

Research Trends in the Context of Sustainable Development Goals and Business: A Literature Review

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要旨：

2015年に採択されて以降、SDGs (Sustainable Development Goals：持続可能な開発目標) は企業にとって社会的課題解決を図ると同時に、大きなビジネスチャンスとして捉えることが期待されている。一方、SDGsの展開方法や、評価方法が分からない等とする企業からの声も多く存在する現状にある。本稿では、SDGsとビジネスの文脈における研究において、この現状をどのように受け止め、どのような見解を示しているのか、国内外の先行研究をSDG Compassの5つのステップに基づき分析を行った。その結果、目標設定や経営への統合方法に関する研究等、全てのステップにおいて研究の蓄積が十分ではない現状が導き出された。

ABSTRACT

According to the Business & Sustainable Development Commission (2017), achieving sustainable development goals (SDGs) creates USD12 trillion worth of market opportunities in economic systems. However, many companies do not know how to evaluate the performance of the SDGs. Furthermore, there is no clear pattern for companies to act on the SDGs, and so on. This study aims to examine the research trend in the context of SDGs and business in Japan and abroad, through a literature review based on the 5-step framework presented by the SDG Compass, and to find the essence of utilizing it in practical business. This study found that more research, such as how to integrate SDGs into the current business, is required for each step of the SDG Compass.

Keywords

Sustainable Development Goals, SDG Compass, Sustainability, Literature Review

1. Introduction

The United Nations formally adopted the 2030 Agenda for sustainable development in September 2015, along with a set of sustainable development goals (SDGs) as a universal, integrated, and transformative vision for a better world. One of its main characteristics is recognizing the importance of the company's role in achieving SDGs. Article 67 of Agenda 2030 points out that "Private business activity, investment,

and innovation are major drivers of productivity, inclusive economic growth, and job creation” (United Nations, 2015, p.34). Companies are crucial for promoting the achievement of SDGs. Furthermore, according to the former United Nations Secretary-General, Ban Ki-moon, “Business is a vital partner in achieving the Sustainable Development Goals. Companies can contribute through their core activities, and we ask companies everywhere to assess their impact, set ambitious goals and communicate transparently about the results” (GRI et al., 2016, p.4).

Additionally, companies can regard SDGs as a business opportunity to develop new markets. According to the Business & Sustainable Development Commission (2017), achieving SDGs will open up USD12 trillion of market opportunities in economic systems by 2030 (Business & Sustainable Development Commission, 2017, p.12).

However, many companies are struggling to execute SDG activities. For example, many do not know how to evaluate the performance of SDGs. Furthermore, there is no clear pattern for companies to act on SDGs in Japan (Global Compact Network Japan (GCNJ) and Institute for Global Environmental Strategies (IGES), 2018). This is seemingly the situation overseas as well. KPMG (2018) indicates that 41% of the world’s 250 largest companies have not devised a process that prioritizes SDGs. Moreover, 80% of the companies have not developed a method to evaluate the activities of SDGs. How does extant research respond to the current situation in the context of SDGs and business? Does extant research present a proposal or a solution for companies that struggle to execute SDGs?

This study aims to examine the research trend in the context of SDGs and business, through a literature review based on the 5-step framework presented by SDG Compass (GRI et al., 2016, p.5), and to find the essence of utilizing it in practical business.

The term sustainability has often been used to discuss social issues, such as climate change and poverty, and business-related issues. On the other hand, the 2030 Agenda SDGs comprise 17 goals, with 169 associated targets that are integrated, indivisible, and have a period target deadline of 2030 (United Nations, 2015). Monitor Deloitte (2018) considers SDGs as a set of specific goals and deadlines for sustainability activities that are carried out by companies. These SDGs are a vision shared with related stakeholders to gain social support for the transformation of business models that companies are strategically promoting. Ordonez-Ponce and Khare (2021) also pointed out that while businesses have struggled to incorporate sustainability into their strategies, SDGs represent a useful framework for sustainability, for new business models. Therefore, the author construes SDGs as a part of sustainability; this study focuses on the context of SDGs and business.

The remainder of this paper is organized as follows. Section 2 explains the study’s research methodology. Section 3 presents a descriptive analysis of the extracted literature, as per the time and journal. Section 4 analyzes some characteristic literature by referring to the SDG Compass. Section 5 presents the discussion, and section 6 presents the conclusions and recommendations.

2. Materials and methods

This study employs a literature review research method to confirm and identify the research trend in the context of SDGs and business

According to Hart (1998), a literature review is integral to the success of academic research. One

major benefit of this review is that it ensures the researchability of one's topic before the actual research commences (Hart, 1998, p.13). Transfield et al. (2003) also pointed out that in management research, the literature review process is a key tool used to manage the diversity of knowledge for a specific academic inquiry (Transfield et al., 2003, p.208).

A literature review is an important and appropriate method for identifying, evaluating, and summarizing the findings of existing research in the context of SDGs and business. Therefore, this study undertakes a research method of a literature review to identify research trends.

According to Transfield et al. (2003), the methodology of literature review analysis comprises three main stages: 1) planning the review, 2) conducting the review, and 3) reporting and dissemination. Boar et al. (2020) developed and used a literature review methodology that utilized these stages, as shown in Table 1. Based on this methodology, this study organizes a literature review. Specifically, after extracting and classifying the existing literature in section 3 to obtain an overall grasp of the research trend, content analysis is presented in section 4.

The literature was selected using the Web of Science database between September 2015 and December 2020 to confirm the research trend following the adoption of the SDGs in September 2015. Additionally, to identify the research trends in Japan, Japanese literature was selected using the CiNii Articles database for the same period. The CiNii Articles database contains large volumes of article information. It incorporates several databases, including the National Diet Library's Japanese Periodicals Index Database (CiNii Articles, URL). The keywords used were: "SDGs" and "Business" for Web of Science, and "SDGs" and "ビジネス" for CiNii Articles.

Table 1. Methodology of the literature review in this research paper.

1	Research objectives	<ul style="list-style-type: none"> ✓ To identify the research trends in the context of SDGs and business. ✓ To find the essence of utilizing it in practical business.
2	Initial inclusion criteria	<ul style="list-style-type: none"> ✓ Documents included in the Web of Science. ✓ Document type = "Article". ✓ Japanese documents included in CiNii Articles. ✓ Japanese documents posted on institutional repositories as academic articles.
3	Setting the inclusion criteria	<ul style="list-style-type: none"> ✓ "SDGs" and "Business" in Web of Science (Sep 2015 to Dec 2020). ✓ "SDGs" and "ビジネス" in CiNii Articles (Sep 2015 to Dec 2020).
4	Applying the exclusion criteria	<ul style="list-style-type: none"> ✓ Excluding conference or working papers.
5	Content analysis	<ul style="list-style-type: none"> ✓ Deep analysis and classifications of literature per topic. ✓ Collect some characteristic literature that correspond to the 5-step of SDG Compass.
6	Critical discussion and future lines or research	<ul style="list-style-type: none"> ✓ Summarize the research trend. ✓ Present the conclusions and recommendations.

Source: Adapted from Transfield et al., (2003), p.214 (as cited in Boar et al., 2020, p.4)

3. Descriptive Analysis

After extracting the literature using the methodology stated in the previous section, 233 and 14 studies without conference papers were initially found in the Web of Science and literature in CiNii Articles databases respectively, as shown in Table 2.

Table 2. Overview of the extracted literature.

Data Base	Web of Science	CiNii Articles
Keywords Used	“SDGs” and “Business”	“SDGs” and “ビジネス”
Period	Sep 2015 to Dec 2020	Sep 2015 to Dec 2020
Number of articles	233	14

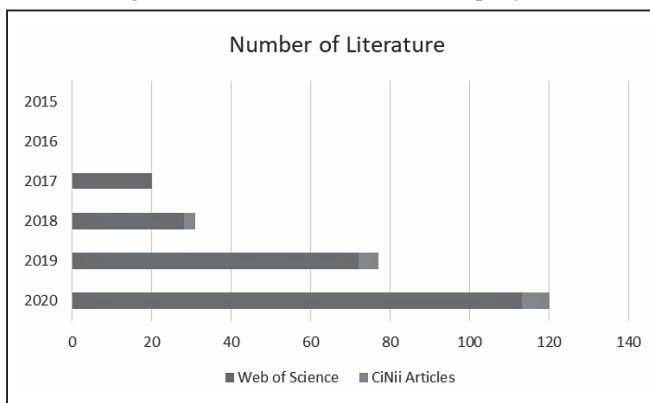
Source: Author.

The number of articles in the context of SDGs and business has been increasing in Japan and abroad. Regarding the descriptive analysis of the extracted literature, two perspectives were defined: as per year and journal.

3.1. Literature as per year

According to the distribution of the literature, no articles had adopted SDGs from 2015 to 2016; however, the number of studies in the context of SDGs and business has been increasing yearly, as shown in Figure 1. For example, 77 articles were published in 2019, and 120 articles in 2020 if both Web of Science and CiNii Articles were added, indicating +46% yearly growth rate. Research in this area is, thus, new and growing.

Figure 1. Distribution of literature as per year.



Source: Author.

3.2. Literature as per journal

The existing literature in the context of SDGs and business, excluding Japanese articles, is distributed across 113 journals. Those journals with a greater number of publications were *Sustainability* (53

articles), *International Journal of Management Education* (15 articles), *Journal of Cleaner Production* (12 articles), *Worldwide Hospitality and Tourism Themes* (6 articles), *Business and Politics* (4 articles), *Business Strategy and the Environment* (4 articles), *European Journal of Sustainable Development* (4 articles), *Sustainable Development* (4 articles) and *World Development* (4 articles), as shown in Table 3. To target journals that actively discuss SDGs, this study focused on journals with two or more articles.

The median impact factor of the business category in the “Journal of Citation Reports” offered by Clarivate Analytic is 2.509 as of February 2021. When compared, the impact factor of journals publishing literature in the context of SDGs and business is seemingly higher than the median impact factor of the business category overall.

Table 3. Distribution of literature as per journal (2 or more literature are applicable).

Journal	Number of literatures	5-year impact factor	2019 JIF _{*1}
<i>SUSTAINABILITY</i>	53	2.798	2.576
<i>INTERNATIONAL JOURNAL OF MANAGEMENT EDUCATION</i>	15	N/A	2.354
<i>JOURNAL OF CLEANER PRODUCTION</i>	12	7.491	7.246
<i>WORLDWIDE HOSPITALITY AND TOURISM THEMES</i>	6	N/A	N/A
<i>BUSINESS AND POLITICS</i>	4	N/A	N/A
<i>BUSINESS STRATEGY AND THE ENVIRONMENT</i>	4	6.221	5.483
<i>EUROPEAN JOURNAL OF SUSTAINABLE DEVELOPMENT</i>	4	N/A	N/A
<i>SUSTAINABLE DEVELOPMENT</i>	4	4.341	4.082
<i>WORLD DEVELOPMENT</i>	4	4.749	3.869
<i>CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENTAL MANAGEMENT</i>	3	5.485	4.542
<i>INTERNATIONAL JOURNAL OF SUSTAINABILITY IN HIGHER EDUCATION</i>	3	2.713	2
<i>INTERNATIONAL JOURNAL OF SUSTAINABLE DEVELOPMENT AND WORLD ECOLOGY</i>	3	2.836	2.772
<i>JOURNAL OF SUSTAINABLE TOURISM</i>	3	4.664	3.986
<i>SUSTAINABILITY SCIENCE</i>	3	5.263	5.301
<i>ADMINISTRATIVE SCIENCES</i>	2	2.692	2.129
<i>CORPORATE GOVERNANCE-THE INTERNATIONAL JOURNAL OF BUSINESS IN SOCIETY</i>	2	N/A	N/A
<i>GLOBALIZATION AND HEALTH</i>	2	3.127	2.525
<i>GLOBALIZATIONS</i>	2	1.668	1.614
<i>INTERNATIONAL JOURNAL OF ENTREPRENEURIAL VENTURING</i>	2	N/A	N/A

Journal	Number of literatures	5-year impact factor	2019 JIF _{5y}
<i>NATURE SUSTAINABILITY</i>	2	12.092	12.08
<i>OPERA-COLOMBIA</i>	2	N/A	N/A
<i>PUBLIC RELATIONS REVIEW</i>	2	2.232	2.321
<i>RESOURCES-BASEL</i>	2	N/A	N/A
<i>SCIENCE OF THE TOTAL ENVIRONMENT</i>	2	6.419	6.551
<i>TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE</i>	2	5.179	5.846
<i>VESTNIK MEZHDUNARODNYKH ORGANIZATSII-INTERNATIONAL ORGANISATIONS RESEARCH JOURNAL</i>	2	N/A	N/A
<i>WORLD JOURNAL OF ENTREPRENEURSHIP MANAGEMENT AND SUSTAINABLE DEVELOPMENT</i>	2	N/A	N/A

If there is no impact factor information on “Journal of Citation Reports” offered by Clarivate Analytic, “Not applicable (N/A)” is marked in the table above.

Source: Author.

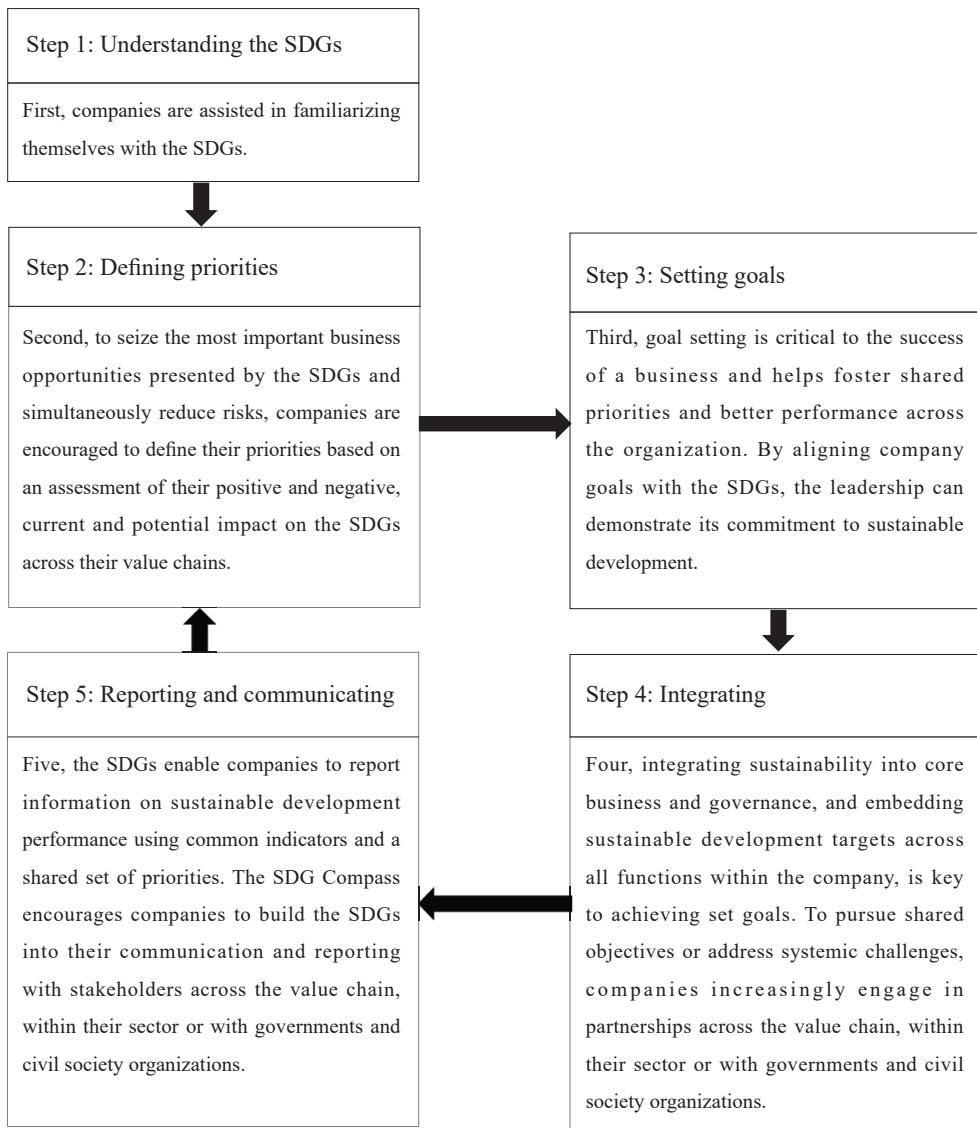
4. Content Analysis

In this session, some characteristic literature is classified as per step based on the SDG Compass, to conduct a deep analysis.

4.1. SDG Compass

The SDG Compass was developed by the Global Reporting Initiative (GRI), UN Global Compact, and World Business Council for Sustainable Development (WBCSD) in 2016, to guide companies on how they can align their strategies, and measure and manage their contribution to the SDGs. The SDG Compass encompasses five steps that help companies maximize their contribution to SDGs (GRI et al., 2016, p.5).

Figure 2. Five steps that help companies to align with the strategies of SDGs.



Source: Described by the author based on GRI, UN Global Compact, WBCSD, “SDG Compass”, 2016, p.5.

Step 1 helps companies understand what SDGs are, how they transpired, and how companies can use SDGs to benefit from knowledge on existing normative frameworks, principles, and guidelines, such as the UN Global Compact Principles. Step 2 outlines how the companies can define priorities by focusing on three broad actions: mapping the value chain to identify impact areas, selecting indicators and collecting data, and defining priorities.

Step 3 comprises four actions: a) defining the scope of goals and selecting key performance indicators (KPIs), b) defining the baseline and selecting the type of goal, c) setting the level of ambition, and d) announcing commitment to SDGs. In Step 4, companies identify how they can integrate the SDGs through actions, such as anchoring sustainability goals within the business, embedding sustainability across all functions, and engaging in partnerships. Finally, Step 5 outlines the actions needed for effective reporting and communication on SDG performance.

Companies can apply the 5-step of the SDG Compass to align with the SDG strategies, as shown in Figure 2.

4.2. The classification of literature in the context of SDGs and business

Although some literature is applicable to multiple steps, the selected characteristic literature has been divided into five steps, as shown in Table 4. The characteristic literature was selected from papers published in the journals presented in Table 3. Additionally, articles that did not correspond to the 5-step of the SDG Compass, or, were mainly composed of non-corporate companies, such as governments and NGOs, were excluded.

Table 4: The classification of literature in the context of SDGs and business

Author	Year	1. Understanding the SDGs	2. Defining priorities	3. Setting goals	4. Integrating	5. Reporting and communicating
Storey et al.	2017	✓				
Calabrese et al.	2017		✓			
Kamphof and Melissen	2018				✓	
Hermann et al.	2018					✓
Lehoux et al.	2018		✓		✓	
Berning	2019				✓	
Rosati and Faria	2019				✓	
Bull and McNeill	2019				✓	
Banik and Lin	2019	✓				
Anderson and Ratiu	2019				✓	
Fagerlin et al.	2019				✓	
Fonseca and Carvalho	2019					✓
Rubio-Mozos et al.	2019		✓		✓	
Xu et al.	2019					✓
Zigiene et al.	2019		✓			
Zimmermann	2019				✓	
Sasaya	2019			✓		✓
Yokoyama	2019		✓		✓	
Killian et al.	2019	✓				
Ndubuka and Rey-Marmonier	2019	✓				
Ramboarisata and Gendron	2019	✓				

Author	Year	1. Understanding the SDGs	2. Defining priorities	3. Setting goals	4. Integrating	5. Reporting and communicating
Purcell et al.	2019	✓			✓	
Cordova and Celone	2019	✓				
Nwokocha and Nwankwo	2019				✓	
Ferro et al.	2019			✓	✓	✓
Szennay et al.	2019					✓
Avrampou et al.	2019					✓
Rubio-Mozos et al.	2020		✓			
Mansell et al. (a)	2020					✓
Mansell et al.(b)	2020					✓
Andersen and Esbjerg	2020				✓	
Almanza and Corona	2020					✓
Tamura	2020				✓	✓
Shibata	2020		✓		✓	
Singh and Pathak	2020		✓		✓	
Garcia-Sanchez et al.(a)	2020					✓
Garcia-Sanchez et al.(b)	2020					✓
Garcia-Sanchez et al.(c)	2020					✓
Ejarque and Campos	2020				✓	
Venancio and Pinto	2020		✓			
Romano et al.	2020				✓	
Nechita et al.	2020					✓
Gehring	2020				✓	
Morell et al.	2020				✓	
Imaz and Eizagirre,	2020				✓	
Palmer et al.	2020				✓	
Cosma et al.	2020					✓
Rizzello and Kabli	2020				✓	
Saz-Gil et al.	2020	✓				
Jacobsen et al.	2020				✓	
Izzo et al. (a)	2020					✓
Izzo et al. (b)	2020					✓
ElAlfy et al.	2020					✓
Muff et al.	2020	✓				
Goralski and Tan	2020		✓			
Tsalis et al.	2020					✓
Pohlmann et al.	2020				✓	
Beyne	2020				✓	

Source: Author.

4.3. Understanding the SDGs

Based on content analysis, two related research areas were identified in Step 1: corporate responsibility and education.

4.3.1. Corporate responsibility

Banik and Lin (2019) analyzed how corporate social responsibility (CSR) strategies in China are being reshaped and aligned with the SDGs, by examining the CSR reports of selected Chinese companies both before and after 2015. They concluded that even as many Chinese companies are interested in SDGs, most tend to continue using traditional CSR strategies that are ad hoc and voluntary in nature.

Saz-Gil et al. (2020) analyzed the concepts of CSR and corporate volunteering, together with SDGs. The authors found that SDGs represent an opportunity and a frame of reference for CSR strategies. Additionally, they mentioned that when companies engage in senior corporate volunteering activities, companies can enhance their corporate and social images within the strategic action of social responsibility.

4.3.2. Education

Some authors have indicated the impact of sustainability education on business schools in achieving SDGs, and mentioned the importance of sustainability education in understanding and executing SDG activities (Storey et al., 2017; Killian et al., 2019; Ndubuka and Rey-Marmonier, 2019; Ramboarisata and Gendron, 2019; Purcell et al., 2019).

Muff et al. (2020) proposed the competency assessment for responsible leadership (CARL) tool for assessing individual and group leadership development and internal sustainable development transformation work. The authors pointed out that it serves to systematically analyze and develop responsible leadership (RL) competencies, both in business and educational practices to achieve SDGs.

As stated above, numerous studies indicate the impact of sustainability education. However, most research focuses on sustainability education in business schools. Thus, further research on sustainability education in business settings is required to help companies understand what SDGs are and how they can use them to their benefit.

4.4. Defining priorities

Step 2 identifies two related research areas: innovation and segmentation.

4.4.1. Innovation

Calabrese et al. (2017) proposed a tool framing sustainability-oriented service innovation (SOSI) to foster organizational sustainability transitions from a business model perspective. The tool helps managers and entrepreneurs identify the components of the business model to unloose SOSIs.

Lehoux et al. (2018) inductively developed a framework to identify knowledge gaps in the relationships between responsible innovation in health and the SDGs.

Cordova and Celone (2019) validated through a literature review that innovation appears to be a fundamental driver for the pursuit of SDGs at every stage. The interplay between SDGs and innovation is

strongly supported in all phases of innovation.

Shibata (2020) mentioned that there is a chance to deploy an ecosystem service business and ecosystem service forestry as an achievement of SDGs.

Venancio and Pinto (2020) conducted exploratory research to investigate whether the type of entrepreneurial activity contributes to the achievement of SDGs, and found the importance of the role of foreign investors in the same.

Imaz and Eizagirre (2020) indicated that firms can benefit from responsible innovation in the transformation of their business models, and responsible innovation supports the implementation of SDGs at the firm level.

Goralski and Tan (2020) pointed out that the advent of SDGs constitutes a significant business opportunity for the nascent artificial intelligence (AI) industry; however, there are some potential risks to be adopted and institutionalized at a cost. Therefore, these initiatives would need partnerships with various sectors.

4.4.2. Segmentation

Rubio-Mozos et al. (2019) analyzed the role of the fourth sector (4S: entrepreneurs, business leaders from purpose-driven companies, and academics) and small medium enterprises (SMEs) toward the 2030 Agenda by conducting in-depth interviews. The authors pointed out that it is essential to build an engagement ecosystem through a systemic thinking approach to allow 4S SMEs to make real contributions to SDGs.

Zigiene et al. (2019) provided a conceptual framework for commercial risk assessment and management solutions for SMEs to potentially contribute to SDGs based on the elements of AI.

Rubio-Mozos et al. (2020) proposed the sustainable strategic management model (SSMM) for 4S and SMEs hotel companies to decide the priority of SDGs.

As stated above, innovation is one of the important elements needed to proceed with SDG activities, and to transform the business models of companies because the interplay between SDGs and innovation is strongly supported in all the phases of innovation. Some authors have pointed out that AI plays a significant role in proceeding with innovation and analyzing business opportunities. However, the environment and resources to realize innovation differ among segments and industries. Therefore, it is important to develop a method to realize innovation linked with SDGs, to define priorities by segment and by industry.

4.5. Setting goals

Step 3 indicates only a few research projects. As mentioned, goal setting is critical to business success and helps foster shared priorities and better performance (GRI et al.,2016, p.5). Continuous research is strongly required in this area.

Sasaya (2019) confirmed the effectiveness of the environment, social and governance (ESG) /SDGs matrix created by the author, based on ISO26000 by analyzing case studies of Japanese companies. The author indicated that the future challenge is to consider how each company will set KPIs for SDGs.

Ferro et al. (2019) provided a bottom-up multidimensional framework in relation to SDGs. The

framework contributes to the assessment of business sustainability, taking into account a broad aspect across environmental, social, and economic elements that contribute to SDGs.

4.6. Integrating

Based on content analysis, Step 4 identifies five related research areas: partnership, process, structure, and strategy.

4.6.1. Partnership

Some authors have indicated the importance of public-private partnerships in achieving SDGs (Kamphof and Melissen, 2018; Bull and McNeill, 2019; Anderson and Ratiu, 2019; Nwokocha and Nwankwo, 2019; Pohlmann et al., 2020).

Rizzello and Kabli (2020) concluded that social impact bonds perfectly overlap with SDG-based partnership models.

Gehring (2020) mentioned that corporate foundations (CFs) have the potential to contribute to the achievement of the SDGs as partnership brokers, and pointed out that CFs should make more and better use of their capacities in bridging institutional logics, pooling resources, and initiating partnerships between different sectors.

4.6.2. Process

Fagerlin et al. (2019) analyzed a better understanding of how firms integrate SDGs and generate values through them in their business practices. They found the role of boundary objects in the translation and transformation process of SDGs into a firm's business practices through its learning process.

Palmer et al. (2020) developed a process framework to bridge bioeconomy transitions by addressing SDGs using a system engineering approach.

Beyne (2020) identified four SDG orientation levels in the process of SDG implementation leading to sustainable transformation: 1) inform, 2) activate, 3) innovate, and 4) transform by developing an integrative framework.

4.6.3. Structure

Romano (2020) investigated how the gender composition of the Board of Directors affects corporate sustainability practices, finding that gender diversity positively impacts ESG scores. Therefore, companies need to consider a more balanced gendered representation on the boards of companies, which plays an important role in the performance of sustainability.

According to Berning (2019), Huawei can promote sustainable development internationally at three different levels: (1) products/services, (2) business operations and (3) social contributions. Furthermore, a systematic framework is derived to help illustrate the possible and classify existing sustainability activities of multinational enterprises, and the related main stakeholders.

Rosati and Faria (2019) investigated the relationship between early adoption of SDG reporting and a series of organizational factors, concluding that companies have the following characteristics: 1) large organizations with additional resources, 2) higher level of intangible assets, 3) more likely to adopt

external assurance, 4) boards of directors are composed of younger individuals, with a higher proportion of female members.

4.6.4. Strategy

Yokoyama (2019) indicated that companies tend to require corporate social entrepreneurship under current momentum, such as creating sustainable businesses impacted by SDGs.

Zimmermann (2019) created a typology of the sustainability strategies that banks implement. The author mentioned that this aligns with the literature on sustainability strategies in which companies respond to environmental and social challenges in various ways.

Ejarque and Campos (2020) pointed out that integrating SDGs into an existing business is one of the main challenges in today's business world; the economy for the common good model arises as an alternative measurement theory to allow such integration into business practices.

Tamura (2020) called "Shareholder-driven Stakeholder Capitalism" about turning into the mainstream of ESG invest, and analyzed why this kind of crucial movement occurs currently.

Andersen and Esbjerg (2020) mentioned that business activities must maintain elements of adaptability, flexibility, and responsiveness, because they function in complex environments. The authors pointed out that an emergent strategy is required, because strategies are not designed to meet the needs of the bottom of the pyramid (BoP) environment; thus, they must be weaved in a collaborative process that mobilize and involves the local context to achieve the SDGs.

Morell et al. (2020) analyzed how each type of platform contributes to sustainable development, and if and how the factors that contribute to the sustainable design of platforms are considered in SDGs.

Jacobsen et al. (2020) identified the elements that are important to integrate strategies into business, finding four categories of sustainability practices, including inspiring and informing, productizing, co-creating, and system building, based on qualitative multiple case studies. Additionally, the authors argued that there is no "one-size-fits-all" approach to support sustainability practices, as approaches need to fit a firm's sustainability maturity level.

Singh and Pathak (2020) claimed that cause-related marketing (CRM) is a novel approach to combat various issues related to sustainable development. Consequently, the authors suggested that CRM be used as an economic-oriented marketing strategy that enables organizations to be socially oriented simultaneously.

As stated above, there is much research in this step, especially, highlighting the importance of partnerships. Additionally, some research indicated the importance of the role of ESG investment, corporate social entrepreneurship, and marketing strategy. However, a unified view on how companies integrate SDGs has not yet been reached.

4.7. Reporting and communicating

Step 5 identifies three related research areas: reporting, communicating and evaluating.

4.7.1. Reporting

Fonseca and Carvalho (2019) mapped the present level of engagement of these companies in

contributing and reporting to the SDGs.

Nechita (2020) investigated the extent to which financial indicators influence sustainability reporting on SDGs, and the financial indicators that significantly impact the quality of SDG reporting. The authors found a negative relationship between the cost of financing and CSR disclosure.

Cosma et al. (2020) analyzed the “scope” of European banks’ contribution to SDGs using a non-financial disclosure analysis of 262 European banks and explored the factors that seem to differentiate the approach of SDGs among banks. For example, the country of origin, legal system, and adoption of an integrated report seem to differentiate banks in terms of their contribution to the SDGs.

Izzo et al. (2020a) claimed the relevance of SDGs in the disclosure policies of companies; for example, the growing number of companies disclosing the SDGs, and the attention of policy makers toward these topics, among others.

Izzo et al. (2020b) also claimed the modern economy requires organizations to create long-term value-enhancing SDGs, and that studies must evaluate organizations’ disclosure with regards to SDGs.

Garcia-Sanchez et al.(2020a) analyzed the relationship between companies’ adoption of the SDG Compass, and analysts’ recommendations to managers. They showed that communication strategies should be addressed to attract investment, regarding the disclosure of CSR-related non-financial information for managing a company’s relationships with its stakeholders.

Tsalis et al. (2020) analyzed sustainability reports in Greece by developing an evaluation framework based on the latest GRI reporting guidelines and a measurement system for corporate reporting practices in relation to the SDGs. They found differences in the breadth and quality of information disclosed by firms for each SDG. The authors also pointed out that the most firms did not considerably change the content and structure of sustainability reports between 2014 and 2016.

4.7.2. Communicating

Garcia-Sanchez et al. (2020b) analyzed the business communication of 69 Spanish companies with their stakeholders to identify the possible existence of impression management practices.

ElAlfy et al. (2020) analyzed how firms communicate about SDGs on social media and revealed that firms post tweets about the SDGs that are related to their core businesses and impact. Therefore, communication regarding SDGs is important to address strategic corporate sustainability and social responsibility.

4.7.3. Evaluating

Some authors evaluated a corporate value utilizing GRI G4*2 (Szennay et al., 2019; Avrampou et al., 2019).

Hermann et al. (2018) addressed potentially conflicting goals of low energy and material use, and life cycle assessment (LCA) as a tool for evaluating the relative impacts of improvement strategies.

Almanza and Corona (2020) also proposed a classification framework to link the results of social LCA (S-LCA) with the SDGs, and found that more detailed indicators measuring social issues should be developed in the S-LCA framework.

Xu et al. (2019) proposed an improved indicator system that includes five indicators: the modified Rural

Access Index indicator, passenger and freight volume, road density, accessibility and total postal business in this study to assess the progress of the SDGs sub-target 9.1 in the county level.

Mansell et al. (2020a) concluded that SDGs measurement practices are embraced in principle but are problematic in practice. Through interview surveys with CEOs in the UK, they also concluded that rarely does action match the rhetoric.

Mansell et al.(2020b), through survey, explored how engineers rate and use the SDGs at the organizational and project levels, and found that 87% of the engineers surveyed were enthusiastic about acting on the SDGs. However, the capabilities needed (i.e., skill, knowledge, leadership, tools and approaches) to measure SDGs impact, are lacking. The authors pointed out that these capabilities are also required to realize creating shared value (CSV).

Garcia-Sanchez et al. (2020c) assessed whether shareholders drive the environmental and social (E&S) performance of firms worldwide, finding that firms are stepping up their E&S performance because investors are demanding the same.

As stated above, it is important for companies to disclose CSR-related non-financial information to manage communication strategies with their stakeholders; the investors are also requesting this. Indeed, the number of companies disclosing the SDGs is growing yearly, and some authors have evaluated corporate value using GRI. However, other authors have pointed out that SDG measurement practices are problematic (Almanza and Corona, 2020; Mansell et al., 2020a; Mansell et al., 2020b). Additionally, an author has mentioned about the lack of capabilities to measure the impact of SDGs, which is important for realizing CSV (Mansell et al., 2020b).

5. Discussion

Following the classification of the selected characteristic literature shown in Table 4, although some literature is applicable to multiple steps, the number of the literature as per step is “4.Integrating”(27 articles), “5.Reporting and Communicating” (20 articles), “2.Defining priorities”(10 articles) ,“1. Understanding the SDGs”(9 articles) and “3.Setting goals”(2 articles). Table 5 summarizes the related research areas as per step based on the results of classifying the selected characteristic literature in the previous section.

Table 5: The existing research areas as per step and the research areas to be considered.

	1. Understanding the SDGs	2. Defining priorities	3. Setting goals	4. Integrating	5. Reporting and communicating
Related research areas	1) Corporate responsibility 2) Education	1) Innovation 2) Segmentation	Indicator	1) Partnership 2) Process 3) Structure 4) Strategy	1) Reporting 2) Communicating 3) Evaluating
Research areas to be considered	Need research on the effect of sustainability education not only in business schools but also in business settings to help companies understand and execute the activities of SDGs.	Need further research on a method how to identify impact areas and how to collect a data.	Need further research on how to select KPIs as well as on how to decide commitment.	Need diversified research such as process of the stakeholder engagement, relationship between SDGs performance and incentive.	There is need to develop a method to evaluate CSV, which is both the economic and social values following the SDGs related activities conducted by companies.

Source: Author.

With regards to the steps indicated by the SDG Compass, further research is required for each step. First, more research is required in Step 1 on the effect of sustainability education, not only in business schools but also in business settings. Second, there is a need to develop a method for identifying impact areas and collecting data to seize the most important business opportunities presented by the SDGs and reduce risks. Third, Step 3 contains only a few research projects. The SDG Compass does not specifically describe how to select KPIs or how to decide on commitment. Therefore, continuous research in this area is required. Fourth, more research is need in Step 4 on such areas as stakeholder engagement, the relationship between SDG performance and incentives, business operation processes, and management systems. There are most articles in this step; however, further research is needed to integrate SDGs into the business. Fifth, there is a need to develop a method to evaluate CSV, that is, both the economic and social values following the SDG-related activities conducted by companies, since it has not yet reached a unified view.

6. Conclusions and recommendations

This study conducted a literature review in the context of SDGs and business, to examine the research trends both in Japan and abroad, and find the essence of utilizing it in practical business. Consequently, the author noted that research in this area is new and growing since the number of studies in the context of SDGs and business has been increasing both in Japan and abroad.

Additionally, some characteristic literature was classified as per step based on the SDG Compass; the author found the common elements of extant literature, that is, “1.Understanding the SDGs: corporate responsibility and education”, “2. Defining priorities: innovation and segmentation”, “3. Setting goals: indicator”, “4.Integrating: partnership, process, structure and strategy”, and “5. Reporting and communicating: reporting, communicating and evaluating”.

The author found that further research is needed per each step. For example, the element of partnership and process are important for integrating the SDGs into a business. However, existing research tends to be biased toward a particular element. Therefore, further diversified research is required in step “4. Integrating”, and also “1.Understanding the SDGs”.

Additionally, there is a need to develop a method to evaluate and report CSV, that is, both economic and social values, since a unified view has not yet been reached. Furthermore, for evaluating and reporting, it is critical for companies to define priorities and set goals. Thus, it is suggested that “2.Defining priorities”, “3.Setting goals”, and “5.Reporting and communicating” have a strong relationship with each other. Capabilities such as skill, knowledge, leadership, tools, and approaches, are important to measure the impact of SDGs, and to realize CSV (Mansell et al.,2020b). Further research is needed in this area to manage communication strategies with stakeholders, including ESG investors, and to increase corporate value.

One of the limitations of this study is that it focuses only on the context of SDGs. Therefore, a literature review on the context of sustainability, including SDGs, is planned as the next step.

As mentioned earlier, research in the context of SDGs and business is still new and growing; it is expected to develop further and provide new insights for practical business. Without a defined business case for the adoption of the SDGs into business, the uptake will continue to be slower than required for the contribution of business in meeting and realizing the SDGs (Haywood and Boihang, 2021). Therefore, continuous research is required. Particularly, developing research on the relationship between SDG businesses and regional revitalization is strongly recommended in Japan. Because enhancing regional revitalization is important for Japanese growth strategy (Cabinet Office, 2019).

Notes

1. JIF = journal impact factor.
2. The Global Reporting Initiative (GRI) launched its fourth generation Sustainability Reporting Guidelines (G4) in May 2013. The Global Standard was launched in October 2016 as the next version (GRI, “Our mission and history, URL).

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