (SDGs) promote the SDGs or merely SDG-washing? Critical empirical evidence from Japan and Vietnam

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Abstract
The United Nations' Sustainable Development Goals (SDGs) call on all firms to apply their creativity and innovation to solving sustainable development challenges. There is then an argument that firms should address the SDGs by applying the creating shared value (CSV) framework. However, we cannot exclude the possibility that this is nothing more than "business as usual" implemented in the name of the SDGs, or so-called SDG-washing, thereby limiting firm contributions to the SDGs. Although the SDG Compass, the most referenced business guideline on SDGs, currently encourages firms to address the SDGs using their economic motivation, it is uncertain whether it provides the right direction for achieving them. The purpose of this study is to address whether the economic motivation of firms to achieve the SDGs is practically preferable in contrast to the ethical motivation. Using data on Japanese and Vietnamese firms, we empirically analyse whether the degree of a firm's proactiveness to address the SDGs depends on its economic and/or ethical motivations from a stakeholder management perspective. Our estimation results clarify that an ethical motivation continues to play a more significant role for firms in addressing the SDGs. Put differently, while CSV appears an attractive framework for firms to address the SDGs, its actual contribution remains partial and tentative, and it has thus been criticized for overemphasizing any economic motivation that potentially promotes SDG-washing. It is important to note that this could also ultimately decrease economic value by harming the firm's reputation.

Keywords Sustainable Development Goals (SDGs) · Creating shared value · Economic and ethical motivations · Sustainability management · SDG-washing

JEL Classification M14

Extended author information available on the last page of the article

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1 Introduction

In 2015, the United Nations adopted the 2030 Agenda for Sustainable Development with 17 Sustainable Development Goals (SDGs). This agenda provides a shared blueprint for peace and prosperity for people and the planet, now and into the future (i.e., sustainable development), and the SDGs, which lie at the heart of the agenda, represent an urgent call for action for sustainable development by all countries and all stakeholders in a global partnership.[1] They especially call on all firms in developed and developing countries alike to apply their creativity and innovation to solving sustainable development challenges by using their respective strengths, including unique resources and expertise (Calabrese et al. 2021; He et al. 2023; Nishitani et al. 2021b). There is thus the expectation that firms around the world implement efforts for sustainable development (i.e., sustainability management) more proactively than ever to achieve the SDGs. In this situation, there is an argument that firms should address the SDGs by applying the creating shared value (CSV) framework (Kim 2018; Noh 2020). This is because the conventional approach using corporate social responsibility (CSR) may not be sufficient to adapt to the SDGs (Voltan et al. 2017). The original definition of CSV is "…policies and operating practices that enhance the competitiveness of [the firm] while simultaneously advancing the economic and social conditions in the communities in which it operates" (Porter and Kramer 2011, p. 66). CSV then differs from CSR in that it is a strategic approach to produce economic value through creating social and environmental value.

The main point is that CSV assumes that social and environmental value and economic value are compatible, not trade-offs, and therefore firms can contribute to society and the environment while enhancing profitability (Porter and Kramer 2011). Therefore, CSV supporters (e.g., Lim and Lee 2022; Maltz and Schein 2012; Porter et al. 2011; Porter and Kramer 2014) believe it can more effectively use a firm's economic motivation to address sustainable development because it can attract not only firms that pursue social and environmental value, but also those that seek economic value. If this is indeed the case, CSV may be the preferred framework for firms to use when addressing the SDGs. Indeed, CSV currently attracts much attention in the business and management field (e.g., Camilleri et al. 2023; Fernández-Gámez et al. 2020; Kelley et al. 2019; Li et al. 2023; Pan et al. 2023; Rubio-Andrés et al. 2022).

However, problematically, the relationship between social and environmental value and economic value is not always the win–win CSV assumes, as evidenced by Nishitani and Kokubu (2022) in classifying the relationship between social and environmental value and economic value into four categories: 1) win–lose, 2) win–win, 3) lose–lose, and 4) lose–win (see Fig. 1). They suggest that the win–win relationship (Category 2) is not the only equilibrium point for a firm. This is because if economic value takes precedence over social and environmental value, lose–win (Category 4) can prioritize economic value at the expense of social and environmental value as an equilibrium point. Further, while win–lose (Category 1) is desirable for social and environmental value, as it sacrifices economic value it is unlikely to

[1] See the details on the United Nations' website at https://sdgs.un.org/goals.

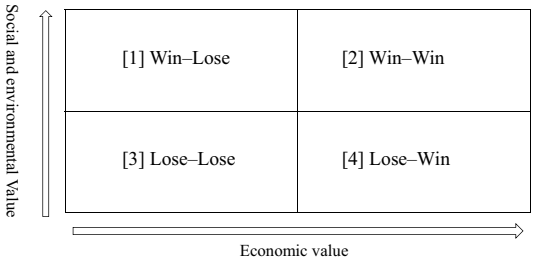

Fig. 1 Relationship between social and environmental value and economic value

be an equilibrium point. In this sense, CSV can be regarded as merely a framework for identifying the partial win–win points enabling firms to implement sustainability management without sacrificing profit, rather than those points for expanding total social, environmental and economic value without diminishing the amount of value available to stakeholders (de los Reyes Jr et al. 2017; Fraser 2019; Jones and Wright 2018; McGahan 2012; Nishitani et al. 2021b). Thus, while many previous studies identify a positive relationship between social and environmental performance and economic performance, their findings do not necessarily support the role of CSV (see Sect. 2.1).

Common criticisms of CSV include its seductive nature, its tendency to oversimplify and the naivety of its assumptions, among other issues (Dembek et al. 2016; Voltan et al. 2017). Considering these criticisms, if firms address the SDGs only when expecting a win–win relationship, it is nothing more than "business as usual" implemented only in the name of the SDGs. It is also possible that firms will not address any one SDG if they do not expect a corresponding creation of economic value. This is consistent with Menghwar and Daood's (2021) review concluding that a firm's decision to adopt a CSV strategy depends on opportunity and transaction costs, thereby limiting, at least in part, the firm's contribution to the SDGs. Consequently, firms cannot satisfy the required level of social and environmental value for stakeholders (or the achievement of the SDGs). On the contrary, they are not exempt from blame for the impression management of specious activities, or so-called SDG-washing, which means cosmetic gestures and re-labelling without serious modification of a firms' activities to achieve the SDGs. This will result in misleading communication about the firm's sustainability management to address the SDGs (Bowen and Aragon-Correa 2014; Crabtree and Gasper 2020). This is the blind spot in the theory of CSV, and the literature merely focuses on whether social and environmental value boosts economic value.

In short, although previous studies insist on the advantage of CSV using economic motivation, they do not recognize its disadvantage in potentially promoting SDG-washing. This concern is in common with the criticism by Crane et al. (2014) that CSV intrinsically ignores the tensions between social and environmental value and economic value, and that it relies on a shallow conception of the corporate role in society. Indeed, CSV lacks supporting empirical evidence (Crane et al. 2014; Menghwar and Daood 2021; Voltan et al. 2017) in that the academic debate about whether a firm's motivation for sustainability management (to say nothing of it

promoting the SDGs) has an economic (profit-seeking) or ethical (legitimacy-seeking) orientation remains unresolved (Schaltegger and Hörisch 2017). This implies that CSV cannot deny the possibility that an ethical or social responsibility motivation (i.e., reacting to social pressure to secure legitimacy) potentially plays a vital role (e.g., Cho and Patten 2007; Schaltegger and Hörisch 2017). In fact, little is clarified about the relative importance of these different motivations to address the SDGs (i.e., neither, either, or both), in that very few empirical studies have comparatively analysed these motivations (Schaltegger and Hörisch 2017; Shadnam 2023) and studied the SDGs at the firm level (Ike et al. 2019; van Zanten and van Tulder 2018). Therefore, there is a theoretical and empirical research gap regarding the practical preferability of CSV in achieving the SDGs.

Nevertheless, the SDG Compass, as the most referenced business guideline for the SDGs currently, encourages firms to address the SDGs using their economic motivation. For example, it suggests that "…by developing and delivering solutions for the achievement of the SDGs, [firms] will discover new growth opportunities and lower their risk profiles" (Global Reporting Initiative et al. 2016, p. 8). However, it is not certain whether the SDG Compass indicates the right direction to achieve the SDGs where there is not yet any consensus about CSV. Conversely, if things do not go as planned, firms could promote SDG-washing, not the SDGs themselves. This is because the SDG Compass could send an unintended message that firms should address the SDGs only within a range in which they expect economic value to increase.

In this situation, clarifying whether a firm's economic motivation is more practically preferable than an ethical motivation in achieving the SDGs remains an urgent task. Furthermore, we should provide evidence from both an economic and ethical perspective supporting the academic and practical implications for the SDGs. The purpose of this study is thus to address the question of whether a firm's economic motivation is practically preferable in achieving the SDGs in contrast to its ethical motivation. Using data on Japanese and Vietnamese firms, we empirically analyse whether the degree of a firm's proactiveness in addressing the SDGs depends on its economic and/or ethical motivations from a stakeholder management (stakeholder theory) perspective. Stakeholder management is a prerequisite for linking sustainability to a firm's primary business (Goel 2019), and it has also a high affinity with CSV along with other pluralistic disciplines (Freeman and Phillips 2002; Menghwar and Daood 2021). Therefore, we expect this approach to successfully address any discrepancy between a firm's economic and ethical motivations to address the SDGs.

We consider that a focus on Japanese and Vietnamese firms is appropriate for the following reasons. First, the efforts of both developed and developing countries are intrinsically necessary to achieve the SDGs globally. Second, both Japanese and Vietnamese firms actively seek to fulfil their responsibilities for the SDGs (Nishitani et al. 2021a, 2022). Third, despite this, there remain significant differences in sustainability management practices between developed and developing countries, suggesting differing firm motivations, roles and structures in developing countries (Ike et al. 2019; Jamali et al. 2017; Koleva 2021). Finally, building on these differences, some studies have even questioned the transferability of the concepts of

sustainability management such as CSR and CSV to developing countries (Jamali and Karam 2018). With these viewpoints in mind, we can provide more significant implications for the SDGs at the global level through comparison of these countries.

The main findings suggest that an ethical motivation continues to play a vital role for both Japanese and Vietnamese firms in addressing the SDGs (although this might have been a different result given the above viewpoints about the unbridgeable gap between developed and developing countries in the behavioural intentions of sustainability management). Put differently, while CSV appears to be an attractive framework for firms in implementing the SDGs, its actual contribution remains partial and tentative, and thus subject to criticism for overemphasizing any economic motivation that potentially promotes SDG-washing. It is important to note that this finding not only proves that a firm's economic motivation to address the SDGs is not practically preferable in achieving the SDGs, but also that such a practice could decrease economic value by harming the firm's reputation because of the expectation gap of stakeholders relating to the firm's commitments to address the SDGs.

The remainder of the paper is organized as follows. Section 2 describes the conceptual basis for a firm's motivation to address sustainable development and develops the hypotheses. Section 3 details the data, regression model and variables. Section 4 provides the regression results, and Sect. 5 discusses our findings and provides the academic and practical implications. Section 6 presents the conclusion.

2 Conceptual basis and hypothesis development

2.1 Economic motivation for sustainability management

Even before the SDGs, there was an ongoing debate over whether a firm's motivation for sustainability management was economic (i.e., strategic) or ethical (i.e., social responsibilities) (Nishitani et al. 2021a; Schaltegger and Hörisch 2017). The former is the means to increase profits as assumed by conventional economics, while the latter is an effort to secure legitimacy (Freeman and Phillips 2002). In this sense, the premise of CSV relies on the economic justification, i.e., firms have a motivation to work voluntarily on sustainability management because the (expected) benefits outweigh any costs. For example, McGahan (2012) interprets CSV as the conceptualization of the firm as primarily used to generate returns on invested capital. Considering that the purpose of firms from the viewpoint of economics is to maximize profit subject to demand and production constraints, the reason sustainability management can contribute to increasing profit is that social and environmental aspects currently strongly influence and modify these constraints. In other words, the current socioeconomic condition prevents the conventional business approach from succeeding (Fraser 2019). Thus, although Friedman's argument (1970) that the only social responsibility of business is to increase its profits is often criticized, not only this argument but also criticism of it are no longer applicable to the current situation. As a result, sustainability management can increase profit through increasing sales by building a socially and environmentally friendly brand reputation and reduce costs by increasing

productivity and reducing risk from a social and environmental perspective, while also improving social and environmental conditions (Nishitani 2011; Porter and Kramer 2011).

Because firms are profit-making organizations, it is reasonable for them to address sustainable development (in the form of the SDGs) as their economic motivation. Thus, CSV using an economic motivation is more sustainable for firms as profit-making organizations to implement sustainability management (Nam and Hwang 2019). Indeed, many recent studies find a positive relationship between a firm's sustainability management and its economic performance. For example, Arco-Castro et al. (2020) argue that corporate philanthropic strategy, as measured by guidelines for philanthropic activities, corporate foundations and cash donations, can reduce labour controversies and incidents in European firms, and Bassetti et al. (2021) conclude that environmental performance, as measured by environmental orientation and environmental innovation, positively influence the returns on assets (ROA) and equity (ROE) in U.S. firms. Elsewhere, Blasi et al. (2018) argue that a firm's CSR practices enhance its stock market returns and reduce financial risk in the U.S., while Cai and Li (2018) suggest that in China, eco-innovation behaviour can enhance a firm's economic performance through environmental performance, and Epure (2022) finds that in multiple countries higher CSR firms can mitigate a crisis shock on profitability and sales growth.

Likewise, Khan and Qianli (2017) demonstrate that green supply chain practices positively influence the marketing and financial performance of manufacturing firms in Pakistan, López-Penabad et al. (2023) find that there is a U-shaped relationship between corporate social performance and bank efficiency in European countries, and Nishitani and Kokubu (2020) reveal that environmental performance enhances value-added by improving productivity directly and increasing demand indirectly via disclosed environmental information in Japanese manufacturing firms. In other work, Nishitani et al. (2022) discover that the implementation of material flow cost accounting improves the total factor productivity of Japanese firms, Przychodzen and Przychodzen (2015) suggest a positive linkage between eco-innovative activities and ROA and ROE among Polish and Hungarian firms, and Rubio-Andrés et al. (2022) find that if small and medium-sized enterprises in Spain emphasize social value, they boost the business value. Lastly, Schönborn et al. (2019) identify a positive relationship between corporate social sustainability culture and the financial success of German firms, and Zhang et al. (2019) conclude that green patenting by Chinese manufacturing firms enhances financial performance, as measured by sales growth and net profits.

Although these studies do not necessarily directly show a firm's economic motivation to address sustainable development, we can at least infer that firms implement sustainability management because of economic opportunities (as in conventional economics). Indeed, Steger et al. (2007) suggest that whereas the triple bottom line that includes economic, social and ecological perspectives has become very fashionable, the reality appears to be that the economic perspective still dominates firms' decision-making.

2.2 Ethical motivation for sustainability management

Despite the arguments presented in the preceding subsection, it is also true that firms have caused serious social and environmental concerns by prioritizing economic success (Uchida and Hashimoto 2019), commonly recognized as market failure. Indeed, if there was a win–win relationship between social and environmental value and economic value, the social and environmental concerns would have never arisen or the firms would have resolved them as business as usual (even without relying on the SDGs). On the contrary, these non-economic concerns sometimes worsen such that the firms involved may need to change their existing business approach of prioritizing profit-making. This is one reason for the criticism of economic-based approaches such as CSV, evidenced by the fact that previous studies have not always identified the supposed positive relationship between a firm's sustainability management and its economic performance (e.g., Czerny and Letmathe 2017; de Burgos-Jiménez et al. 2013; Liang and Liu 2017; Sarkis and Cordeiro 2001).

In this context, we regard a firm's sustainability management as its ethical or legitimate practice (i.e., social responsibility) to create social and environmental value (Schaltegger and Burritt 2018). This is because firms are not merely profit-making organizations, but also socially responsible entities that form an interdependent relationship with multiple stakeholders in society. When this is the case, social responsibilities to secure legitimacy are a more reasonable motivation for firms when implementing sustainability management. Within this, legitimacy is a condition or status that exists when an organization's value system falls in line with the value system of the society (Lindblom 1994) and is threatened when its perceived behaviour is not in accordance with society's values (Farache and Perks 2010). This is because, according to legitimacy theory, a firm has no inherent right to exist. Instead, society confers this right upon the firm, but only after the value created by the firm for society is congruent with what the society seeks for itself (Magness 2006; Nishitani et al. 2021b). Thus, firms react to societal pressure and expectations dealing with social and environmental value by implementing sustainability management to secure legitimacy (Schaltegger and Hörisch 2017). In this manner, the argument underlying legitimacy regarding sustainability management is that because a firm's sustainability management can influence public perceptions toward the firm, legitimacy is the product of satisfying stakeholders by solving social and environmental issues (Hanberger 2003; Wilmshurst and Frost 2000).

Nevertheless, a firm's legitimacy then further divides into symbolic (strategic) and institutional (substantive) legitimacy (Farache and Perks 2010; Suchman 1995) and therefore, a firm's efforts aimed at sustainability management to secure legitimacy do not always comprise ethical practice. If a firm's sustainability management to gain legitimacy is symbolic rather than substantive and without changes to business as usual, it does not necessarily mean that firms create social and environmental value for society. Rather, they simply aim to create economic value. In this sense, because symbolic legitimacy focuses on reputation rather than actual change and a pretence of being socially responsible (ethics) (Silva 2021), it can also be subject to criticism as representing mere greenwashing, blue-washing, or SDG-washing. For example, the accounting literature assumes that if there is a negative relationship

between sustainability performance and its reporting, the purpose of reporting is to secure legitimacy (e.g., Cho et al. 2012; Cong et al. 2020; Park et al. 2023). Similarly, Ikuta and Fujii (2022) find that Japanese firms that are enthusiastic about social activities are more likely to start working on SDG initiatives. However, the significance of these relationships alone cannot confirm whether this legitimacy represents social responsibility or greenwashing, blue-washing, or SDG-washing. Therefore, it is necessary to distinguish substantive legitimacy from symbolic legitimacy when discussing a firm's sustainability management from an ethical perspective.

2.3 Limitation of economic motivation in sustainability management

The question is why some existing studies find a positive relationship between social and environmental value and economic value, but others do not. There are several reasons for this. First, the relationship between social and environmental value and economic value is context specific, and therefore the win–win relationship captures a partial equilibrium (see Fig. 1). This implies that social and environmental value and economic value do not always conflict while they are not always compatible. Second, the win–win relationship between social and environmental value and economic value does not depend on a firm's economic motivation. For example, the resource-based view assumes that a firm's economic performance depends significantly on its specific organizational resources and capabilities (Sharma and Vredenburg 1998; Shrivastava 1995). That is, even if firms have an economic motivation for sustainability management, they do not always achieve a win–win relationship. Conversely, even if firms have a social responsibility motivation, they can achieve a win–win relationship because of sustainability management (Schönborn et al. 2019). Third, the choice of economics or ethics may not be an intrinsically binary choice, meaning that firms can implement sustainability management considering both economics and ethics. For example, there is a viewpoint that the CSV framework secures ethical legitimacy beyond a win–win relationship (de los Reyes Jr et al. 2017). Correspondingly, even firms with an ethical motivation cannot ignore economic value when seeking to survive.

Thus, a positive relationship between social and environmental value and economic value does not always support economic motivation. Beyond that, there are few empirical studies that have compared a firm's motivations for sustainability management, and most of them support ethical and legitimacy motivations. For example, Brønn and Vidarver-Cohen (2009) find that the legitimacy and sustainability motivation are more important than the profitability motivation for Norwegian firms to engage in social initiatives. Similarly, Ditlev-Simonsen and Midttun (2011) identify that the legitimacy motivation (branding and reputation-building motivation but not the ethical/moral motivation) is the primary corporate responsibility driver in Norway. Elsewhere, Hahn and Scheermesser (2006) find that social and environmental responsibility provides more important reasons for German firms to implement corporate sustainability activities, while Jha and Rangarajan (2020) suggest that the key motivation of sustainability for Indian firms is its use as a business tool. Lučić (2020), after interviewing marketing managers in Croatian firms, finds that

the motivation for a sustainability marketing orientation will shift from fulfilling legal requirements to a more strategic approach.

Furthermore, Schaltegger and Hörisch (2017), using survey data from Australia, Belgium, France, Germany, Hungary, Japan, South Korea, Spain, Switzerland and the U.S., find that seeking legitimacy dominates corporate sustainability management practices, and Windolph et al. (2014) conclude that the key motivation for corporate sustainability in German firms is legitimacy, using evidence of high engagement in firm public relations departments. However, we should take into consideration that some of these studies, including Ditlev-Simonsen and Midttun (2011) and Windolph et al. (2014), do not differentiate between symbolic and substantive legitimacy, or even consider legitimacy as symbolic legitimacy.

Overall, we expect that addressing sustainable development only from the economic-based approach has a limitation. At the same time, because previous studies confront the problem that measuring legitimacy is difficult (Down and Wilson 2017), it may be difficult to clarify any ethical motivation from these studies. In any case, the point lies in whether (only) the economic motivation is practically preferable in addressing the sustainable development (SDGs). We should address this by comparing it with the ethical motivation.

2.4 Stakeholder management

In the situation where a firm's motivation for sustainability management is multifaceted, analysis from a stakeholder management perspective can be useful. Stakeholders are defined as any group or individual who can influence, or can be influenced by, the achievement of an organization's (a firm's) purpose (Freeman 1984), and generally include shareholders and investors, final consumers, customers, employees, suppliers, government, communities, media and non-governmental organizations (Nishitani et al. 2021a; O'Higgins and Morgan 2006). Stakeholder management of firms is thus about establishing a relationship with the firm's various stakeholders by fulfilling accountability regarding corporate activities to stakeholders, as framed in stakeholder theory. The background of stakeholder management is that the realization of a firm's purpose depends on its relationships with its stakeholders, and therefore managing and satisfying their interests (including sustainability) is necessary (Fisher 2019; Freeman and Philips 2002; Nishitani et al. 2021a).

Following this, sustainability management is a tool to manage and satisfy those stakeholders that have various interests in and expectations about a firm's activity. Stakeholder management enables firms to consider the impact of their actions and decision-making on stakeholders from a strategic perspective and/or to take into account the deserved rights and expectations of stakeholders from an ethical perspective when implementing sustainability management (Fassin 2012). In this sense, Freeman and Phillips (2002) suggest that stakeholder theory fits well with pluralistic disciplines, including economics and legitimacy, and that these disciplines should thus not be considered mutually exclusive.

Although stakeholder theory is a set of propositions that suggest that managers of organizations (firms) are obliged to some group of stakeholders (Freeman 2015),

it may be better to consider that stakeholder theory is a genre of stakeholder theories rather than any specific theory (Freeman 1994; Freeman and Phillips 2002). This is because there are several streams of stakeholder theory depending on diverse evidence and conflicting arguments (Mainardes et al. 2011). Conventional stakeholder theory assumes that all stakeholders are equally important. However, such an assumption could impede the further development of the theory (Freeman and McVea 2001). Considering that different stakeholders have different views about how a firm should implement sustainability management, it may be better to assume that not all stakeholders are important, and that the support of more powerful stakeholders is more necessary in achieving a firm's purpose. That is, the greater the power of stakeholders is, the greater the importance of adapting to stakeholder interests becomes (Nishitani et al. 2021a). Accordingly, we expect firms to respond to their more powerful stakeholders by satisfying their interests regardless of any strategic or ethical (legitimating) purpose (Nishitani et al. 2021a).

Ikuta and Fujii (2022) argue that government, industry organizations and investors are potential stakeholders encouraging Japanese firms to act on the SDGs, judging from the current practical environment surrounding these firms. However, limited studies directly analyse the impact of stakeholder power on firm SDG activities. By contrast, many existing studies analyse the relationship between stakeholder power and firm sustainability management (which contributes to the SDGs). For example, Baah et al. (2021) reveal that not only regulatory stakeholders but also organizational stakeholders influence the small and medium-sized enterprises operating in the Ghanaian manufacturing sector to adopt green production practices and achieve better environmental performance, and Bose et al. (2018) find that regulatory guidance in Bangladesh positively influences the level of green banking disclosure.

Haddock-Fraser and Tourelle (2010) conclude that firms closer to the final consumers are more active in climate change efforts in the UK, while Ike et al. (2019) suggest that local communities, NGOs, host country regulations and regulatory authorities influence Japanese multinational enterprises' prioritization of certain SDGs when they establish or expand operations in the Philippines, Indonesia, Thailand and Vietnam. Haider and Nishitani (2022) argue that different shareholder groups encourage Japanese firms to publish credible sustainability reports with assurance, and Nishitani et al. (2021a) demonstrate that Vietnamese firms that implement environmental management control systems normally improve their environmental performance, with pressure from final consumers and the government a necessary precondition. Rashid et al. (2020) explain that while chief executive officer power negatively influences the level of CSR disclosure in Bangladeshi firms, the influence of international buyers offsets any negative effect. Finally, Yunus et al. (2020) conclude that government, the media and creditors positively impact a firm's decision to adopt carbon management strategies in Australia.

These studies clarify that firms implement sustainability management because they face intense pressure from powerful stakeholders, regardless of whether they have an economic or ethical motivation. In addition, they also provide a clue for a better understanding of who the powerful stakeholders are in both developed and developing countries. While firms in developed countries face intense pressure from

various stakeholders, those (operating) in developing countries most often face such pressure first from governments and regulatory authorities, and then other stakeholders. Thus, the most powerful stakeholders influencing a firm's sustainability management (including that to address the SDGs) differ between developed and developing countries. Given that firms in developing countries facing strong pressure from governments and regulatory authorities, such firms would rather implement sustainability management more mandatorily (or less voluntarily), although this is not always the case.

Nonetheless, the reason that these firms implement sustainability management cannot be correctly determined based only on the relationship between stakeholder power and firm efforts and performance as studies, including those we review above, interpret the relationship differently depending on the respective context. Conversely, it is still uncertain whether a firm's economic and/or ethical motivation to implement sustainability management reflects its proactiveness, including efforts and performance toward sustainable development. Accordingly, we expect the powerful stakeholders that explain a firm's sustainability efforts and performance to also explain its economic and/or ethical motivation for sustainability management (or addressing the SDGs), where we can predict that a firm's economic and/or ethical motivation for sustainability management play a mediating role to explain why a firm's powerful stakeholders influence its proactiveness toward sustainable development.

2.5 Hypotheses development

According to the preceding literature review and arguments, because there is a limit to what we can infer a firm's ideal approach is to addressing sustainable development (i.e., the SDGs), we should focus on the relationship between a firm's motivation to address the SDGs and its proactiveness to address them, and this depends on pressure from powerful stakeholders. First, because the relationship with stakeholders is a prerequisite for linking sustainability to a firm's primary business, i.e., sustainability management, (e.g., Bose et al. 2018; Haddock-Fraser and Tourelle 2010; Haider and Nishitani 2022; Ike et al. 2019; Nishitani et al. 2021a; Rashid et al. 2020; Yunus et al. 2020), we expect that pressure from powerful stakeholders with different interests and expectations about sustainability management will determine why firms intend to address the SDGs, which leads to the following hypotheses.

H1a Firms facing intense pressure from powerful stakeholders are more likely to have an economic motivation to address the SDGs.

H1b Firms facing intense pressure from powerful stakeholders are more likely to have an ethical motivation to address the SDGs.

Second, even if firms have an economic and/or ethical motivation to address the SDGs, it remains uncertain whether these motivation(s) will reflect their actual proactiveness in addressing the SDGs. Indeed, it is uncertain which particular

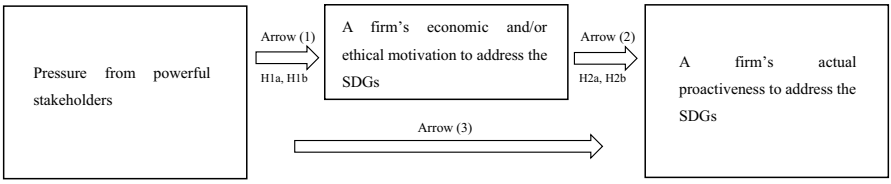

Fig. 2 Hypothesized triadic relationship between pressure from powerful stakeholders, a firm's motivation to address the SDGs, and actual proactiveness

motivation plays a significant role (e.g., Brønn and Vidarver-Cohen 2009; Ditlev-Simonsen and Midttun 2011; Hahn and Scheermesser 2006; Jha and Rangarajan 2020; Lučić 2020; Schaltegger and Hörisch 2017; Windolph et al. 2014). This leads to the following hypotheses.

H2a Firms having an economic motivation to address the SDGs are more likely to be proactive when doing so.

H2b Firms having an ethical motivation to address the SDGs are more likely to be proactive when doing so.

Figure 2 visualizes the relationships between these hypotheses. Arrow (1) indicates the influence of pressure from powerful stakeholders on a firm's motivation to address the SDGs to test Hypotheses 1a and 1b. Arrow (2) shows the influence of a firm's economic and ethical motivations to address the SDGs in terms of actual proactiveness in testing Hypotheses 2a and 2b. Arrow (3) plots the influence of pressure from powerful stakeholders on a firm's proactiveness to address the SDGs that is not through Arrows (1) and (2). For example, it may capture the sum of the influence of pressure from powerful stakeholders on a firm's other motivations and that of a firm's other motivations on its proactiveness to address the SDGs. Thus, even when estimating the influence of a firm's economic and ethical motivations to address the SDGs on actual proactiveness, we consider (controlling for) the influence of pressure from powerful stakeholders (in terms of the stakeholder management perspective).

3 Data and method

3.1 Data

The data used for the analysis are cross-sectional data taken from a questionnaire survey conducted in Japan and Vietnam by the authors. The survey, titled "The Questionnaire Survey on Japanese (Vietnamese) Firms' Efforts toward the SDGs", was administered to 2230 Japanese firms listed on the First Section of the Tokyo Stock Exchange from 4 February to 19 March 2020, and 977 Vietnamese firms listed on the Ho Chi Minh Stock Exchange (HOSE), Hanoi Stock Exchange (HNX), or Unlisted Public Company Market (UPCoM) from 20 January to 25

March 2022 (we were obliged to postpone the questionnaire to Vietnamese firms until the COVID-19 pandemic subsided).

The procedure of the questionnaire survey was as follows. The Human Research Ethics Committee of our institution approved the draft of the questionnaire. For the Japanese firms, we sent the questionnaire by mail to the target firms, followed by a mailed reminder. The respondents (sustainability managers) answered the questionnaire by mail or e-mail. For the Vietnamese firms, we secured the cooperation of the Institute of Water Resources Science and Techniques, the Ministry of Natural Resources and Environment, and the Ministry of Science and Technology in Vietnam to conduct the questionnaire survey. The questionnaire was administered online, and data were collected by these cooperating parties, followed by a telephone reminder.

The survey yielded 267 and 273 valid responses from Japan and Vietnam, respectively. We exclude firms in financial industries (which differ significantly from other firms in their financial behaviour and reporting) and those with missing values from the sample. Consequently, the total numbers of observations for the analyses are 235 Japanese firms and 243 Vietnamese firms. The content of the questionnaires for the Japanese and Vietnamese firms was identical, and we asked firms about their ways of thinking, efforts and performance aimed toward the SDGs, current business operations, firm characteristics, stakeholders, and related topics. We merge these questionnaire data with financial data obtained from the Nikkei NEEDS and Bloomberg databases.

3.2 Regression models

Because the dependent variables obtained from the questionnaire survey are either ordinal (ranging in value from 1 to 7), binomial (value of 0 or 1 only) or continuous, we employ ordered probit, probit and ordinary least squares estimations. First, to test H1a and H1b, we estimate the influence of (pressure from) stakeholders on a firm's motivation to address the SDGs using:

$$
\begin{aligned}
Mot_i^* &= \alpha_0 + \alpha_1 Stake_i + \alpha_2 Cont_i + u_i \\
Mot_i &= \begin{cases} 1 & if \quad Mot_i^* \le \mu_1 \\ 2 & if \quad \mu_1 < Mot_i^* \le \mu_2 \\ \vdots & \\ 7 & if \quad Mot_i^* > \mu_6 \end{cases},
\end{aligned} \tag{1}
$$

where Mot^* is a latent variable for *Mot*, *Mot* is a firm's economic (*Mot_Econ*) or ethical (*Mot_Ethic*) motivation to address the SDGs, *Stake* is stakeholders, *Cont* are control variables, α_0–α_2 are the estimation parameters, u is the error term, i are firms and μ is the threshold parameter to determine *Mot*.

Second, to test H2a and H2b, we estimate the impact of a firm's economic and ethical motivations to address the SDGs on its proactiveness to address the SDGs as:

$$SDGs\_Or_i^* = \beta_0 + \beta_1 Mot\_Econ_i + \beta_2 Mot\_Ethic_i + \beta_3 Stake_i + \beta_4 Cont_i + \varepsilon_i$$
$$SDGs\_Or_i = \begin{cases} 1 & if \quad Sus_i^* \le \varphi_1 \\ 2 & if \quad \varphi_1 < Sus_i^* \le \varphi_2, \\ \vdots & \\ 7 & if \quad Sus_i^* > \varphi_6 \end{cases} \tag{2}$$

$$SDGs\_Bi_i^* = \gamma_0 + \gamma_1 Mot\_Econ_i + \gamma_2 Mot\_Ethic_i + \gamma_3 Stake_i + \gamma_4 Cont_i + \tau_i$$
$$SDGs\_Bi_i = \begin{cases} 0 & if \quad Sus_i^* \le 0 \\ 1 & if \quad Sus_i^* > 0 \end{cases}, \tag{3}$$

or

$$SDGs\_Co_i = \delta_0 + \delta_1 Mot\_Econ_i + \delta_2 Mot\_Ethic_i + \delta_3 Stake_i + \delta_4 Cont_i + \omega_i, \tag{4}$$

where $SDGs\_Or^*$ and $SDGs\_Bi^*$ are latent variables for *SDGs_Or* and *SDGs_Bi*, respectively; *SDGs_Or*, *SDGs_Bi* and *SDGs_Co* are a firm's proactiveness to address the SDGs being treated as ordinal, binomial and continuous dependent variables, respectively; β_0–β_4, γ_0–γ_4 and δ_0–δ_4 are the estimation parameters; ε, τ and ω are the error terms; and φ is the threshold parameter to determine *SDGs_Or*.

3.3 Variables

The variables representing each firm's motivation to address the SDGs that are used in the regressions to test H1a, H1b, H2a and H2b are business opportunities and social responsibility (e.g., Carballo-Penela and Castromán-Diz 2015; Hummel and Schlick 2016; Schaltegger and Hörisch 2017). The first variable captures the economic motivation and the second variable the ethical motivation. The variables for (indicating pressure from) stakeholders that are used in the regressions to test H1a and H1b are final consumers, competitors, buyers, suppliers, communities, NGOs, government agencies, media, rating agency, financial institutions, shareholders and investors, employees and auditors (e.g., Carballo-Penela and Castromán-Diz 2015; González-Benito and González-Benito 2010; Nishitani et al. 2021a).

We employ variables representing each firm's proactiveness to address the SDGs used in the regressions to test H2a and H2b at various levels: recognition for importance of the SDGs, establishment of management structure to evaluate addressing the SDGs, support of corporate governance for addressing the SDGs, and SDG performance. These different layers enable us to more comprehensively capture a firm's proactiveness. The variables for the recognition of the importance of the SDGs are biosphere, society, economy, and partnership (e.g., Carballo-Penela and Castromán-Diz 2015; Ervin et al. 2013; Ike et al. 2019). These capture how much firms value the SDGs in terms of biosphere (environment), society, economy and partnership based on the wedding cake model for SDGs.

The variables representing the establishment of management structure (the framework) to evaluate addressing the SDGs are setting key performance indicators (KPIs) for SDGs, measuring and monitoring SDG efforts, reporting SDG efforts,

using SDG information on next year's action plan and setting SDG performance indicators (e.g., Ferrero-Ferrero et al. 2023; Global Reporting Initiative et al. 2016). These variables capture the extent to which a firm establishes a management structure to evaluate the way it addresses the SDGs. We consider that it would be difficult for a firm to address the SDGs without such a management structure.

The variables proxying the support of corporate governance in addressing the SDGs are discussing the SDGs at the board level, adequate understanding of the SDGs by inside directors and adequate understanding of the SDGs by outside directors (e.g., García-Sánchez et al. 2015; Haider and Nishitani 2022; Jamali et al. 2008; Lenort et al. 2023; Macaulay et al. 2018). The support of corporate governance for addressing the SDGs captures the extent to which top management at the governance level intends to address the SDGs. Because corporate governance provides a framework for decision-making in the firm, it would be difficult for a firm to address the SDGs without its support.

The variables indicating the performance of the SDGs are employee satisfaction improvement (e.g., Bilderback 2023; Vuong and Bui 2023), women's empowerment (e.g., Mogaji et al 2021; Nishitani and Kawaguchi 2023), promotion of CSR activities in the supply chain (e.g., Khan et al. 2021; Le et al. 2019; Nishitani et al. 2016), compliance with social norms (e.g., Blanco-Gonzalez et al. 2020; Gray et al. 2020), environmental performance improvement (e.g., Nishitani and Kokubu 2020; Nishitani et al. 2021a) and greenhouse gas (GHG) emissions reduction (e.g., Olabi et al. 2022; Zhang and Fu 2023). The rationale for selecting these variables is that they correspond to every biosphere, society, economy and partnership aspect of the SDGs (much like the recognition of the importance of the SDGs above). We regard employee satisfaction improvement as an indicator of economy aspect (SDG 8), women's empowerment as society aspect (SDG 5), promotion of CSR activities in the supply chain as economy aspect (SDG 12) and partnership aspect (SDG 17), compliance with social norms as society aspect (SDG 16),[2] environmental performance improvement as biosphere aspect (SDGs 13 to 15), and GHG emissions reduction as biosphere aspect (SDG 13).

The control variables we consider may influence a firm's motivation to address the SDGs; its proactiveness to address the SDGs are firm size, ROA, manufacturing industry, business-to-business (B-to-B) and environmental management system (EMS) implementation. Firm size controls for the influence of size (e.g., González-Benito and González-Benito 2010; Haider and Nishitani 2022; Macaulay et al. 2018; Nishitani et al. 2021a). ROA controls for profitability (e.g., Hummel and Schlick 2016; Macaulay et al. 2018; Nishitani et al. 2021a).[3] Manufacturing industry controls for industry-specific influences (e.g., Chen and Liang 2023; Mousavi et al. 2018; Nishitani et al. 2021a). Although employing individual industry dummies would be preferable, we employ only a manufacturing industry dummy to avoid dropping many observations owing to the presence of the ordinal and binomial

[2] For example, Nikon links compliance to SDG 16 as its materiality. Details at https://www.nikon.com/company/sustainability/report/2022/sr2022_20.pdf.

[3] Hummel and Schlick (2016) employ free cash flow in millions of euros per employee, and Macaulay et al. (2018) specify net income.

dependent variables, following Aguado and Holl (2018), Nishitani et al. (2021a) and Sotome and Takahashi (2014). Focusing on the manufacturing industry is reasonable because most of our sample firms belong to this industry (57% in Japan and 48% in Vietnam) and manufacturing firms display a higher innovation propensity (Mousavi et al. 2018). B-to-B controls for the influence of the firm's business type or position in the supply chain (e.g., González-Benito and González-Benito 2010; Lee and Joo 2020). EMS implementation controls for the influence of a firm's existing continuous activities for sustainable development (e.g., Nishitani et al. 2016, 2022). Because EMS provides a firm with a framework for sustainability (environmental) management (Nishitani 2011), the degree of EMS implementation reflects the accumulation of knowledge and experience of sustainability management. Finally, in the case of Vietnamese firms, stock market dummies HOSE, HNX and UPCoM control for the stock market of listing.

The definitions of these variables are in Table 1, and descriptive statistics are provided in Table 2. There is no evidence of harmful multicollinearity among the independent variables because none of the variance inflation factors are greater than ten.

3.4 Correcting for sample selection bias

Because our data are from questionnaire surveys, there is potential sample selection bias. To correct for any bias, we additionally include the inverse Mills ratio (IMR) in all regression models (Heckman 1979). We calculate the IMR with a probit regression model estimating the likelihood of responding to a questionnaire survey using all Japanese firms (except those in financial industries) listed on the First Section of the Tokyo Stock Exchange without missing values and all Vietnamese firms (except those in financial industries) listed on the HOSE, HNX or UPCoM without missing values. In the probit regression, we additionally include the capital intensity ratio (i.e., total assets divided by total sales) as a variable that potentially influences the likelihood of responding but does not directly influence a firm's motivation to address the SDGs and its proactiveness to address the SDGs, following Nishitani et al. (2021b) and Nishitani and Kawaguchi (2023). Accordingly, we can regard our sample as being representative of Japanese and Vietnamese firms.

4 Estimation results

Table 3 provides the estimation results for the influence of pressure from powerful stakeholders on a firm's motivation to address the SDGs. We use the results in the table to evaluate Hypotheses 1a and 1b. The upper panel summarizes the estimation results for Japanese firms, and the lower panel for Vietnamese firms, and the same applies to the following tables. Tables 4, 5, 6 and 7 provide the estimation results for the influence of a firm's motivation to address the SDGs on its proactiveness to address these goals, testing Hypotheses 2a and 2b. These tables summarize

Table 1 Definitions of variables

- Business opportunities and social responsibility: We measure these using the scored response to the following question and a seven-point Likert scale ranging from (7) "strongly agree" to (1) "strongly disagree" (we have copied the questions from the questionnaire)

☐ Please rate the extent to which the following views describe your firm's motivation to address the SDGs

1. Business opportunities
2. Social responsibility

- Final consumers, competitors, buyers, suppliers, communities, NGOs, government agencies, media, rating agency, financial institutions, shareholders and investors, employees and auditors: The degree of pressure from each of these stakeholders is measured by the score in response to the following question using a seven-point Likert scale ranging from (7) "most influential" to (1) "not at all influential"

☐ Please rate the extent to which the following stakeholders are influential in your firm's efforts to address the SDGs

1. Final consumers
2. Competitors

⋮

13. Auditors

- Biosphere, society, economy and partnership: To create these variables, we first measure the degree of recognition of the importance of each SDG using the score in response to the following question using a seven-point Likert scale ranging from (7) "most important" to (1) "not at all important"

☐ Please rate the extent to which the following SDGs are important for your firm

1. Goal 1: No poverty
2. Goal 2: Zero hunger

⋮

17. Goal 17: Partnerships for the goals

The SDG goals are (1) No poverty, (2) Zero hunger, (3) Good health and well-being, (4) Quality education, (5) Gender equality, (6) Clean water and sanitation, (7) Affordable and clean energy, (8) Decent work and economic growth, (9) Industry, innovation and infrastructure, (10) Reduced inequality, (11) Sustainable cities and communities, (12) Responsible consumption and production, (13) Climate action, (14) Life below water, (15) Life on land, (16) Peace, justice and strong institutions and (17) Partnerships. To simplify the characteristics of these goals, we categorize the 17 SDGs into biosphere, society, economy and partnership aspects, following the wedding cake model for the SDGs developed by the Stockholm Resilience Centre (https://www.stockholmresilience.org/research/research-news/2017-02-28-contributions-to-agenda-2030.html). According to a wedding cake model, Goals 6, 13, 14 and 15 concern the biosphere (environment), Goals 1, 2, 3, 4, 5, 7, 11 and 16 concern society, and Goals 8, 9, 10 and 12 concern the economy. Thus, we measure the group variable "biosphere" using the average score of the responses to Questions 6, 13, 14 and 15, "society" using the responses to Questions 1, 2, 3, 4, 5, 7, 11 and 16, and "economy" using the responses to Questions 8, 9, 10 and 12. Partnership is measured simply by the response to Question 17

- Setting KPIs for SDGs, measuring and monitoring SDG efforts, reporting SDG efforts, using SDG information on next year's action plan and setting SDG performance indicators: We include this information in our model using a dummy variable that takes a value equal to one if the response to the following questions is (1) Yes, and 0 otherwise, (0) No

☐ Does your firm establish the following management structure to evaluate addressing the SDGs?

1. Setting key performance indicators relating to the SDGs
2. Measuring and monitoring the efforts to address the SDGs
3. Reporting the efforts to address the SDGs to inside and outside of the firm

Table 1 (continued)

4. Using SDG information of the efforts to address the SDGs on next year's action plan
5. Setting the SDG-related indicators in performance evaluation and reward systems

- Discussing the SDGs at the board level, adequate understanding of the SDGs by inside directors and adequate understanding of the SDGs by outside directors: We measure the degree of support of corporate governance in addressing the SDGs using the scored response to the following question and a seven-point Likert scale ranging from (7) "strongly agree" to (1) "strongly disagree"

☐ Please rate the extent to which the following views describe the point of view on the SDGs by your firm's corporate governance

1. The SDGs are well understood as important matters to be discussed in the board meeting
2. The thoughts of internal officers (directors, auditors and executive officers) about the SDGs are sufficiently clear
3. The thoughts of outside officers (outside directors and outside auditors) about the SDGs are sufficiently clear

- Employee satisfaction improvement, women's empowerment, promotion of CSR activities in the supply chain, compliance with social norms, environmental performance improvement and GHG emissions reduction: We measure all of these using the scored response to the following questions and a seven-point Likert scale ranging from (7) "much better" to (1) "much worse"

☐ Please rate the extent to which the following performance of your firm compares with that of average firms in your industry

1. Employee satisfaction improvement
2. Women's empowerment
3. Promotion of CSR activities in supply chain
4. Compliance with social norms
5. Environmental performance improvement
6. GHG emissions reduction

- Firm size: We measure this by the logarithm of total assets (in Japanese yen)
- ROA: We measure this by net profit divided by total assets
- Manufacturing industry: We measure this by a dummy variable equal to one if a firm belongs to the manufacturing industry and zero otherwise (comprising agriculture, forestry & fishing, mining, oil & gas, construction & real estate, information & communication, manufacturing, transportation, utilities or services industries)
- B-to-B: It is measured by a dummy variable equal to one if the response to the following question is "1. B-to-B"

☐ Please select the business type in your firm's largest business unit

1. B-to-B
2. Business to consumers (B-to-C)
3. Both B-to-B and B-to-C

- EMS implementation: We measure this using the scored response to the following question along a seven-point Likert scale ranging from (7) "proactively implement" to (1) "do not implement at all"

☐ Please rate the extent to which your firm implements the following EMSs

1. EMS equivalent to ISO 14001

- HOSE, HNX and UPCoM: We measure these with a dummy variable equal to one if the firm is listed on the Ho Chi Minh Stock Exchange (HOSE), Hanoi Stock Exchange (HNX) or as an Unlisted Public Company Market (UPCoM) on the HNX

Table 2 Descriptive statistics

	Japanese firms					Vietnamese firms				
	Obs	Mean	SD	Min	Max	Obs	Mean	SD	Min	Max
Motivation to address the SDGs										
Business opportunities	233	5.708	1.313	1	7	242	6.252	0.882	2	7
Social responsibility	233	6.112	0.985	3	7	242	6.062	0.981	4	7
Stakeholders										
Final consumers	234	5.440	1.429	1	7	242	5.785	1.270	1	7
Competitors	234	4.919	1.416	1	7	242	5.562	1.144	3	7
Buyers	234	5.697	1.276	1	7	242	5.967	1.126	3	7
Suppliers	234	5.141	1.390	1	7	242	5.512	1.299	2	7
Communities	234	5.265	1.367	1	7	242	5.599	1.086	2	7
NGOs	234	4.543	1.564	1	7	242	5.293	1.082	2	7
Government agencies	234	5.043	1.473	1	7	242	5.446	1.332	3	7
Media	234	4.611	1.404	1	7	242	5.657	1.032	2	8
Rating agency	234	5.261	1.464	1	7	242	5.339	1.345	2	7
Financial institutions	234	5.004	1.410	1	7	242	5.413	1.456	2	7
Shareholders and investors	234	5.769	1.160	1	7	242	5.921	1.096	2	7
Employees	234	5.248	1.386	1	7	242	6.145	0.942	3	7
Auditors	234	4.786	1.443	1	7	242	5.905	1.048	3	7
Recognition of importance of the SDGs										
Biosphere	233	5.425	1.064	2.250	7	239	4.368	1.160	1	6.750
Society	232	5.245	0.880	2.375	7	241	4.821	0.757	3.125	6.625
Economy	234	5.696	0.863	3	7	242	5.412	1.005	2.750	7
Partnership	234	5.397	1.327	1	7	242	5.508	1.178	2	7

Table 2 (continued)

	Japanese firms					Vietnamese firms				
	Obs	Mean	SD	Min	Max	Obs	Mean	SD	Min	Max
Establishment of management structure to evaluate addressing the SDGs										
Setting KPIs for SDGs	234	0.380	0.487	0	1	242	0.975	0.156	0	1
Measuring and monitoring SDG efforts	234	0.410	0.493	0	1	242	0.736	0.442	0	1
Reporting SDG initiatives	234	0.543	0.499	0	1	242	0.591	0.493	0	1
Using SDG information on next year's action plan	234	0.530	0.500	0	1	242	0.529	0.500	0	1
Setting SDG performance indicators	228	0.079	0.270	0	1	242	0.682	0.467	0	1
Support of corporate governance for addressing the SDGs										
Discussing the SDGs at the board level	234	5.000	1.485	1	7	242	5.492	1.475	3	7
Adequate understanding the SDGs by inside directors	234	4.863	1.488	1	7	242	5.653	1.337	2	7
Adequate understanding the SDGs by outside directors	234	4.940	1.428	1	7	242	5.822	1.173	3	7
SDG performance										
Employee satisfaction improvement	219	4.461	0.930	1	7	242	4.979	1.158	2	7
Women's empowerment	221	4.335	1.245	1	7	242	5.360	1.191	2	7
Promotion of CSR activities in supply chain	220	4.245	1.308	1	7	242	5.079	1.225	2	7
Compliance with social norms	220	4.759	1.135	2	7	242	4.992	1.014	3	7
Firm reputation improvement	221	4.647	1.028	2	7	242	5.236	1.042	3	7
Environmental performance improvement	222	4.793	1.174	2	7	242	4.988	1.060	2	7
GHG emissions Reduction	221	4.647	1.203	1	7	242	4.475	1.469	1	7
Control variables										
Firm size	234	12.002	1.587	7.155	16.695	242	7.752	1.531	4.133	12.816
ROA	234	0.050	0.052	− 0.153	0.218	242	0.053	0.070	− 0.341	0.379
Manufacturing industry	234	0.568	0.496	0	1	242	0.479	0.501	0	1
B-to-B	234	0.641	0.481	0	1	242	0.128	0.335	0	1

Table 2 (continued)

	Japanese firms					Vietnamese firms				
	Obs	Mean	SD	Min	Max	Obs	Mean	SD	Min	Max
EMS	234	5.953	1.847	1	7	242	5.298	1.630	1	7
HOSE	–	–	–	–	–	242	0.186	0.390	0	1
HNX	–	–	–	–	–	242	0.269	0.444	0	1
UPCOM	–	–	–	–	–	242	0.545	0.499	0	1
IMR	234	1.624	0.209	0.051	2.093	242	1.421	0.169	1.099	1.955

Table 3 Influence of pressure from stakeholders on a firm's motivation to address the SDGs

	(1)		(2)	
	Business opportunities		Social responsibility	
	Coefficient	Robust S.E	Coefficient	Robust S.E
Japanese firms				
Final consumers	0.118	0.071	0.066	0.080
Competitors	0.039	0.069	−0.063	0.071
Buyers	0.197	0.081*	0.137	0.084
Suppliers	−0.034	0.080	−0.033	0.073
Communities	−0.063	0.078	0.179	0.075*
NGOs	0.151	0.090	0.132	0.066*
Government agencies	−0.019	0.073	0.091	0.089
Media	−0.099	0.081	−0.126	0.098
Rating agency	0.033	0.076	0.033	0.080
Financial institutions	0.089	0.083	0.015	0.082
Shareholders and investors	0.133	0.105	0.020	0.100
Employees	0.110	0.094	−0.053	0.081
Auditors	−0.046	0.075	0.052	0.071
Firm size	0.125	0.084	−0.086	0.075
ROA	0.891	1.370	−0.962	1.450
Manufacturing industry	−0.229	0.223	−0.557	0.223*
B-to-B	0.440	0.176*	0.179	0.189
EMS	−0.012	0.052	0.070	0.052
IMR	−0.348	0.651	−0.628	0.667
Observations	233		233	
Pseudo R^2	0.130		0.081	
Vietnamese firms				
Final consumers	0.185	0.093*	0.165	0.086
Competitors	0.310	0.133*	0.221	0.109*
Buyers	0.154	0.101	0.201	0.094*
Suppliers	−0.073	0.087	0.032	0.091
Communities	0.216	0.096*	0.002	0.091
NGOs	−0.024	0.083	−0.068	0.084
Government agencies	−0.111	0.106	−0.063	0.091
Media	−0.006	0.099	0.001	0.094
Rating agency	0.190	0.089*	0.065	0.082
Financial institutions	−0.165	0.080*	−0.187	0.076*
Shareholders and investors	0.250	0.112*	0.383	0.112***
Employees	0.147	0.120	0.025	0.109
Auditors	−0.150	0.110	0.009	0.113
Firm size	−0.052	0.065	−0.042	0.068
ROA	0.475	1.585	2.159	1.571
Manufacturing industry	0.412	0.436	0.783	0.409

Table 3 (continued)

	(1)		(2)	
	Business opportunities		Social responsibility	
	Coefficient	Robust S.E	Coefficient	Robust S.E
B-to-B	0.226	0.315	0.129	0.281
EMS	0.177	0.055***	0.086	0.054
HNX	− 1.380	0.422***	− 1.466	0.390***
UPCOM	− 0.940	0.289***	− 0.892	0.272***
IMR	1.348	1.352	2.252	1.258
Observations	242		242	
Pseudo R^2	0.270		0.254	

Robust S.E. robust standard errors

***, ** and *significance at the 0.1%, 1% and 5% levels, respectively

the estimation results across various aspects of a firm's proactiveness to address the SDGs. The following subsections present these estimation results.

4.1 Influence of pressure from powerful stakeholders on a firm's motivation to address the SDGs

Model 1 in the upper panel of Table 3 shows that buyers are significantly positive at the 5% level, and Model 2 in the same panel shows that communities and NGOs are significantly positive at the 5% level. These results suggest that Japanese firms facing intense pressure from buyers are more likely to have an economic motivation to address the SDGs, while those facing strong pressure from communities and NGOs are more likely to have ethical motivation to address the SDGs. These estimates provide support for Hypothesis 1a in terms of buyers, and Hypothesis 1b in terms of communities and NGOs.

Model 1 in the lower panel of Table 3 shows that final consumers, competitors, communities, rating agency, and shareholders and investors are significantly positive at the 5% level, and financial institutions are significantly negative at the 5% level, while Model 2 in the same panel shows that competitors, buyers, and shareholders and investors are significantly positive at least at the 5% level, and financial institutions are significantly negative at the 5% level. These results suggest that Vietnamese firms facing strong pressure from final consumers, competitors, communities, rating agency, and shareholders and investors and weak pressure from financial institutions are more likely to have an economic motivation in addressing the SDGs, whereas those facing strong pressure from competitors, buyers, and shareholders and investors and weak pressure from financial institutions are more likely to have an ethical motivation in addressing the SDGs. These estimates support Hypothesis 1a in terms of final consumers, competitors, communities, rating agency, and shareholders and investors, and Hypothesis 1b in terms of competitors, buyers, and shareholders and investors.

Table 4 Influence of a firm's economic and ethical motivation to address the SDGs on recognition of the importance of the SDGs

	(1)		(2)		(3)		(4)	
	Biosphere		Society		Economy		Partnership	
	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E
Japanese firms								
Business opportunities	0.159	0.059**	0.157	0.048***	0.109	0.050*	0.133	0.071
Social responsibility	0.111	0.061	0.118	0.056*	0.105	0.055	0.160	0.087
Final consumers	−0.035	0.064	−0.016	0.045	−0.022	0.054	−0.016	0.072
Competitors	−0.098	0.059	0.002	0.043	0.026	0.051	0.018	0.070
Buyers	−0.018	0.078	0.021	0.059	0.016	0.058	−0.073	0.107
Suppliers	−0.021	0.071	−0.064	0.049	−0.084	0.059	0.012	0.079
Communities	0.147	0.068*	0.087	0.052	0.107	0.056	−0.056	0.075
NGOs	0.052	0.061	0.156	0.046***	0.084	0.050	0.126	0.070
Government agencies	−0.045	0.070	−0.089	0.060	−0.060	0.062	−0.018	0.077
Media	0.027	0.068	0.015	0.057	0.011	0.061	0.110	0.088
Rating agency	0.007	0.063	−0.045	0.049	0.010	0.055	−0.079	0.084
Financial institutions	0.124	0.066	0.035	0.050	0.075	0.052	0.022	0.085
Shareholders and investors	0.013	0.076	0.076	0.062	0.033	0.071	0.030	0.103
Employees	0.183	0.075*	0.081	0.056	0.151	0.058**	0.275	0.089**
Auditors	0.066	0.064	0.039	0.049	0.011	0.053	0.025	0.085
Firm size	0.014	0.048	0.029	0.048	−0.058	0.043	0.053	0.068
ROA	−0.810	1.146	0.387	0.851	0.661	0.980	0.070	1.416
Manufacturing industry	0.060	0.139	−0.169	0.115	−0.117	0.111	−0.176	0.200
B-to-B	0.158	0.137	0.004	0.115	0.152	0.116	0.208	0.186
EMS	0.034	0.035	−0.004	0.034	−0.011	0.035	0.010	0.045
IMR	−0.071	0.293	−0.192	0.303	−0.549	0.259*	−0.468	0.557

Table 4 (continued)

	(1)		(2)		(3)		(4)	
	Biosphere		Society		Economy		Partnership	
	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E
Constant	1.468	1.036	2.194	0.958*	4.198	0.933***	–	–
Observations	231		230		232		232	
R^2/Pseudo R^2	0.448		0.437		0.373		0.122	
Vietnamese firms								
Business opportunities	0.049	0.093	0.040	0.064	0.130	0.057*	0.006	0.107
Social responsibility	0.000	0.090	0.196	0.060***	0.248	0.058***	0.286	0.106**
Final consumers	−0.039	0.068	−0.059	0.052	−0.066	0.054	0.016	0.090
Competitors	−0.198	0.081*	−0.017	0.046	0.082	0.053	−0.049	0.118
Buyers	−0.054	0.076	0.117	0.058*	0.075	0.045	0.181	0.097
Suppliers	0.029	0.065	0.154	0.049**	0.143	0.040***	0.126	0.088
Communities	−0.028	0.073	0.074	0.046	0.073	0.046	0.061	0.091
NGOs	0.159	0.057**	−0.021	0.043	0.035	0.039	−0.009	0.079
Government agencies	−0.077	0.067	−0.019	0.046	0.094	0.046*	0.091	0.083
Media	0.005	0.079	−0.087	0.047	−0.068	0.047	0.084	0.100
Rating agency	−0.001	0.066	0.025	0.045	0.096	0.043*	0.110	0.082
Financial institutions	0.077	0.062	0.134	0.044**	0.079	0.039*	0.212	0.081**
Shareholders and investors	0.165	0.078*	0.049	0.061	0.070	0.063	0.087	0.125
Employees	0.038	0.085	−0.053	0.058	−0.020	0.067	−0.006	0.124
Auditors	−0.152	0.087	−0.001	0.061	−0.047	0.051	−0.153	0.113
Firm size	−0.011	0.051	0.018	0.030	0.025	0.030	0.024	0.056
ROA	−0.106	1.071	−0.130	0.730	−1.822	0.563***	−0.479	1.363
Manufacturing industry	0.150	0.369	−0.027	0.210	−0.389	0.155*	−0.365	0.355

Table 4 (continued)

	(1)		(2)		(3)		(4)	
	Biosphere		Society		Economy		Partnership	
	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E
B-to-B	0.160	0.183	−0.070	0.122	0.157	0.125	0.317	0.218
EMS	0.418	0.049***	0.053	0.033	0.002	0.023	−0.104	0.049*
HNX	−0.012	0.306	−0.209	0.201	−0.295	0.180	0.119	0.344
UPCOM	0.013	0.215	−0.072	0.124	−0.173	0.099	0.070	0.214
IMR	0.570	1.141	0.126	0.688	−1.418	0.501**	−0.799	1.090
Constant	1.508	1.854	1.255	1.076	2.327	0.817**	–	–
Observations	239		241		242		242	
R^2/Pseudo R^2	0.461		0.488		0.742		0.192	

Robust S.E. robust standard errors

***, ** and *significance at the 0.1%, 1% and 5% levels, respectively

Table 5 Influence of a firm's economic and ethical motivation to address the SDGs on establishment of a management structure to evaluate addressing the SDGs

	(1)		(2)		(3)		(4)		(5)	
	Setting KPIs for SDGs		Measuring and monitoring SDG efforts		Reporting SDG initiatives		Using SDG information on next year's action plan		Setting SDG performance indicators	
	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E
Japanese firms										
Business opportunities	0.154	0.095	0.125	0.099	0.096	0.083	0.073	0.084	−0.221	0.139
Social responsibility	−0.069	0.114	0.037	0.112	0.295	0.101**	0.054	0.096	−0.021	0.135
Final consumers	0.083	0.097	0.082	0.097	0.056	0.096	0.063	0.090	0.315	0.156*
Competitors	−0.022	0.094	0.044	0.097	−0.052	0.092	0.106	0.090	0.235	0.141
Buyers	−0.080	0.120	0.027	0.114	0.121	0.118	−0.057	0.116	−0.159	0.165
Suppliers	0.037	0.109	−0.067	0.111	−0.157	0.106	−0.118	0.094	0.190	0.161
Communities	0.194	0.105	0.163	0.107	−0.007	0.104	0.001	0.094	−0.201	0.167
NGOs	−0.014	0.097	0.069	0.102	0.167	0.096	0.194	0.092*	0.296	0.141*
Government agencies	0.202	0.117	0.093	0.112	0.037	0.109	0.022	0.099	0.019	0.143
Media	−0.164	0.124	−0.032	0.122	−0.082	0.118	−0.095	0.111	−0.234	0.155
Rating agency	0.225	0.110*	0.216	0.112	0.247	0.101*	0.249	0.097**	0.019	0.141
Financial institutions	0.050	0.114	−0.110	0.113	−0.088	0.106	−0.034	0.104	−0.106	0.147
Shareholders and investors	0.059	0.130	0.198	0.132	0.119	0.122	0.125	0.117	0.623	0.178***
Employees	−0.196	0.109	−0.240	0.107*	0.008	0.106	−0.068	0.098	−0.253	0.181
Auditors	0.088	0.104	0.183	0.101	0.028	0.098	0.068	0.095	0.029	0.129
Firm size	0.256	0.095**	0.128	0.094	0.099	0.089	−0.048	0.094	0.154	0.157
ROA	3.767	1.941	3.450	1.933	−0.372	1.912	0.035	2.007	1.481	2.187
Manufacturing industry	1.061	0.290***	1.009	0.282***	0.121	0.251	0.284	0.270	0.053	0.363
B-to-B	−0.054	0.239	0.194	0.245	−0.156	0.235	−0.082	0.229	0.038	0.309
EMS	0.125	0.059*	0.093	0.060	0.045	0.055	0.068	0.057	0.137	0.111

Table 5 (continued)

	(1)		(2)		(3)		(4)		(5)	
	Setting KPIs for SDGs		Measuring and monitoring SDG efforts		Reporting SDG initiatives		Using SDG information on next year's action plan		Setting SDG performance indicators	
	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E
IMR	2.104	0.801**	1.235	0.745	0.302	0.691	−0.583	0.750	0.857	1.105
Constant	−11.402	2.382***	−9.607	2.294***	−6.319	2.004**	−1.997	2.206	−8.971	3.677*
Observations	232		232		232		232		226	
Pseudo R^2	0.286		0.290		0.234		0.196		0.247	
Vietnamese firms										
Business opportunities	0.785	0.212***	−0.074	0.167	0.296	0.208	0.379	0.164*	0.036	0.176
Social responsibility	−0.728	0.269**	0.441	0.163**	0.297	0.138*	0.115	0.142	0.644	0.176***
Final consumers	0.432	0.216*	−0.125	0.120	0.004	0.121	0.179	0.111	−0.001	0.125
Competitors	−0.511	0.236*	0.382	0.149*	0.113	0.151	0.164	0.141	0.307	0.164
Buyers	0.208	0.152	0.153	0.127	0.087	0.123	−0.230	0.119	−0.092	0.125
Suppliers	0.132	0.121	−0.156	0.112	0.000	0.115	−0.227	0.108*	−0.292	0.131*
Communities	–	–	0.190	0.125	0.238	0.142	0.004	0.125	−0.037	0.138
NGOs	−0.649	0.182***	−0.049	0.121	0.009	0.103	−0.021	0.098	0.038	0.134
Government agencies	–	–	−0.040	0.125	−0.329	0.134*	−0.224	0.112*	0.127	0.136
Media	–	–	−0.064	0.131	−0.160	0.141	0.067	0.128	0.087	0.154
Rating agency	–	–	0.045	0.124	0.053	0.110	−0.086	0.104	0.067	0.122
Financial institutions	–	–	0.103	0.113	−0.038	0.112	−0.041	0.103	−0.010	0.118
Shareholders and investors	–	–	0.187	0.156	0.563	0.154***	0.055	0.155	0.042	0.171
Employees	0.483	0.220*	−0.141	0.158	0.069	0.158	0.145	0.151	0.152	0.175
Auditors	0.197	0.271	0.162	0.148	−0.153	0.152	0.251	0.150	0.206	0.173
Firm size	−0.022	0.239	0.182	0.107	0.101	0.077	0.075	0.076	0.285	0.111**

Table 5 (continued)

	(1)		(2)		(3)		(4)		(5)	
	Setting KPIs for SDGs		Measuring and monitoring SDG efforts		Reporting SDG initiatives		Using SDG information on next year's action plan		Setting SDG performance indicators	
	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E
ROA	−7.253	2.475**	−1.122	2.276	1.186	1.821	−0.469	1.764	−2.572	2.423
Manufacturing industry	–	–	0.086	0.667	0.446	0.519	1.267	0.510*	−0.159	0.696
B-to-B	–	–	0.056	0.374	−0.308	0.309	−0.069	0.307	0.554	0.468
EMS	0.029	0.100	−0.094	0.089	0.162	0.068*	0.262	0.069***	−0.192	0.096*
HNX	–	–	−0.545	0.529	0.193	0.469	−0.840	0.443	−5.283	0.515***
UPCOM	–	–	−0.890	0.452*	−0.196	0.279	−0.482	0.261	−5.046	0.600***
IMR	0.746	1.636	−0.328	2.081	0.516	1.617	3.097	1.723	−0.911	2.290
Constant	−0.286	2.909	−4.597	3.752	−8.652	2.780**	−9.894	3.038***	−1.404	4.199
Observations	242		242		242		242		242	
Pseudo R^2	0.504		0.375		0.342		0.271		0.505	

Robust S.E. robust standard errors

***, ** and *significance at the 0.1%, 1% and 5% levels, respectively. If all variables are included in Model (1) of lower panel, estimation does not converge

Table 6 Influence of a firm's economic and ethical motivation to address the SDGs on support for corporate governance in addressing the SDGs

	(1)		(2)		(3)	
	Discussing the SDGs at the board level		Adequate understanding SDGs by inside directors		Adequate understanding SDGs by outside directors	
	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E
Japanese firms						
Business opportunities	0.093	0.081	0.080	0.063	0.227	0.073**
Social responsibility	0.292	0.091***	0.202	0.082*	0.155	0.088
Final consumers	0.026	0.072	0.033	0.071	0.086	0.067
Competitors	−0.016	0.073	−0.044	0.071	−0.026	0.077
Buyers	−0.058	0.084	−0.072	0.083	0.012	0.089
Suppliers	−0.104	0.078	−0.044	0.074	−0.092	0.080
Communities	−0.003	0.080	0.155	0.076*	0.005	0.089
NGOs	0.171	0.083*	0.091	0.068	0.093	0.075
Government agencies	−0.149	0.091	−0.149	0.086	−0.139	0.093
Media	−0.098	0.092	−0.062	0.092	−0.009	0.090
Rating agency	0.018	0.071	0.082	0.076	0.009	0.086
Financial institutions	0.048	0.077	0.056	0.084	0.176	0.093
Shareholders and investors	0.257	0.099**	0.136	0.095	0.063	0.108
Employees	−0.135	0.081	−0.030	0.074	−0.126	0.076
Auditors	0.566	0.087***	0.475	0.086***	0.449	0.090***
Firm size	0.068	0.078	0.074	0.068	0.031	0.075
ROA	1.759	1.684	1.027	1.516	1.531	1.448
Manufacturing industry	0.137	0.206	−0.043	0.200	−0.064	0.214
B-to-B	0.310	0.183	0.273	0.175	0.077	0.176
EMS	0.009	0.049	0.014	0.050	0.084	0.053
IMR	0.349	0.532	−0.530	0.470	−0.148	0.655
Observations	232		232		232	
Pseudo R^2	0.186		0.190		0.182	
Vietnamese firms						
Business opportunities	0.163	0.124	0.177	0.118	0.336	0.131**
Social responsibility	0.526	0.122***	0.566	0.135***	0.452	0.119***
Final consumers	−0.099	0.094	−0.065	0.101	0.053	0.091
Competitors	0.591	0.127***	0.351	0.123**	0.525	0.115***
Buyers	0.101	0.097	0.061	0.108	0.056	0.098
Suppliers	−0.073	0.092	−0.010	0.086	−0.087	0.088
Communities	0.098	0.093	0.076	0.097	0.048	0.090
NGOs	0.170	0.087*	0.084	0.092	0.154	0.083
Government agencies	−0.006	0.093	0.025	0.091	−0.034	0.093
Media	−0.028	0.089	0.086	0.094	−0.063	0.091
Rating agency	0.119	0.087	0.129	0.083	0.122	0.082

Table 6 (continued)

	(1)		(2)		(3)	
	Discussing the SDGs at the board level		Adequate understanding SDGs by inside directors		Adequate understanding SDGs by outside directors	
	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E
Financial institutions	0.122	0.090	0.131	0.091	0.228	0.084**
Shareholders and investors	0.040	0.127	0.014	0.123	0.198	0.136
Employees	−0.194	0.106	−0.125	0.117	−0.237	0.141
Auditors	−0.166	0.125	−0.180	0.108	−0.341	0.114**
Firm size	0.052	0.063	0.026	0.061	−0.044	0.067
ROA	1.529	1.408	0.426	1.444	2.677	1.638
Manufacturing industry	0.794	0.450	0.364	0.463	1.195	0.445**
B-to-B	−0.126	0.253	0.113	0.264	−0.281	0.280
EMS	−0.080	0.058	−0.078	0.060	0.002	0.061
HNX	−1.156	0.388**	−0.984	0.379**	−0.808	0.395*
UPCOM	−0.455	0.226*	−0.216	0.221	−0.348	0.244
IMR	2.200	1.392	0.970	1.494	3.965	1.413**
Observations	242		242		242	
Pseudo R^2	0.306		0.287		0.305	

Robust S.E. robust standard errors. ***, ** and * denote significance at the 0.1%, 1% and 5% levels, respectively

Although we only observe the negative influence of financial institutions in Vietnamese firms, it appears reasonable in terms of their level of financial leverage. We find that Vietnamese firms depend more on direct financing from shareholders and investors than on indirect financing from financial institutions, such that firms facing stronger pressure from shareholders and investors than from financial institutions are more likely to have economic and ethical motivations.

4.2 Influence of a firm's economic and ethical motivations to address the SDGs on actual proactiveness

This subsection provides the regression results concerning the influence of a firm's economic and ethical motivations to address the SDGs on actual proactiveness in terms of recognition of importance of the SDGs, establishment of management structure to evaluate addressing the SDGs, support of corporate governance for addressing the SDGs, and SDG performance. Because this study intends to clarify the relationship between a firm's motivation and actual proactiveness (given the pressure from stakeholders), for the sake of brevity we do not discuss the estimation results concerning the pressure from powerful stakeholders.

Table 7 Influence of a firm's economic and ethical motivation to address the SDGs on SDG performance

	(1)		(2)		(3)		(4)		(5)		(6)	
	Employee satisfaction improvement		Women's empowerment		Promotion of CSR activities in supply chain		Compliance with social norms		Environmental performance improvement		GHG emissions Reduction	
	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E
Japanese firms												
Business opportunities	−0.054	0.084	0.028	0.070	0.021	0.073	0.123	0.079	−0.009	0.063	−0.012	0.074
Social responsibility	0.178	0.080*	0.077	0.075	0.055	0.077	0.170	0.070*	0.183	0.081*	0.159	0.078*
Final consumers	0.171	0.082*	0.259	0.078***	0.076	0.063	0.042	0.084	0.079	0.072	0.029	0.069
Competitors	−0.183	0.088*	−0.035	0.077	−0.016	0.084	−0.094	0.073	0.012	0.081	0.103	0.085
Buyers	−0.034	0.073	−0.182	0.086*	−0.070	0.089	−0.054	0.093	−0.046	0.087	−0.079	0.087
Suppliers	0.171	0.071*	0.005	0.073	0.026	0.085	−0.052	0.081	0.011	0.079	0.017	0.079
Communities	−0.074	0.082	−0.108	0.069	−0.136	0.082	−0.234	0.079**	−0.141	0.088	−0.006	0.076
NGOs	0.267	0.071***	0.124	0.068	0.311	0.070***	0.026	0.066	0.066	0.083	0.011	0.082
Government agencies	−0.086	0.088	0.065	0.075	−0.107	0.081	−0.006	0.066	0.016	0.086	0.127	0.078
Media	−0.222	0.085**	−0.022	0.084	0.082	0.090	0.199	0.093*	−0.090	0.085	−0.111	0.088
Rating agency	0.021	0.078	0.077	0.071	0.143	0.071*	−0.022	0.065	0.085	0.084	0.020	0.091
Financial institutions	−0.065	0.081	−0.119	0.072	−0.182	0.082*	0.009	0.090	−0.099	0.083	−0.157	0.093

Table 7 (continued)

	(1)		(2)		(3)		(4)		(5)		(6)	
	Employee satisfaction improvement		Women's empowerment		Promotion of CSR activities in supply chain		Compliance with social norms		Environmental performance improvement		GHG emissions Reduction	
	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E
Shareholders and investors	0.107	0.105	0.088	0.102	0.167	0.089	0.110	0.107	0.151	0.089	0.116	0.094
Employees	−0.040	0.082	−0.025	0.081	0.091	0.068	0.075	0.081	0.038	0.086	−0.080	0.083
Auditors	0.144	0.073*	0.112	0.074	0.029	0.071	0.239	0.086**	0.098	0.081	0.176	0.077*
Firm size	0.012	0.085	0.003	0.076	0.053	0.065	−0.049	0.073	0.200	0.064**	0.189	0.073**
ROA	5.100	1.537***	1.741	1.339	0.076	1.219	2.539	1.369	0.661	1.225	0.471	1.382
Manufacturing industry	0.039	0.238	−0.020	0.189	0.354	0.197	0.047	0.205	0.084	0.205	0.160	0.208
B-to-B	−0.395	0.171*	−0.118	0.177	−0.230	0.168	−0.523	0.177**	−0.397	0.177*	−0.383	0.178*
EMS	0.061	0.057	0.027	0.048	0.021	0.053	0.015	0.049	0.187	0.045***	0.157	0.050**
IMR	0.096	0.705	0.254	0.494	0.364	0.532	−0.366	0.539	0.305	0.483	0.243	0.546
Observations	217		219		218		218		220		219	
Pseudo R^2	0.123		0.073		0.121		0.109		0.131		0.111	
Vietnamese firms												
Business opportunities	0.094	0.115	0.169	0.107	0.140	0.129	0.110	0.143	0.236	0.132	0.058	0.111
Social responsibility	0.078	0.110	0.115	0.111	−0.065	0.103	0.265	0.115*	0.014	0.100	−0.096	0.113

Table 7 (continued)

	(1)		(2)		(3)		(4)		(5)		(6)	
	Employee satisfaction improvement		Women's empowerment		Promotion of CSR activities in supply chain		Compliance with social norms		Environmental performance improvement		GHG emissions Reduction	
	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E
Final consumers	0.055	0.086	0.014	0.088	0.073	0.099	0.149	0.094	0.101	0.085	0.079	0.068
Competitors	0.129	0.104	0.004	0.092	−0.090	0.109	−0.208	0.110	−0.090	0.110	−0.371	0.099***
Buyers	0.011	0.088	0.130	0.096	0.097	0.100	−0.064	0.104	0.112	0.086	0.130	0.082
Suppliers	−0.086	0.094	0.152	0.093	0.048	0.084	−0.113	0.097	0.041	0.079	0.096	0.088
Communities	0.152	0.095	0.074	0.099	−0.021	0.093	−0.132	0.099	−0.034	0.084	0.016	0.082
NGOs	−0.066	0.082	−0.096	0.091	−0.021	0.076	0.056	0.070	−0.062	0.074	0.239	0.074***
Government agencies	0.062	0.086	0.004	0.078	−0.217	0.093*	0.055	0.091	−0.052	0.088	−0.285	0.083***
Media	−0.077	0.088	0.095	0.095	0.031	0.096	0.031	0.093	−0.042	0.100	0.095	0.093
Rating agency	0.175	0.091	−0.103	0.084	0.086	0.093	−0.157	0.087	−0.146	0.078	−0.213	0.078**
Financial institutions	0.170	0.083*	0.108	0.093	0.045	0.078	0.127	0.082	0.174	0.079*	0.109	0.074
Shareholders and investors	0.139	0.104	0.163	0.112	0.172	0.101	0.064	0.115	0.074	0.103	0.212	0.091*
Employees	0.260	0.120*	−0.011	0.107	0.205	0.098*	−0.082	0.119	−0.171	0.114	0.067	0.094
Auditors	0.026	0.121	0.180	0.137	−0.095	0.112	0.410	0.105***	0.309	0.100**	−0.093	0.107
Firm size	−0.019	0.058	−0.021	0.053	0.035	0.057	0.112	0.061	0.068	0.049	−0.047	0.061
ROA	1.466	1.281	1.367	1.351	−0.753	1.347	−1.279	1.066	−0.742	1.213	−1.050	1.405

Table 7 (continued)

	(1)		(2)		(3)		(4)		(5)		(6)	
	Employee satisfaction improvement		Women's empowerment		Promotion of CSR activities in supply chain		Compliance with social norms		Environmental performance improvement		GHG emissions Reduction	
	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E	Coefficient	Robust S.E
Manufacturing industry	0.671	0.384	0.240	0.385	−0.453	0.365	−0.949	0.320**	−0.253	0.370	0.558	0.360
B-to-B	0.406	0.253	−0.134	0.262	−0.156	0.250	0.032	0.211	−0.630	0.241**	−0.267	0.207
EMS	−0.010	0.044	−0.102	0.052	0.339	0.054***	0.012	0.051	0.092	0.062	0.281	0.057***
HNX	−0.994	0.345**	−0.506	0.358	0.031	0.373	0.720	0.355*	0.444	0.361	–0.135	0.323
UPCOM	−0.443	0.204*	−0.066	0.186	−0.129	0.216	0.393	0.217	0.511	0.216*	0.194	0.235
IMR	2.460	1.194*	1.396	1.139	−0.736	1.204	−2.357	1.051*	−0.420	1.155	0.999	1.165
Observations	242		242		242		242		242		242	
Pseudo R^2	0.234		0.187		0.107		0.091		0.082		0.102	

Robust S.E. robust standard errors. ***, ** and * denote significance at the 0.1%, 1% and 5% levels, respectively

4.2.1 Recognition of the importance of the SDGs

The upper panel of Table 4 shows that business opportunities are significantly positive in Models (1), (2) and (3), at least at the 5% level, and social responsibility is significantly positive in Models (2) at the 5% level. These results suggest that Japanese firms that have an economic motivation to address the SDGs are more likely to recognize the importance of the SDGs in terms of biosphere, society and economy, while those having ethical motivation are more likely to recognize the importance of the SDGs in terms of society. These results support Hypothesis 2a strongly and Hypothesis 2b only very weakly.

The lower panel of Table 4 shows that business opportunities are significantly positive in Model (3) at the 5% level, and social responsibility is significantly positive in Models (2), (3) and (4) at least at the 1% level. These results suggest that Vietnamese firms that have an economic motivation to address the SDGs are more likely to recognize their importance in terms of economy, whereas those having an ethical motivation are more likely to recognize their importance in terms of society, economy and partnership. This supports Hypothesis 2a only very weakly, but strongly supports Hypothesis 2b.

4.2.2 Establishment of a management structure to evaluate the SDGs

The upper panel of Table 5 shows that business opportunities are not statistically significant in all models, and that social responsibility is significantly positive in Model (3) at the 1% level. These results suggest that Japanese firms that have an ethical motivation are more likely to report their SDG efforts. Thus, Hypothesis 2a is rejected and Hypothesis 2b is only very weakly supported.

The lower panel of Table 5 shows that business opportunities are significantly positive in Models (1) and (4) at least at the 5% level, and social responsibility is significantly positive in Models (2), (3) and (5) at least at the 5% level, and significantly negative in Model (1) at the 1% level. These results suggest that Vietnamese firms that have an economic motivation are more likely to set KPIs for the SDGs, and use the information in SDGs on the next year's action plan, while those having an ethical motivation are more likely to measure and monitor the SDG efforts, report the SDG efforts and set the SDG performance indicators, and are less likely to set KPIs for the SDGs. However, the significant positive influence of business opportunities and negative influence of social responsibility on setting KPIs for SDGs in Model (1) are vague because we do not include all control variables in the model. This is because when we include all variables in the model, the estimation (probit) does not converge.[4] A likely reason is that 97.5% of Vietnamese firms in the sample set KPIs for the SDGs. This provides partial support for Hypothesis 2a and some support for Hypothesis 2b, but there is an exception.

[4] If we omit the IMR from the model (that is, we do not control for potential sample selection bias), the estimation can converge without dropping any of the other variables. However, neither business opportunities nor social responsibility have a significant influence.

4.2.3 Support of corporate governance for addressing the SDGs

The upper panel of Table 6 shows that business opportunities are significantly positive in Model (3) at the 1% level, and social responsibility is significantly positive in Models (1) and (2), at least at the 5% level. These results suggest that Japanese firms having an economic motivation are more likely to have outside directors that understand the SDGs, while those having an ethical motivation are more likely to discuss the SDGs at the board level and have inside directors that adequately understand the SDGs. This provides weak support for Hypothesis 2a and only some support for Hypothesis 2b.

The lower panel of Table 6 shows that business opportunities are significantly positive in Model (3) at the 1% level, and social responsibility is significantly positive in Models (1), (2) and (3) at the 0.1% level. These results suggest that Vietnamese firms that have an economic motivation are more likely to have outside directors that adequately understand the SDGs, whereas those having an ethical motivation are more likely to discuss the SDGs at the board level, have inside directors that adequately understand the SDGs, and have outside directors that adequately understand the SDGs. Thus, there is weak support for Hypothesis 2a but strong support for Hypothesis 2b.

4.2.4 SDG performance

The upper panel of Table 7 shows that business opportunities are not statistically significant in all models, and social responsibility is significantly positive in Models (1), (4), (5) and (6) at the 5% level. These results suggest that Japanese firms that have an ethical motivation are more likely to achieve employee satisfaction improvement, compliance with social norms, environmental performance improvement and GHG emissions reduction. Thus, we reject Hypothesis 2a and strongly support Hypothesis 2b.

The lower panel of Table 7 shows that business opportunities are not statistically significant in all models, and social responsibility is significantly positive in Model (4) at the 5% level. These results suggest that Vietnamese firms that have an ethical motivation are more likely to achieve compliance with social norms. Consequently, we reject Hypothesis 2a and support Hypothesis 2b only very weakly.

5 Discussion and implications

The purpose of this study was to address the question of whether a firm's economic motivation is practically preferable in achieving the SDGs in contrast to its ethical motivation. To this end, using data on Japanese and Vietnamese firms, we empirically analysed whether the degree of a firm's proactiveness to address the SDGs depended on its economic and/or ethical motivation from the perspective of

stakeholder management. This section discusses the main findings of the regression analysis and their academic and practical implications.

5.1 Discussion

5.1.1 Pressure from powerful stakeholders and a firm's motivation to address the SDGs

We find using stakeholder theory that strong pressure from buyers influences a Japanese firm's economic motivation to address the SDGs, and pressure from communities and NGOs influences its ethical motivation; in contrast, pressure from final consumers, competitors, communities, rating agency, and shareholders and investors influence a Vietnamese firm's economic motivation, and pressures from competitors, buyers, and shareholders and investors influence its ethical motivation. Because Table 2 shows that the most (recognized) influential stakeholders in addressing the SDGs are shareholders and investors (5.769), buyers (5.697) and final consumers (5.440) for Japanese firms, and employees (6.144), buyers (5.967), and shareholders and investors (5.922) for Vietnamese firms, our finding suggests that these recognized powerful stakeholders do not always influence a firm's economic and ethical motivations for this purpose (when the influence of other stakeholders is controlled). The same applies against Ikuta and Fujii's (2022) inference (i.e., the government, industry organizations and investors are potentially influential stakeholders for Japanese firms to address the SDGs) judging from the current practical situation surrounding Japanese firms (see Sect. 2.4).

Pelle Culpin's (1998) stakeholder classification is useful to interpret these estimation results. In this classification, stakeholders are classified into institutional stakeholders (those involved in laws and regulations, inter-organizational entities, and professional organizations that may be specific to a given industry), economic stakeholders (actors operating in the markets of the firm in question) and ethical stakeholders emanating from ethical and political pressure groups (a group whose figuration may be more difficult to define) (Pesqueux and Damak-Ayadi 2005). Because buyers can be economic stakeholders, and communities and NGOs can be, if anything, ethical stakeholders using this classification, strong pressures from economic or ethical stakeholders serve to differentiate between a Japanese firm's economic or ethical motivation to address the SDGs. Thus, the relationships between the type of stakeholders' pressure and firm's stance on the SDGs are distinct. Considering that different studies obtain different results concerning the relationship between the type of powerful stakeholders' pressure and a firm's sustainability management in developed counties (see Sect. 2.4), we can clarify its distinct relationship, especially in terms of addressing the SDGs, only after focusing on its motivation.

Alternatively, we can consider final consumers, competitors, financial institutions, and shareholders and investors as economic stakeholders, and rating agencies as institutional stakeholders, in addition to the above stakeholders. Therefore, strong pressures from more varied stakeholders serve to distinguish the economic motivation of Vietnamese firms from their ethical motivation. Otherwise, because

economic stakeholders similarly influence a Vietnamese firm's economic and ethical motivations, additional intense pressure from institutional and ethical stakeholders can serve to make a distinction between them. This finding is very suggestive for stakeholder management in Vietnamese firms. Of course, the relationship between the pressure from powerful stakeholders and a firm's motivation to address the SDGs in Vietnam is not very apparent, unlike that in Japan. Although many previous studies argue that governments and regulatory authorities influence a firm's sustainability management in developing countries (see Sect. 2.4), this does not seem to apply to the motivation of Vietnamese firms to address the SDGs given our estimation results. This could be because firms have economic and ethical motivations only when they implement sustainability management voluntarily (Chouaibi and Chouaibi 2021).

In this sense, our findings could capture the aspect of voluntary sustainability management to address the SDGs, whereas previous studies only captured politically mandatory sustainability management. This is because intense pressure from governments and regulatory authorities implies imposing stricter regulatory constraints. Nevertheless, it is not that we ignore such an aspect. Indeed, we can also capture the aspect of mandatory sustainability management through the path that does not pass through a firm's economic and ethical motivations (i.e., Arrow 3 in Fig. 2) when analysing the influence of a firm's motivation to address the SDGs on actual proactiveness (see Tables 4, 5, 6, 7). However, we scarcely observe that intense pressure from government agencies directly influences a firm's proactiveness to address the SDGs. Accordingly, whereas Nishitani et al. (2021a) find that intense pressure from government plays a vital role in Vietnamese firms incorporating the SDGs into their business targets, it is possible that Vietnamese firms have entered a new phase in more voluntarily addressing the SDGs (like firms in developed countries, including Japanese firms).

5.1.2 A firm's motivation to address the SDGs and its proactiveness to address the SDGs

There are several significant findings regarding a firm's motivation to address the SDGs and its proactiveness to address the SDGs at various levels. First, we find that Japanese and Vietnamese firms with both economic and ethical motivations recognize the SDGs as being important for their business, whereas this tendency is not as strong for Japanese firms with an ethical motivation and Vietnamese firms with an economic motivation. This provides the only convincing evidence that firms that have an economic motivation are more likely to address the SDGs more proactively. This may be because the ethical motivation is the foundation for firms to address the SDGs (as evidenced by our finding that Japanese and Vietnamese firms with an ethical motivation address the SDGs more proactively), and (any additional) economic motivation is only recently stimulated by the emergence of the concepts of CSV and environmental, social and governance investment (Nishitani et al. 2021b).

Among other things, because we also find that Japanese firms that face intense pressure from buyers (but not final consumers) and are B-to-B firms are more likely to have an economic motivation to address the SDGs, supply chain

management characteristics may be influential. Indeed, Voola et al. (2022) suggest that B-to-B firms declare their role in addressing the SDGs within the global supply chain. However, firms that have an economic motivation appear not yet ready for actual action, regardless of whether they intend to implement these actions.

Second, we find that Japanese firms having both economic and ethical motivations and Vietnamese firms that have an economic motivation barely establish the necessary management structure to evaluate addressing the SDGs, whereas Vietnamese firms that have an ethical motivation proactively do this (although there are some exceptions). It is interesting to find that Japanese firms, regardless of whether they have an economic or ethical motivation, have made little progress on the establishment of the management structure needed to evaluate their addressing of the SDGs, while only Vietnamese firms that have an ethical motivation will proactively establish the required management structure. However, many Japanese firms (and economically motivated Vietnamese firms) may still use their existing management frameworks as a substitute for a management framework dedicated to addressing the SDGs. For example, (environmental) management control systems in addition to EMS can work well as a management framework for maintaining a proactive attitude toward the SDGs in both developed and developing countries (Guenther et al. 2016; Kim and Kokubu 2019; Nishitani et al. 2021a). Regardless, while this is an unexpected result, the fact remains that firms that have an economic motivation barely establish a management framework to address the SDGs in either country.

Third, we find that Japanese and Vietnamese firms that have an economic motivation do not have dedicated support from corporate governance in addressing the SDGs, whereas those that have an ethical motivation have more than a certain amount of support. That is, only ethically motivated Japanese and Vietnamese firms can receive enough support from corporate governance. García-Sánchez et al. (2015) and Jamali et al. (2008) support this finding of a positive relationship between corporate governance and ethical and social responsibility performance in developed and developing countries, respectively. By contrast, it is also interesting to find that economically motivated Japanese and Vietnamese firms commonly have support from outside directors that understand the SDGs. This implies that strengthening the roles of corporate governance (from the economic perspective) by providing the perspective of an outsider is essential for these firms to succeed in balancing social and environmental value and economic value in terms of the SDGs (e.g., Deschênes et al. 2015; Radu et al. 2022). This is reasonable because we expect that strong corporate governance with outside directors makes for more objective assessments of the manager's actions and behaviours, especially in the process of creating economic (shareholder) value (Grabke-Rundell and Gomez-Mejia 2002).

Finally, we find that while Japanese and Vietnamese firms with an economic motivation do not achieve better SDG performance, Japanese firms that proactively follow an ethical motivation do, as do Vietnamese firms with an ethical motivation, but to a lesser degree. Considering the second and third findings above, we interpret this as meaning it is difficult for firms, regardless of whether they operate in a developed or developing country, to achieve better sustainability performance without the establishment of an appropriate management structure and the support of corporate

governance. In this sense, this finding strongly supports the view that a firm's ethical motivation to address the SDGs is key for its actual proactive efforts.

5.1.3 Summary

In Japan, given that intense pressure from economic or ethical stakeholders serves to differentiate a firm's economic or ethical motivation to address the SDGs, firms with both economic and ethical motivations consider the SDGs important for their business. However, only firms with an ethical motivation implement concrete actions on the SDGs. In Vietnam, given that intense pressure from a range of stakeholders serves to distinguish between a firm's economic and ethical motivations, there is no robust evidence that firms with an economic motivation, not an ethical motivation, proactively address the SDGs. These results suggest that ethical motivation (substantive legitimacy) plays a more significant role for both Japanese and Vietnamese firms in addressing the SDGs. This strongly refutes the view that the economic motivation of firms to achieve the SDGs is practically preferable in contrast to the ethical motivation, and therefore supports our concern that firms (in both developed and developing countries) with an economic motivation potentially promotes SDG-washing, not the SDGs themselves.

5.2 Implications

5.2.1 Academic implications

We can provide some academic implications for future research in sustainability management. To start, although we use different samples from those in previous studies and it is thus difficult to directly compare the results, our estimation results imply that a firm's motivation plays a mediating role to explain why a firm's powerful stakeholders influence its proactiveness toward sustainable development, which links to the argument about stakeholder management in Sect. 2.4. This could be applicable at least to final consumers (e.g., Haddock-Fraser and Tourelle 2010; Nishitani et al. 2021a), buyers (e.g., Rashid et al. 2020), communities (e.g., Ike et al. 2019), NGOs (e.g., Ike et al. 2019), and shareholders and investors (e.g., Haider and Nishitani 2022). That is, just because we clarify which are the more powerful stakeholders in determining firm proactiveness toward sustainable development, it does not identify precisely why they are proactive. Thus, we should directly focus on the motivation for the purpose. This provides a clue for how future studies could evaluate and interpret stakeholder theory where there are several conflicting interpretations due to the variation in stakeholder theory (Mainardes et al. 2011).

Next and most importantly, our estimation results supporting the view of CSV as a cherry-picking approach (Crane et al. 2014) imply that CSV using an economic motivation potentially promotes SDG-washing and not the SDGs themselves, which links to the argument about the limitations of an economic motivation in sustainability management in Sect. 2.3. In this sense, we should criticize overemphasizing economic motivation and its use in CSV when addressing the SDGs. This is because while stakeholders

increasingly expect firms to address the SDGs and disclose their SDG-related information (e.g., PricewaterhouseCoopers 2019), a firm's sustainability management and information disclosure based on prioritizing its economic value cannot satisfy the required level of social and environmental value that stakeholders expect for achieving the SDGs. Thus, the actual contribution of CSV remains partial and tentative. Or rather, CSV could be a trigger to deceive a firm's stakeholders about its actual proactiveness to address the SDGs intentionally or unintentionally. Indeed, van Zanten and van Tulder (2020) suggest that if firms address the SDGs inappropriately, the risk of SDG-washing will increase greatly. Similarly, Forestier and Kim (2020) and Heras-Saizarbitoria et al. (2022) clarify that superficial cherry-picking sustainability management forms the process of SDG-washing, and van Zanten and van Tulder (2021) argue that many firms cherry-pick among the easy and isolated SDGs to report upon.

It is also important to note that the phenomenon of superficial cherry-picking sustainability management to SDG-washing could decrease economic value by harming the firm's reputation, given the expectation gap between actual and expected levels of proactiveness to address the SDGs from the viewpoint of stakeholders (Salehi and Azary 2009). In this sense, CSV has little regard for the negative impact of the core products and markets for firms (Crane et al. 2014). While stakeholders will not trust firms addressing the SDGs superficially, a firm's solid reputation can enhance client satisfaction and lead to improvements in its economic performance (Rubio-Andrés et al. 2022; Yamane and Kaneko 2021). For example, Nakamura et al. (2023) find that consumers in the U.S., Germany and Japan highly evaluate the SDGs in product value.

Because such an implication is only possible after we clarify empirically the structural deficiency of the economic motivation, we should evaluate CSV not only based on its potential advantages but also disadvantages using sound empirical evidence. Furthermore, our estimation results in which ethical motivation (substantive legitimacy) is distinguished from the general legitimacy motivation (both symbolic and substantive legitimacy) imply the possibility that the negative relationship between sustainability performance and its reporting found in previous literature to test legitimacy theory (e.g., Cho et al. 2012; Cong et al. 2020; Park et al. 2023) supports symbolic legitimacy, which links to the argument about legitimacy theory in Sect. 2.2. This is because good sustainability performers in our analysis are firms that have an ethical motivation, and poor performers are firms that have an economic motivation. If poor performers have an incentive to disclose more sustainability information, firms that have an economic motivation to secure symbolic legitimacy also have the same incentive. This implication is consistent with the notion that CSV using an economic motivation potentially promotes SDG-washing. We clarify this after using our estimations to distinguish between the ethical motivation (substantive legitimacy) and the general legitimacy motivation.

Accordingly, our findings provide important academic implications, not only for CSV, but also stakeholder theory.

5.2.2 Practical implications

Although a win–win relationship appears attractive for many firms, the actual win–win relationship expected by firms lies within a very narrow area (Category 2

only accounts for a very small share in Fig. 1). In this sense, firms with an ethical motivation are currently more proactive in addressing the SDGs than those with an economic motivation. It is significant (even if unexpected) that we observe this in both Japanese and Vietnamese firms, although the conventional belief is that there is an unbridgeable gap in the behavioural intention of corporate sustainability management between developed and developing countries (Ike et al. 2019; Jamali and Karam 2018; Jamali et al. 2017; Koleva 2021). Taking this into consideration, this study obtains convincing evidence from developed and developing countries in how to practically address the SDGs and how to avoid SDG-washing (more precisely speaking, how to voluntarily address the SDGs when considering the influence of powerful stakeholders) in a more generalizable manner.

It is of course in the first place possible that firms in Japan and Vietnam intrinsically have stronger feelings to secure legitimacy as a member of society, which is supported by the Hofstede's dimensions of national cultures showing that the degree of individualism (i.e., the extent to which the ties between individuals are loose) in Japan and Vietnam is not that high.[5] However, even if this is the case, we expect that firms in both developed and developing countries are currently commonly struggling to address the SDGs in achieving this same win–win relationship even in the situation where they face intense pressure from powerful stakeholders, irrespective of how distinct or varied they are. This is the extremely important practical implication of our study for firms in both developed and developing countries. One reason is that Nestlé originally and exclusively created the concept of shared value (as with CSV), and therefore it is intrinsically difficult for many other firms around the world to adapt it to themselves. Rubio-Andrés et al. (2022) suggest that innovation is the key when it comes to taking strategic decisions that will enable activities that generate shared value. However, innovation is not easy, and we consider that it is difficult for firms to differentiate CSV from business as usual if they promote CSV as an economic activity, where there is usually no mechanism for creating social and environmental value in firms (Kokubu et al. 2022). Indeed, only 25% of global firms integrate the SDGs into their business strategy (PricewaterhouseCoopers 2019).

To overcome this difficulty, it is necessary to initially verify whether the value created by CSV is equal to social and environmental value (Kokubu et al. 2022). In short, we propose that social and environmental value have priority over economic value. This follows from our finding that firms that have an ethical motivation are more likely to address the SDGs as well as our argument that economic value can sometimes be possible alongside social and environmental value, as discussed in Sect. 2.3. Accordingly, if CSV is redefined as corporate activity used to create social and environmental value through its primary business, we can treat it as a more acceptable and realistic concept (Kokubu et al. 2022). For example, Nishitani et al. (2021a) find that if Vietnamese firms incorporate the SDGs into their business targets, they can improve environmental performance further. This redefined concept would be acceptable, even for firms that have an economic motivation. This is because when firms secure their substantive legitimacy, they can consequently enhance their

[5] See the details on the website of Hofstede Insights at https://www.hofstede-insights.com/country-comparison-tool.

economic value through their primary business. This is also reasonable in that firms can expand economic value by closing stakeholders' expectation gap between actual and expected levels of sustainability management. Thus, we expect our study to serve as a trigger for firms across the world to appropriately address and realize the SDGs.

6 Conclusion

This study concludes that while a firm's motivation to address the SDGs depended on its powerful stakeholders, its sustainability management based on economic motivation remained limited in contributing to the SDGs, and potentially promotes SDG-washing rather than the SDGs themselves. Instead, ethical motivation plays a more vital role, as strongly evidenced by multiple cases in Japan and Vietnam (representing developed and developing countries, respectively). These findings counter the view that firms should address the SDGs by applying the CSV framework (or pursuing an economic motivation).

Of course, this study has some limitations, especially regarding the data collection using a questionnaire survey, which involves the use of subjective measures and the potential for common method bias. Because it is difficult to obtain firm data including the motivation for addressing the SDGs and stakeholder pressure to do so, we consider our subjective measures and the resulting analysis using data from the questionnaire survey as a second-best solution. Nonetheless, the potential bias resulting may not be strong, because we employ a stricter significance level (i.e., $p<0.05$ not $p<0.1$), and not all estimation results exhibit the same trend. In addition, not only pressure from powerful stakeholders but also other factors may have an impact on a firm's motivation for sustainability management. For example, if we employed panel data analysis, we could control for the influence of corporate culture as an unseen individual firm effect. However, because we could obtain only cross-sectional (single year) data, this was impossible. It would be preferable if our analysis considered all potential factors.

Furthermore, although we find a very similar trend in developed and developing countries in Asia (this is a very significant finding of this study), it is not certain that this trend is also applicable to other countries such as those in Europe and the U.S. Regrettably, this is beyond the scope of any single analysis, and we trust that future research will explore these issues further. Nonetheless, despite these limitations, the fact remains that we provide new insights into how firms can contribute to achieving the SDGs and trust that our efforts will encourage further research on the topic.

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Data availability The dataset generated during the current study is not publicly available because it contains proprietary information the authors acquired through a licence. Information on how to obtain the data is available from the corresponding author on reasonable request.

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