

論文の要旨
Summary of the Dissertation

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論文題目 :
Dissertation title:

Decision-Making toward the Achievement of the Sustainable Development Goals:
Survey Experiments on Stakeholders' Preferences

Sustainable development has been an important social topic since its emergence in the early 1980s. However, despite the joint international efforts to achieve a sustainable society, the world faces numerous challenges, including poverty, climate change, and inequality. To tackle these challenges, in September 2015, all United Nations' member states agreed on the Sustainable Development Goals (SDGs), a collection of 17 global goals and 169 targets requiring governments, businesses, and citizens from both developed and developing countries to work together for a sustainable world by 2030. The SDGs are not legally binding but are viewed as responsibilities that everyone must fulfill. To ensure SDG implementation, societal systems have to make complex and fundamental transformations. Further, to achieve these transformations, global citizens have to change their daily behavior by shifting to more sustainable lifestyles. This takes a long time and is influenced by the political, market, and individual factors.

The SDGs can play a vital role in encouraging a norm change toward sustainable development. However, some authors are concerned that the SDGs might be used for "SDG-washing," which can be using the SDGs without actually contributing toward sustainable development, but just to promote a cleaner image. Moreover, some argue that the SDGs lack the precision and clarity needed to meet sustainability challenges. Despite these critical views, we argue that the SDGs can act as norms to promote sustainability. Evidence-based policy-making is required to influence all the stakeholders to implement the SDGs in the right direction. Furthermore, the public needs to be educated and develop an ability to penetrate businesses facade sustainability practices and choose the right course of actions to promote a sustainable future. Therefore, this dissertation aims to explore individuals' decision-making toward the achievement of the SDGs. Furthermore, raising stakeholder awareness of the SDGs may enhance pro-sustainable behavior. Thus, this study also investigates to what extent raising awareness affects individuals' pro-sustainable preferences.

Because tackling sustainability challenges requires an interdisciplinary approach, we did not develop this dissertation based on a single discipline, but based it on different disciplines, including sustainability science, management and economics. To offer novel insights into the challenges requiring urgent attention, we combined different methodologies. We collected individuals' survey responses and analyzed them. There are some critical views on using survey data to analyze real-world decision-making because self-reporting data can be biased; for example, respondents' self-reporting attitudes and actual behavior may differ. To overcome the limitation of the survey, we utilized a conjoint survey which was originally designed to study multidimensional voting choice behavior (Hainmueller, Hopkins, & Yamamoto, 2014) and is rigorously being applied to policy analyses in different fields. When a study is drawn from a small sample size dataset, there can be a gap between actual behavior and conjoint survey results. However, when the survey was conducted in large-scale national population distribution, the real-life and the survey outcomes were consistent (Hainmueller, Hangartner, & Yamamoto, 2015).

Most of analyses presented in this dissertation drawn from the dataset of the Japan Household Panel Survey on Sustainable Development Goals (JHPSDGs). JHPSDGs were collected through online surveys conducted in March 2019 and March 2020. We used quota sampling to construct a representative dataset in terms of demographics. In these online surveys, respondents were requested to participate in 1) a survey experiment and 2) a household survey. In the survey experiment,

we combined conjoint analysis with information treatment experiments, in which respondents were randomly assigned to different information treatment groups to measure the impact of sustainable development education on their preferences. The dataset consists of 12,098 observations with rich individual characteristics. For empirical strategy, in addition to traditional estimation methodologies, we used machine learning techniques initially developed in the field of statistical sciences, which is increasingly being applied to other fields, including economics and epidemiology, to study causal inferences. Specially, we analyzed:

- The stated preferences of stakeholders on SDG-minded companies (Chapter 3);
- The stated preferences of three different stakeholders (consumers, job-seekers, and investors) on SDG-minded companies (Chapter 4);
- Effects of raising awareness and its heterogeneity of individual characteristics (Chapter 5);
- Generational effects of young generation on sustainable behavior (Chapter 6).

The dissertation consists of seven chapters. Chapter 1 introduces the background of the research and briefly discusses objectives and an outline of the dissertation. In Chapter 2, the survey design and methodology are discussed. Chapters 3, 4, 5, and 6 present four original analyses. In Chapter 7, we offer the main findings of the studies and practical implications.

Under the SDGs, businesses are expected to assume increasingly active roles. However, little is known about the relationship between stakeholders' preferences and businesses' contributions to the SDGs. Chapter 3, therefore, investigates whether the SDGs can function as business norms by examining stakeholder support for sustainable practices. Specifically, the study examines preferences for companies that contribute to the SDGs and the effects of raising awareness regarding the inherent nature of the SDGs on stakeholders' preferences using the 2019 conjoint survey dataset. The results showed that implementing the SDGs increased stakeholders' preferences for companies. Businesses benefit from implementing SDGs initiatives. However, a gap existed between the stakeholders' preferred SDGs and companies' priorities concerning SDG implementations. The findings suggest that increasing stakeholders' awareness effectively closed the gap.

Businesses are facing consistent pressures from stakeholders to be socially responsible, including contributing to the SDGs, although the economic benefits of corporate social responsibility (CSR) have been found to be mixed. Chapter 4 aims to reveal stakeholders' motivations for demanding CSR by studying stakeholders' stated preferences on companies' contribution to the SDGs in three different contexts, purchasing, investing, and job-seeking using the 2019 and 2020 conjoint survey dataset. The results showed that stakeholders demanded corporations to contribute to international-related issues rather than domestic-related issues. Stakeholders' support was low when the companies profited from contributing to the SDGs. These results suggest that social contexts reflect stakeholders' preferences on corporates' SDG activities. Overall, raising awareness affected stakeholders' support and to what extent the information affected the decisions of stakeholders was varied by stakeholders.

In Chapter 5, we further examine the extent to which SDG-related information affects stakeholder preferences in supporting the realization of the SDGs. The aim of Chapter 5 is to determine whether raising awareness of the SDGs affects stakeholder support for companies that contribute to SDG realization. We examined the heterogeneous effects of personal characteristics, including demographics, personality traits, and pro-sustainable attitudes, on (1) stakeholder preferences and (2) raising awareness using the 2019 conjoint survey dataset. We investigated how these preferences shift with the provision of SDG-related knowledge, and determined how personal characteristics affect such shifts. Our results showed that when the respondents in the treatment groups were provided with sustainable development-related information, they were more likely to support SDG-minded companies compared with the control group. However, the results also indicated that stakeholder preferences and effects of the information provision were heterogeneous, and consequently, the impact of raising awareness can be complex.

Furthermore, the younger generation is often described as more socially conscious and promoters of the SDGs than the older generation; however, little scientific evidence supports these assumptions and expectations. Is the younger generation, including millennials and Generation Z, a driving force toward achieving the SDGs? To seek answers to the question, Chapter 6 draws from two studies. The chapter aims to investigate (1) whether the younger cohorts are the pro-SDG generation who drive societies with their sustainable lifestyles to achieve SDGs more actively than the older generations; further, this work elucidates (2) the job-seeking behavior of the younger generations. Study 1 estimated marginal generational differences in sustainable lifestyles using a nationally representative adult sample from JHPSDGs 2019-2020. In Study 2, we elicited the job preferences of

university students based on the SDG contributions of companies and expected income using conjoint survey experiment data. Together, the current findings suggest that the younger generation is likely to be pro-SDGs.

Generally, our results showed that the respondents preferred companies contributing to the SDGs. Raising awareness about the SDGs positively affects the support of companies contributing to the SDGs. We showed heterogeneous effects of information treatment on the support of SDG-minded companies. These findings suggest that while raising awareness is effective in promoting pro-SDG behavior, the impacts of raising awareness can be complex. We conducted the conjoint survey twice, 2019 and 2020, and obtained similar results, which showed the robustness of the estimators. Furthermore, we showed that the younger generation is likely to be a pro-SDG generation. Studies presented in this dissertation set the framework for future research on understanding individuals' behavior of SDG realization.