Public Attitudes Toward the Promotion of Sustainable Consumption

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ABSTRACT

According to the UN Sustainable Development Goal No. 12: "Sustainable Consumption" leads people to further think about how to coexist with the future of generations …… The "Sustainable consumption" is the solution to the ecological catastrophe and crisis caused by the traditional economic model. With this inspiration, this research aimed to explore the public's views on sustainable consumption and attitudes towards various indicators and to analyze the conditions for implementation and the factors that affect people's behavior. Another purpose was to find out the public's awareness and acceptance of sustainable consumption, including the public's willingness to increase green consumption, the public's views on reducing resource waste, and whether the public accepts changes in consumption patterns. A questionnaire was adopted to collect the data in this research. This research has collected 261 questionnaires through the internet. The results revealed that almost all respondents have practiced environmental protection behaviors in their daily lives, and they also have a high willingness to support sustainable consumption. However, the sustainable products or services on the market are not diverse enough, and most people are generally unable to complete "sustainable consumption" under the consideration of "affordability". Nowadays, although the ecological crisis does not cause direct human casualties, the changes in the environment have also already drawn countries around paying attention on the issue of sustainability. It hoped that through the government's promotion of green business opportunities in the industry and the formulation of sustainable plans, the public will be guided to implement green consumption more and to work together for sustainable action in the world.

Keywords: SDGs, sustainable consumption, public awareness, public attitude

INTRODUCTION

Background

Growing population and human misuse of natural resources are causing the planet to face an irreversible situation. In 2015, the United Nations launched the "Sustainable Development Goals (SDGs)" which has illustrated 17 core goals for global governments and enterprises to jointly move towards sustainable development[1]. Among which the SDGs goal No. 12 is "promoting a green economy[2] and ensuring sustainable consumption and production patterns". The issue of sustainable consumption and production aims to inspire governments, businesses, and citizens to do more and better with less. Therefore, the United Nations invites all initiatives that address any of the targets and its indicators, including the use of eco-friendly production methods and reducing the amount of waste.

Nowadays, domestic consumption behaviors related to the environmental protection issues or consumer health incidents are becoming more and more concerned. In 2010, Taiwan promulgated and implemented the "Consumer Protection-Promoting Sustainable Consumption" policy program, which focuses on six aspects[3] aiming to promote the development of the economy, society and the environment, and strengthen the relationship between consumer rights and a sustainable future.[4]

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[1] "Do You Know All 17 Sdgs?," accessed. https://sdgs.un.org/goals.

[2] Laura Saikkub Eleonore Loiseaua, Riina Antikainenb, Nils Drostec, Bernd Hansjürgensc, Kati Pitkänenb, Pekka Leskinenb, Peter Kuikmand, Marianne Thomsene, "Green Economy and Related Concepts: An Overview," *Cleaner Production* 139 (2016), https://doi.org/10.1016/j.jclepro.2016.08.024.

[3] The six aspects includes sustainable production by business operators, sustainable procurement by consumers, changing consumer behavior patterns, safeguarding the rights and interests of vulnerable consumer groups, establishing effective control mechanisms for consumer protection, the establishment of various safety and environment-friendly infrastructure and systems, etc.

[4] *「消費者保護-推動永續消費」政策綱領*, https://cpc.ey.gov.tw/Page/98DE1EE68680B2EB

Motivation

"Environmental protection" is one of the eight rights and five obligations of consumers recognized internationally[5], and it is also an extended responsibility when consume. It is because that consumers are also members of society; if the environment is destroyed by the production or consumption of goods or services, their social life will also be affected.

As Anna Lappe[6] addressed "*Every time you spend money*, *you're casting* a *vote for the kind* of *world you want"*, consumption is a part of daily life. In other words, we must award that every choice we make can also change the world. "Production" and "consumption" are not only activities in the process of conversion between human beings and natural resources, but also driving forces of social and economic development. People should pay more attention to the issues of limited resources of the earth and environmental damage in the process of economic development. Thus, the "green economy" is the solution to the ecological catastrophe and crisis caused by the traditional economic model.[7]

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[5] "What Are Consumer Rights?," accessed. https://www.consumersinternational.org/who-we-are/consumer-rights.
[6] *O Magazine* (2003)
[7] Peter Victor Tim Jackson, "Productivity and Work in the 'Green Economy': Some Theoretical Reflections and Empirical Tests," *ScienceDirect* 1, no. 1 (2011), https://doi.org/10.1016/j.eist.2011.04.005.

Research Purpose

In Taiwan, the government, enterprises[8][9], and schools have been promoting sustainable development and environmental protection for many years, but the actual results under the policies and regulations are limited.[10] This study aims to explore the public's views on the issue of promoting sustainable consumption of society, and to analyze how much and to what extent that people have on the relevant information and awareness of the sustainable consumption. It also expects that this study can help to prevent consumers from purchasing environmental unfriendly goods and services causing health damage or excessive waste and pollution, leading to the depletion of natural resources[11], affecting the quality of the living environment, and even endangering the survival rights of future generations of consumers.

Research Questions

Basing on aforementioned research aims, this study has set up 4 research questions as research framework.

1. What is the public's awareness and acceptance of sustainable consumption?
2. How willing is the public to increase green consumption?

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[8] Yang Liu Ville Matinaro, Tzong-Ru (Jiun-Shen) Lee, Jurgen Poesche, "Extracting Key Factors for Sustainable Development of Enterprises: Case Study of Smes in Taiwan," *ScienceDirect* 209 (1 February 2019), https://doi.org/10.1016/j.jclepro.2018.10.280.

[9] 申永順, *國內外企業永續報告書之發展與推動現況*, https://www.ctci.org.tw/media/2361/%E5%9C%8B%E5%85%A7%E5%A4%96%E4%BC%81%E6%A5%AD%E6%B0%B8%E7%BA%8C%E5%A0%B1%E5%91%8A%E6%9B%B8%E4%B9%8B%E7%99%BC%E5%B1%95%E8%88%87%E6%8E%A8%E5%8B%95%E7%8F%BE%E6%B3%81.pdf.

[10] *2022 臺灣暨亞洲永續報告現況與分析* (CSRone, 2022), https://csrone.com/reports/4772.

[11] M. A. Nawaz, Azam, A., & Bhatti, M. A., "Natural Resources Depletion and Economic Growth: Evidence from Asean Countries " *Pakistan Journal of Economic Studies (PJES)* 2, no. 2 (2019), https://journals.iub.edu.pk/index.php/pjes/article/view/16.

3. What are the public insights on the issue of reducing waste of resources?
4. Does the public accept the change in consumption patterns?

Contribution

It expects that the findings of this research can provide directions for progress in promoting "sustainable consumption" and advocate the public to share responsibility for the impact of consumption behavior on the global environment. With the public's higher attention, it is expected to implement “sustainable consumption” more effectively in daily life.

Limits

There are three possible limits of the research.

1. Sample size:

This research aimed to understand a specific topic but can only collect 261 pieces of questionnaires. The sample size in relation to the study population is very small. It is less than comprehensive. It is afraid that statistical tests will fail to identify important relationships or connections within a particular data set. Considering that the population is around 23.57 million people, we can not generalize the results based on only 261 respondents. That is, it will need a larger sample size to end up with more accurate results.

2. Scope of discussions:

Without having long-term experience in writing scientific papers or completing complex studies, the depth and scope of discussions can be compromised in different levels in comparing with scholars who are with a lot of expertise.

3. Others:

Because of time constraint, it is not possible to collect sufficient results or feedbacks that are caused by some economic issues or changes of social trends. Meanwhile, participants of questionnaire might be from the same type or geographic scope. As we know, research results will be affected by the operations of society during the research time period. Thus, the research might only have limited gain.

Delimits

Given that this study aims to provide a reference for the direction of change in promoting sustainable consumption by revealing public attitudes, this study will majorly focus on sustainable consumption. Meanwhile, the study would be focusing on the inclusion of participants who reside in Taiwan and the exclusion of participants under the age of 18.

LITERATURE REVIEW

Sustainable Development Goal 12[12]

SDG 12, titled "responsible consumption and production", is one of the 17 Sustainable Development Goals established by the United Nations in 2015. According to the UN Sustainable Development Goal No. 12[13], "Sustainable Consumption[14]" leads people to further think about how to coexist with the future of generations..... The "Sustainable consumption" is the solution to the ecological catastrophe and crisis caused by the traditional economic model. SDG 12 is meant to ensure good use of resources, improving energy efficiency, sustainable infrastructure, and providing access to basic services, green and decent jobs and ensuring a better quality of life for all.[15]

According to the United Nations Environment Program, Sustainable Consumption and Production (SCP) refers to “the use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations”.[16]

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[12] "Goal12 Ensure Sustainable Consumption and Production Patterns."
[13] "Goal12 Ensure Sustainable Consumption and Production Patterns," accessed. https://sdgs.un.org/goals/goal12.
[14] Susan Dobscha Andrea Prothero, Jim Freund, William E. Kilbourne, Michael G. Luchs, Lucie K. Ozanne, John Thøgersen, "Sustainable Consumption: Opportunities for Consumer Research and Public Policy," *SAGE Journals* (2011), https://doi.org/10.1509%2Fjppm.30.1.31.
[15] "Goal 12: Responsible Consumption and Production," accessed. https://sdg-tracker.org/sustainable-consumption-production.
[16] "Sustainable Consumption and Production Policies," accessed. https://www.unep.org/explore-topics/resource-efficiency/what-we-do/sustainable-consumption-and-production-policies.

Sustainable Consumption

According to 1994 Oslo Symposium, Sustainable consumption is defined as "the use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations."[17]

While exploring green purchase behavior, many studies have reported a discrepancy or "gap" between consumers expressed favorable attitudes and actual purchasing practices.[18][19][20] Hughner[21] found that while many consumers showed a positive attitude towards purchases of organic food products (67%), only a small number of consumers (4%) actually purchased those products. Similarly, Defra[22] found that 30% of the consumers in UK have reported their concern towards the environment, but rarely translated their concern into a green purchase. It is thus clear that there exists a gap between consumers' perspectives and actual actions.[23][24] This

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[17] Sylvi Ofstad, Liv Westly, and Tone Bratelli. *Symposium: Sustainable Consumption: 19-20 January 1994 : Oslo, Norway*, 1994.

[18] Sybille Wölfing Kast Carmen Tanner, "Promoting Sustainable Consumption: Determinants of Green Purchases by Swiss Consumers," *Psychology & Marketing (P&M)* 20, no. 10 (2003), https://doi.org/10.1002/mar.10101.

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[23] Lau Teck Chai Tan Booi Chen, "Attitude Towards the Environment and Green Products:Consumers' Perspective," *Management Science and Engineering* 4, no. 2 (2010), http://dx.doi.org/http://dx.doi.org/10.3968/j.mse.1913035X20100402.002.

[24] David Hinton Peter Wheale, "Ethical Consumers in Search of Markets," *Business Strategy and the*

discrepancy or gap between consumers' favorable attitude towards, and actual purchase behavior of green products is referred to as 'green purchasing inconsistency' or 'green attitude-behavior gap'. It signifies that consumer positive attitude towards green products does not always transform into action. Research is necessary to understand that the social environment has a weak influence on people's green consumption, and possible factors such as product price and availability, as well as social influence, etc., lead to differences between public attitudes and purchasing behaviors. Once these factors are identified, steps can be taken to address them and encourage consumers to actually buy green products. Although a lot of research has been done on people's environmental awareness and focused on observing consumers' consumption patterns and non-consumption behaviors, the understanding of the factors that influence people's green consumption behavior is still limited.[25][26][27] Previous research has shown that even if individuals understand the seriousness of environmental problems, they may not necessarily implement green procurement.[28][29][30] Rokka and Uusitalo[31] claimed that even highly environmentally

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Environment 16, no. 4 (2005), https://doi.org/10.1002/bse.484.

[25] Bodo B Schlegelmilch Adamantios Diamantopoulos, Rudolf R Sinkovics, Greg M Bohlen, "Can Socio-Demographics Still Play a Role in Profiling Green Consumers? A Review of the Evidence and an Empirical Investigation," *Journal of Business Research* 56, no. 6 (2003), https://doi.org/10.1016/S0148-2963(01)00241-7.

[26] Jr. Charles H. Schwepker, T. Bettina Cornwell, "An Examination of Ecologically Concerned Consumers and Their Intention to Purchase Ecologically Packaged Products " *Journal of Public Policy & Marketing* (1991), https://doi.org/10.1177%2F074391569101000205.

[27] David Jobber Scott B. Follows, "Environmentally Responsible Purchase Behaviour: A Test of a Consumer Model," *European Journal of Marketing* 34 (2000 Reprints & Permissions), https://doi.org/10.1108/03090560010322009.

[28] Sebastian Bamberg, "How Does Environmental Concern Influence Specific Environmentally Related Behaviors? A New Answer to an Old Question," *Journal of Environmental Psychology* 23, no. 1 (2003), https://doi.org/10.1016/S0272-4944(02)00078-6.

[29] Suzanne C. Beckmann William E. Kilbourne, "Review and Critical Assessment of Research on Marketing and the Environment," *Journal of Marketing Management* 14, no. 6 (1998), https://doi.org/10.1362/026725798784867716.

[30] Jörgen Garvill Annika M. Nordlund, "Value Structures Behind Proenvironmental Behavior " (2002), https://doi.org/10.1177%2F001391602237244.

[31] Liisa Uusitalo Joonas Rokka, "Preference for Green Packaging in Consumer Product Choices – Do Consumers Care?," *International Journal of Consumer Studies* 32, no. 5 (2008), https://doi.org/10.1111/j.1470-6431.2008.00710.x.

conscious people do not always buy green products; their choice of products depends on their evaluation of various product attributes. In addition, environmental factors can hinder environmentally responsible consumer behavior and reduce the impact of proactive attitudes.

It is thus clear that previous research has not been able to recognize why a positive consumer attitude fails to convert into a green purchase.[32] Further, there has been no comprehensive investigation of the wide-range of factors and their influence on environmentally responsible purchasing.[33]

[32] S. and Ogden Gupta, D.T., "To Buy or Not to Buy? A Social Dilemma Perspective on Green Buying," *Journal of Consumer Marketing* 26, no. 6 (2009), https://doi.org/10.1108/07363760910988201.

[33] Phil Megicks Juliet Memery, Jasmine Williams, "Ethical and Social Responsibility Issues in Grocery Shopping: A Preliminary Typology," *Qualitative Market Research* 8, no. 4 (2005 Reprints & Permissions), https://doi.org/10.1108/13522750510619760.

METHODOLOGY

Primary data is collected directly by the researcher. Before analysis the gathered data was prepared. The dataset was checked for missing data and outliers. For this the “outlier labeling rule” was used. All values outside the calculated range were considered outliers. The data was then analyzed using statistical software SPSS.

The questionnaire consisted of 3 multiple-choice questions and 19 questions. The aim was to conduct the survey with people in Taiwan from July to September 2022. People were defined as a person who had lived in Taiwan on the day of questioning. Participants were given 5 minutes to fill in the survey anonymously, and 261 people responded. Construct was measured from respondents’ questionnaires where they were asked to indicate the extent of agreement or disagreement with five statements each concerning the perceived technologies. Response was anchored with Likert- scale independent variables based on multiple-item constructs and was measured through Likert- scale with a scale of 1-strongly Disagree, 2- Disagree, 3- Neutral, 4- Agree and 5- strongly agreed capturing all the desired items of the research variables.

Questionnaires were chosen for this research because they are a reliable and quick method to collect information from multiple respondents in an efficient and timely manner. This is especially important when it comes to projects, with several complex objectives, where time is one of the major constraints. A 95% confidence interval was set during the planning stage in order to achieve accepted levels of data reliability. In addition, the used the statistical package for social science (SPSS) and

Excel to verify reliability of the edited data using test.

This study was no exception and questionnaires were a quick and effective way for the researcher to reach multiple respondents within several weeks. The reasons are due to the fact that some findings needed personal assessment of the information obtained from consumers, while some conclusions reached after doing simple mathematical computations such as mean, percentages and tabulations. As the questionnaires provided linear and clear results, but many elements from the research were left uncovered. The results from the questionnaires were presented in the format of tables. The major findings of this dissertation will be discussed in detail in the next chapter.

DATA ANALYSIS

Public's Awareness and Acceptance of Sustainable Consumption

According to the survey, 75% of the public get information about sustainable consumption from online media, 10% from schoolteachers and 10% from printed matter. 14.2% of the public think they have a good understanding of sustainable consumption, but only 37.8% of them have a correct understanding. 62.5% of the public think they understand sustainable consumption in general, of which 39.2% do fully understand sustainable consumption, but 23.9% still have some misunderstandings. 18.4% of the public are not aware of sustainable consumption, and the remaining 5% of the public have never heard of sustainable consumption. In short, only 38.7% of people have received information on sustainable consumption and have a clear understanding of sustainable consumption. However, as for the willingness of all the respondents to implement "sustainable consumption" after learning about it, as many as 95.2% of them are willing to take the initiative to implement it within their ability, and only 4.8% of them will not change their original living habits.

For the sustainable consideration of the public in daily consumption, in the case of multiple choices, the largest proportion is whether the product can be reused (76.2%), followed by the production conditions of the product (60.5%), whether the product has environmental protection standards (59%), whether the product conforms to the ecology (57.9%), and whether the enterprise fulfills its social responsibility (46.7%). This shows that people have a certain awareness of environmental protection.

Public's Willingness of Increasing Green Consumption

90.8% of people support actively choosing green goods or services.

Did male and female differ in their support level of B1 (Actively choose green goods or services)? An independent-samples t-test indicated that there was no significant effect for gender, $t(259) = -.253$, $p = .800$, despite that male ($M = 4.38$, $SD = .644$) showed lower support level than female ($M = 4.40$,m Sd = .656).

69.3% are willing to pay more for green goods or services.

I observed that men were more active in willing to pay more for green goods or services than women. An independent-samples t-test compared the means of male's and female's level of support to B2 (Willing to pay more for green goods or services) confirmed this general observation. The difference between the mean of the 58 males' support level to B2 ($M = 4.00$, $SD = .749$) and that of the 203 female ($M = 3.75$, $SD = .789$) was significant, $t(259) = 2.120$, $p = .035$.

62.5% of people support choosing the channel consumption that is approved as a green store even if the distance is far away.

Did male and female differ in their support level of B3 (Actively choose green goods or services)? An independent-samples t-test indicated that there was no significant effect for gender, $t(259) = 1.382$, $p = .168$, despite that male ($M = 3.83$, $SD = .939$) showed higher support level than female ($M = 3.65$,m Sd = .839).

Table 1. T-test of Gender on the Willingness to Increase Green Consumption

		T-test		
		t	df	P value(雙尾)
B1	Between Group	-.253	259	.800
	Within Group	-.256	93.441	.799
B2	Between Group	2.120	259	.035
	Within Group	2.182	96.095	.032
B3	Between Group	1.382	259	.168
	Within Group	1.298	84.710	.198

Perspective of Taiwanese in Different Age Groups on the Issue of Supporting the Three Behaviors of Increase Green Consumption

A one-way ANOVA was performed to compare the effect of Age on B1. It revealed that there was a statistically significant difference in mean B1 score between at Location subgroups (F(6, 254) = 2.895, p = .010). Tukey's HSD Test for multiple comparisons found that the mean B1 score for respondents aged 18-25 (4.23) is lower than that of respondents aged 46-55 (4.56), p = .027, 95% C.I. = [-.64, -.02].

A one-way ANOVA was performed to compare the effect of Age on B2. It revealed that there was a statistically significant difference in mean B2 score between at Age subgroups (F(6, 254) = 5.073, p = .000). Tukey's HSD Test for multiple comparisons found that the mean B2 score for respondents aged under 18 (3.43) is lower than that of respondents aged 56-65 (4.29), p = .044, 95% C.I. = [-1.70, -.01]. Tukey's HSD Test for multiple comparisons found that the mean B2 score for respondents aged 18-25 (3.56) is lower than that of respondents aged 46-55 (4.04), p = .002, 95% C.I. = [-.84, -.12]. Tukey's HSD Test for multiple comparisons found that the mean B2 score for respondents aged 18-25 (3.56) is lower than that of respondents aged 56-65 (4.29), p = .017, 95% C.I. = [-1.37, -.08].

A one-way ANOVA was performed to compare the effect of Age on B3. It revealed that there was a statistically significant difference in mean B3 score between at Age subgroups (F(6, 254) = 4.470, p = .000). Tukey's HSD Test for multiple comparisons found that the mean B3 score for respondents aged 18-25 (3.46) is lower than that of respondents aged 46-55 (3.96), p = .005, 95% C.I. = [-.90, -.09]. Tukey's HSD Test for multiple comparisons found that the mean B3 score for respondents aged 26～35 (3.17) is lower than that of respondents aged 36-45 (3.79), p = .039, 95% C.I. = [-1.23, -.02]. Tukey's HSD Test for multiple comparisons found that the mean B3 score for respondents aged 26～35 (3.17) is lower than that of respondents aged 46-55 (3.96), p = .001, 95% C.I. = [-1.37, -.21].

Table 2. ANOVA of Age on the Willingness to Increase Green Consumption

		Sum sq	df	Mean sq	F value	P value
B1	Between Group	7.077	6	1.179	2.895	.010
	Within Group	103.483	254	.407		
	Total	110.559	260			
B2	Between Group	17.167	6	2.861	5.073	.000
	Within Group	143.255	254	.564		
	Total	160.421	260			
B3	Between Group	18.514	6	3.086	4.470	.000
	Within Group	175.349	254	.690		
	Total	193.862	260			

B1			
Tukey HSD[a,b]			
		α = 0.05	
Age	N	1	2
26-35	24	4.21	
18-25	80	4.23	
36-45	53	4.42	4.42
Under 18	14	4.50	4.50
46-55	72	4.56	4.56
56-65	14	4.57	4.57
Over 65	4		5.00
P value		.723	.173

B2			
Tukey HSD[a,b]			
		α = 0.05	
Age	N	1	2
Under 18	14	3.43	
26-35	24	3.54	3.54
18-25	80	3.56	3.56
36-45	53	3.92	3.92
46-55	72	4.04	4.04
Over 65	4	4.25	4.25
56-65	14		4.29
P value		.053	.109

B3			
Tukey HSD[a,b]			
		α = 0.05	
Age	N	1	2
26-35	24	3.17	
18-25	80	3.46	3.46
Under 18	14	3.71	3.71
36-45	53	3.79	3.79
56-65	14	3.93	3.93
46-55	72	3.96	3.96
Over 65	4		4.25
P value		.139	.143

Perspective of Taiwanese of different income groups on the issue of supporting the three behaviors of increase green consumption

A one-way ANOVA was performed to compare the effect of Monthly Income on B1, and it revealed that there was no statistically significant difference in mean B1 scores between people from each income groups (4.24, 4.27, 4.35, 4.36, 4.46, 4.50, 4.53, 4.54, 4.90, respectively; $F(8, 252) = 1.887$, $p = .062$).

A one-way ANOVA was performed to compare the effect of Monthly Income on B2. It revealed that there was a statistically significant difference in mean B2 score between at income subgroups ($F(8, 252) = 3.551$, $p = .001$). Tukey's HSD Test for multiple comparisons found that the mean B2 score for respondents with monthly income less than 10,000 (3.53) is lower than that of respondents with monthly income ranging from 20,001 to 30,000 (4.02), $p = .020$, 95% C.I. = [-.94, -.04]. Tukey's HSD Test for multiple comparisons found that the mean B2 score for respondents with monthly income less than 10,000 (3.53) is lower than that of respondents with monthly income above 80,001 (4.50), $p = .006$, 95% C.I. = [-1.76, -.17]. Tukey's HSD Test for multiple comparisons found that the mean B2 score for respondents with monthly income ranging from 10001 to 20000 (3.53) is lower than that of respondents with monthly income above 80,001 (4.50), $p = .050$, 95% C.I. = [-1.93, .00].

A one-way ANOVA was performed to compare the effect of Monthly Income on B3. It revealed that there was a statistically significant difference in mean B3 score between at Location subgroups ($F(8, 252) = 2.561$, $p = .011$).

Table 3. ANOVA of Monthly Income on the Willingness to Increase Green Consumption

		Sum sq	df	Mean sq	F value	P value
B1	Between Group	6.249	8	.781	1.887	.062
	Within Group	104.311	252	.414		
	Total	110.559	260			
B2	Between Group	16.253	8	2.032	3.551	.001
	Within Group	144.168	252	.572		
	Total	160.421	260			
B3	Between Group	14.574	8	1.822	2.561	.011
	Within Group	179.288	252	.711		
	Total	193.862	260			

B1

Tukey HSD[a,b]

		α = 0.05
Monthly Income	N	1
Less than 10000	75	4.24
10001-20000	15	4.27
50001-60000	17	4.35
30001-40000	50	4.36
60001-70000	13	4.46
70001-80000	8	4.50
20001-30000	45	4.53
40001-50000	28	4.54
Above 80001	10	4.90
P value		.068

B2

Tukey HSD[a,b]

		α = 0.05	
Monthly Income	N	1	2
Less than 10000	75	3.53	
10001-20000	15	3.53	
60001-70000	13	3.69	
30001-40000	50	3.78	3.78

40001-50000	28	4.00	4.00
70001-80000	8	4.00	4.00
20001-30000	45	4.02	4.02
50001-60000	17	4.06	4.06
Above 80001	10		4.50
P value		.513	.119

B3			
Tukey HSD[a,b]			
		α = 0.05	
Monthly Income	N	1	2
10001-20000	15	3.33	
Less than 10000	75	3.49	3.49
60001-70000	13	3.54	3.54
30001-40000	50	3.58	3.58
20001-30000	45	3.87	3.87
50001-60000	17	3.88	3.88
40001-50000	28	3.93	3.93
70001-80000	8	4.13	4.13
Above 80001	10		4.30
P value		.131	.116

Perspective of Taiwanese on the issue of equal support between the two behaviors of sustainable consumption

A paired-samples t-test showed that their support level for B1(Actively choose green goods or services) (M = 4.40, SD = .652) and that of B2 (Willing to pay more for green goods or services) (M = 3.81, SD = .785) was significantly different, t(260) = 13.632, p = .000. Another paired-samples t-test showed that their support level for B1(Actively choose green goods or services) (M = 4.40, SD = .652) and that of B3 (Even if the distance is far away, choose the channel consumption that has been approved as a green store) (M = 3.69, SD = .863) was significantly different, t(260) = 15.288, p = .000.

The results show that although people support the active choice of green goods or services, due to the consideration of time and distance, they are not necessarily willing to pay more for green goods or services or go to green stores that are far away.

Table 4. T-test of Correlation of People's Support for Two Sustainable Consumption Behaviors

	t	df	P value(雙尾)
B1-B2	13.632	260	.000
B1-B3	15.288	260	.000

The Public Insights on the Issue of Reducing Waste of Resources

Perspective of Taiwanese from different areas on the issue of supporting the three behaviors of reducing waste of resources

A one-way ANOVA was performed to compare the effect of Location on C1, and it revealed that there was no statistically significant difference in mean C1 scores between people from all over Taiwan ($F(4, 256) = .567$, $p = .687$).

A one-way ANOVA was performed to compare the effect of Location on C2. It revealed that there was a statistically significant difference in mean C2 score between Location subgroups ($F(4, 256) = 7.287$, $p = .000$). Tukey's HSD Test for multiple comparisons found that the mean C2 score for respondents from eastern Taiwan (3.00) is lower than that of respondents from northern Taiwan (4.40), $p = .000$, 95% C.I. = [.55, 2.25]. Tukey's HSD Test for multiple comparisons found that the mean C2 score for respondents from eastern Taiwan (3.00) is lower than that of respondents from central Taiwan (4.55), $p = .000$, 95% C.I. = [.71, 2.39]. Tukey's HSD Test for multiple

comparisons found that the mean C2 score for respondents from eastern Taiwan (3.00) is lower than that of respondents from southern Taiwan (4.54), p = .000, 95% C.I. = [.68, 2.40]. Tukey's HSD Test for multiple comparisons found that the mean C2 score for respondents from eastern Taiwan (3.00) is lower than that of respondents from Outer Islands of Taiwan (5.00), p = .001, 95% C.I. = [.57, 3.43].

A one-way ANOVA was performed to compare the effect of Location on C3, and it revealed that there was no statistically significant difference in mean C3 scores between people from all over Taiwan (F(4, 256) = 1.307, p = .268).

Table 5. ANOVA of Area on the Willingness to Reduce Waste of Resources

		Sum sq	df	Mean sq	F value	P value
C1	Between Group	1.073	4	.268	.567	.687
	Within Group	121.065	256	.473		
	Total	122.138	260			
C2	Between Group	10.547	4	2.637	7.287	.000
	Within Group	92.626	256	.362		
	Total	103.172	260			
C3	Between Group	1.593	4	.398	1.307	.268
	Within Group	78.047	256	.305		
	Total	79.640	260			

C1		
Tukey HSD[a,b]		
		α = 0.05
Area	N	1
Northern	73	4.34
Southern	52	4.37
Central	130	4.42
Eastern	4	4.50
Outer Islands	2	5.00
P value		.436

C2 Tukey HSD[a,b]			
		α = 0.05	
Area	N	1	2
Eastern	4	3.00	
Northern	73		4.40
Southern	52		4.54
Central	130		4.55
Outer Islands	2		5.00
P value		1.000	.386

C3 Tukey HSD[a,b]		
		α = 0.05
Area	N	1
Eastern	4	4.25
Northern	73	4.49
Southern	52	4.60
Central	130	4.62
Outer Islands	2	5.00
P value		.114

Perspective of Taiwanese in Different Income Groups on the Issue of supporting the Three behaviors of increase green consumption

A one-way ANOVA was performed to compare the effect of Monthly Income on C1. It revealed that there was a statistically significant difference in mean C1 score between at Location subgroups ($F(8, 252) = 2.949$, $p = .004$). Tukey's HSD Test for multiple comparisons found that the mean C1 score for respondents with monthly income ranging from 30,001 to 40,000 (4.04) is lower than that of respondents with monthly income ranging from 20,001 to 30,000 (4.58), $p = .003$, 95% C.I. = [.11, .97]. Tukey's HSD Test for multiple comparisons found that the mean C1 score for

respondents with monthly income ranging from 30,001 to 40,000 (4.04) is lower than that of respondents with monthly income above 80,001 (4.80), p = .030, 95% C.I. = [-1.48, -.04].

A one-way ANOVA was performed to compare the effect of Monthly Income on C2. It revealed that there was a statistically significant difference in mean C2 score between at Location subgroups (F(8, 252) = 2.126, p = .034).

A one-way ANOVA was performed to compare the effect of Monthly Income on C3, and it revealed that there was no statistically significant difference in mean C3 scores between people from each income groups (F(2, 23) = 1.348, p = .220).

Table 6. ANOVA of Monthly Income on the Willingness to Reduce Waste of Resources

		Sum sq	df	Mean sq	F value	P value
C1	Between Group	10.454	8	1.307	2.949	.004
	Within Group	111.684	252	.443		
	Total	122.138	260			
C2	Between Group	6.524	8	.816	2.126	.034
	Within Group	96.648	252	.384		
	Total	103.172	260			
C3	Between Group	3.268	8	.409	1.348	.220
	Within Group	76.372	252	.303		
	Total	79.640	260			

C1			
Tukey HSD[a,b]			
		α = 0.05	
Monthly Income	N	1	2
30001-40000	50	4.04	
Less than 10000	75	4.35	4.35
60001-70000	13	4.46	4.46
10001-20000	15	4.47	4.47

40001-50000	28	4.50	4.50
70001-80000	8	4.50	4.50
50001-60000	17	4.53	4.53
20001-30000	45	4.58	4.58
Above 80001	10		4.80
P value		.300	.541

C2		
Tukey HSD[a,b]		
		α = 0.05
Monthly Income	N	1
30001-40000	50	4.34
Less than 10000	75	4.35
60001-70000	13	4.38
10001-20000	15	4.47
70001-80000	8	4.50
40001-50000	28	4.57
20001-30000	45	4.69
50001-60000	17	4.71
Above 80001	10	4.80
P value		.417

C3		
Tukey HSD[a,b]		
		α = 0.05
Monthly Income	N	1
Less than 10000	75	4.48
30001-40000	50	4.48
40001-50000	28	4.57
60001-70000	13	4.62
70001-80000	8	4.63
20001-30000	45	4.67
50001-60000	17	4.71
10001-20000	15	4.73
Above 80001	10	4.90
P value		.379

The Public Acceptance on the Issue of the Change in Consumption Patterns

Perspective of Taiwanese in different age groups on the issue of support the three behaviors of changing consumption patterns

A one-way ANOVA was performed to compare the effect of Age on D1. It revealed that there was a statistically significant difference in mean D1 score between at Age subgroups (F(6, 254) = 2.449, p = .026).

A one-way ANOVA was performed to compare the effect of Age on D2, and it revealed that there was no statistically significant difference in mean D2 scores between people from Age subgroups (F(6, 254) = 1.303, p = .256).

A one-way ANOVA was performed to compare the effect of Age on D3. It revealed that there was a statistically significant difference in mean D3 score between at Age subgroups (F(6, 254) = 2.573, p = .019). Tukey's HSD Test for multiple comparisons found that the mean D1 score for respondents aged 18-25 (4.21) is lower than that of respondents aged 46-55 (4.53), p = .033, 95% C.I. = [-.64, -.01].

Table 7. ANOVA of Age on the Willingness to Change Consumption Patterns

		Sum sq	df	Mean sq	F value	P value
D1	Between Group	5.913	6	.986	2.449	.026
	Within Group	102.225	254	.402		
	Total	108.138	260			
D2	Between Group	2.712	6	.452	1.303	.256
	Within Group	88.116	254	.347		
	Total	90.828	260			
D3	Between Group	6.372	6	1.062	2.573	.019
	Within Group	104.831	254	.413		
	Total	111.203	260			

D1			
Tukey HSD[a,b]			
		α = 0.05	
Age	N	1	2
Under 18	14	4.21	
18-25.	80	4.24	
56-65	14	4.29	
26-35	24	4.33	4.33
36-45	53	4.49	4.49
46-55	72	4.53	4.53
Over 65	4		5.00
P value		.835	.072

D2		
Tukey HSD[a,b]		
		α = 0.05
Age	N	1
Under 18	14	4.36
18-25	80	4.36
26-35	24	4.42
56-65	14	4.43
46-55	72	4.53
36-45	53	4.53
Over 65	4	5.00
P value		.053

D3			
Tukey HSD[a,b]			
		α = 0.05	
Age	N	1	2
18-25	80	4.18	
26-35	24	4.33	4.33
Under 18	14	4.43	4.43
36-45	53	4.43	4.43
46-55	72	4.50	4.50
56-65	14	4.50	4.50

Over 65	4		5.00
P value		.819	.079

Perspective of Taiwanese from different areas on the issue of support the three behaviors of changing consumption patterns

A one-way ANOVA was performed to compare the effect of Location on D1. It revealed that there was a statistically significant difference in mean D1 score between Location subgroups (F(4, 256) = 3.927, p = .004). Tukey's HSD Test for multiple comparisons found that the mean D1 score for respondents from eastern Taiwan (3.25) is lower than that of respondents from northern Taiwan (4.36), p = .007, 95% C.I. = [.22, 2.00]. Tukey's HSD Test for multiple comparisons found that the mean D1 score for respondents from eastern Taiwan (3.25) is lower than that of respondents from central Taiwan (4.42), p = .003, 95% C.I. = [.29, 2.05]. Tukey's HSD Test for multiple comparisons found that the mean D1 score for respondents from eastern Taiwan (3.25) is lower than that of respondents from southern Taiwan (4.44), p = .003, 95% C.I. = [.29, 2.09]. Tukey's HSD Test for multiple comparisons found that the mean D1 score for respondents from eastern Taiwan (3.25) is lower than that of respondents from outer Islands of Taiwan (5.00), p = .013, 95% C.I. = [-3.25, -.25].

A one-way ANOVA was performed to compare the effect of Location on D2. It revealed that there was a statistically significant difference in mean D2 score between Location subgroups (F(4, 256) = 4.970, p = .001). Tukey's HSD Test for multiple comparisons found that the mean D2 score for respondents from eastern Taiwan (3.25) is lower than that of respondents from northern Taiwan (4.45), p = .001,

95% C.I. = [.39, 2.01]. Tukey's HSD Test for multiple comparisons found that the mean D2 score for respondents from eastern Taiwan (3.25) is lower than that of respondents from central Taiwan (4.48), p = .000, 95% C.I. = [.43, 2.03]. Tukey's HSD Test for multiple comparisons found that the mean D2 score for respondents from eastern Taiwan (3.25) is lower than that of respondents from southern Taiwan (4.48), p = .000, 95% C.I. = [.41, 2.05]. Tukey's HSD Test for multiple comparisons found that the mean D2 score for respondents from eastern Taiwan (3.25) is lower than that of respondents from outer Islands of Taiwan (5.00), p = .005, 95% C.I. = [-3.12, -.38].

A one-way ANOVA was performed to compare the effect of Location on D3. It revealed that there was a statistically significant difference in mean D3 score between Location subgroups (F(4, 256) = 4.060, p = .003). Tukey's HSD Test for multiple comparisons found that the mean D3 score for respondents from eastern Taiwan (3.25) is lower than that of respondents from northern Taiwan (4.32), p = .012, 95% C.I. = [.16, 1.97]. Tukey's HSD Test for multiple comparisons found that the mean D3 score for respondents from eastern Taiwan (3.25) is lower than that of respondents from central Taiwan (4.44), p = .003, 95% C.I. = [.30, 2.08]. Tukey's HSD Test for multiple comparisons found that the mean D3 score for respondents from eastern Taiwan (3.25) is lower than that of respondents from southern Taiwan (4.37), p = .008, 95% C.I. = [.20, 2.03]. Tukey's HSD Test for multiple comparisons found that the mean D3 score for respondents from eastern Taiwan (3.25) is lower than that of respondents from outer Islands of Taiwan (5.00), p = .015, 95% C.I. = [-3.27, -.23].

Table 8. ANOVA of Area on the Willingness to Change Consumption Patterns

		Sum sq	df	Mean sq	F value	P value
D1	Between Group	6.252	4	1.563	3.927	.004
	Within Group	101.886	256	.398		
	Total	108.138	260			
D2	Between Group	6.545	4	1.636	4.970	.001
	Within Group	84.282	256	.329		
	Total	90.828	260			
D3	Between Group	6.634	4	1.659	4.060	.003
	Within Group	104.569	256	.408		
	Total	111.203	260			

D1

Tukey HSD[a,b]

		α = 0.05	
Area	N	1	2
Eastern	4	3.25	
Northern	73		4.36
Central	130		4.42
Southern	52		4.44
Outer Islands	2		5.00
P value		1.000	.367

D2

Tukey HSD[a,b]

		α = 0.05	
Area	N	1	2
Eastern	4	3.25	
Northern	73		4.45
Southern	52		4.48
Central	130		4.48
Outer Islands	2		5.00
P value		1.000	.437

D3 Tukey HSD[a,b]			
		α = 0.05	
Area	N	1	2
Eastern	4	3.25	
Northern	73		4.32
Southern	52		4.37
Central	130		4.44
Outer Islands	2		5.00
P value		1.000	.317

Self-Assessment of Implementing "Sustainable Consumption"

In the case of choosing more than one item, the possible reasons why survey respondents cannot implement "sustainable consumption", 46% think it is because it is beyond the affordability range (money, time...), 44.8% think that the sustainable products or services on the market are not diverse enough, 31.8% think that there is no coercive force, 31.8% think that there is no clear and sustainable selection and identification norms, 31% think it is too troublesome, and 30.7% think it is difficult to change the original habits.

CONCLUSION

Although less than 40% of people have received information on sustainable consumption and have a clear and correct understanding, most people's choices indicate that people have a certain degree of environmental protection awareness when considering conditions for daily consumption. And all the respondents are willing to take the initiative to implement sustainable behavior after understanding sustainable consumption as high as 95.2%, showing that the general public has a very high degree of acceptance of sustainable consumption.

In response to the public's willingness to increase green consumption, 90.8% of the people support the initiative to choose green goods or services. 69.3% of people are willing to pay a higher amount for green goods or services, and men are more willing to pay more for it than women. 62.5% of people support the channel consumption that is approved as a green store even if the distance is far away.

According to the opinions of people of different age groups in Taiwan, respondents aged 46-55 are more supportive of actively choosing green goods or services than respondents aged 18-25. Respondents aged 46-55 are more willing to pay more for green goods or services than respondents aged 18-25, and respondents aged 56-65 are more supportive than those under 25. Respondents in the older age group are more willing to choose channels approved as green stores for consumption even if they are far away.

Paired samples t-tests show that people are significantly different for B1 (actively choosing green goods or services) and B2 (willingness to pay higher amounts for green goods or services). Another paired-samples t-test showed that they

were significantly different for B1 (actively choosing green goods or services) and B3 (choosing pathway consumption that was reviewed as a green store even if they were far away). Although people support the active choice of green goods or services, they are not necessarily willing to pay more for green goods or services or go to green stores that are farther away due to time and distance considerations.

Regarding the issue of reducing waste of resources, people from all over Taiwan and different income classes expressed their support for factories oriented towards simplified and low-energy-consuming commodity manufacturing processes, saving energy use in daily life, and recycling and reusing renewable resources. Only the average score of respondents in eastern Taiwan was slightly lower than the rest of Taiwan.

The average score of Taiwanese people of different age groups on changing consumption patterns is progressive, and the higher the age group, the higher the acceptance of this. People from all regions in Taiwan hold positive views. Only eastern respondents had a slightly lower average score than other regions.

According to the survey, most respondents have a certain degree of environmental awareness in their daily lives. Faced with the issue of sustainability, almost all the respondents have a positive attitude, and there are not a few people who are willing to increase the cost of living for this. However, the most common environmental protection behaviors currently carried out by the public are mostly the measures formulated by the government, or the actions under the consideration of "saving money", and the initiative and spontaneous will are slightly weak. Under the circumstance that sustainable products or services on the market are not common and the cost is high, it is difficult to increase the popularity of sustainable consumption. It

is hoped that through the government's publicity and the implementation of related policies, the public will be guided to change their lifestyles so as to reduce the damage caused to the environment and improve Taiwan's sustainability as much as possible.

APPENDIX

公眾對促進永續消費態度之探討

親愛的受訪者您好：

這是一份有關「公眾對促進永續消費態度之探討」的學術研究問卷，主要目的在了解您對於永續消費的認知及觀點，作為未來促進永續消費之參考。

本問卷採不記名方式作答，請依照您的真實感受及看法填寫，問卷所得資料僅供學術研究使用，敬請安心填答。感謝您參與本問卷的調查，您的寶貴意見將使本研究更具貢獻，在此獻上最誠摯的謝意。

敬祝　平安順心

文藻外語大學 國際事務系

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名詞釋義

「**永續消費**」指消費產品或服務以滿足基本需求時，在整個生命週期內最大限度地減少自然資源的使用及污染物的排放，以對環境影響最小且不影響後代子孫權益之消費模式，減少對人類健康與自然生態造成的危害。

「**綠色商店**」指該賣場內販售綠色商品。

「**綠色商品**」指該產品在原料的取得、產品的製造、銷售、使用及廢棄處理過程中，具有可回收、低污染、省資源等功能或理念，並經政府驗證通過取得環保標章、節能標章、省水標章、綠建材標章及第二類環境保護證明書之產品或服務。

第一部分：永續消費基本認知

1. 對「永續消費」的理解

□非常了解 □大致了解 □不太清楚 □未曾聽過(跳至第五題)

2. 您得知「永續消費」的主要資訊來源

□學校師長 □網路媒體 □紙本書報 □其他_____

3. 您認為推動「永續消費」的目的是為（可複選）

□實踐循環經濟 □資源使用效益最佳化 □刺激消費以促進經濟成長
□其他_____

4. 您了解「永續消費」後實際執行的意願

□能力範圍內願意主動實行 □不會改變原有的生活習慣

5. 消費時您會考量的要點（可複選）

□商品的製成條件 □商品是否符合生態 □商品是否有環保標章
□商品是否能重複使用 □企業是否善盡社會責任 □其他

第二部分：增加綠色消費

1. 主動選擇綠色商品或服務

□非常支持 □支持 □無意見 □不支持 □非常不支持

2. 願意為綠色商品或服務支付更高的金額

□非常支持 □支持 □無意見 □不支持 □非常不支持

3. 即便距離較遠也選擇經審核為綠色商店的通路消費

□非常支持 □支持 □無意見 □不支持 □非常不支持

第三部分：減少資源浪費

1. 對於工廠導向簡化及低耗能的商品製程

□非常支持 □支持 □無意見 □不支持 □非常不支持

2. 對於節約生活中能源的使用

□非常支持 □支持 □無意見 □不支持 □非常不支持

3. 對於再生資源回收再利用

□非常支持 □支持 □無意見 □不支持 □非常不支持

第四部分：改變消費模式

1. 願意改變生活方式以減少對環境造成的損害

□非常支持 □支持 □無意見 □不支持 □非常不支持

2. 對於相關單位引導民眾從生活中落實永續行動

□非常支持 □支持 □無意見 □不支持 □非常不支持

3. 對於自身減少過度消費的生活作為

□非常支持 □支持 □無意見 □不支持 □非常不支持

第五部分：落實「永續消費」的自我評估

1. 對於「永續消費」議題，我有實行永續行為

□同意 □不同意

2. 您無法貫徹「永續消費」的可能因素(可複選)

□過於麻煩
□沒有強制力
□不清楚如何實行
□難以改變原有習慣
□環境保護意識不夠強烈
□未感受到致命的環境威脅

□認為沒有實行的急迫必要性
□無明確的永續選擇與辨認規範
□認為自身對周遭環境的影響不大
□市面上的永續商品或服務不夠多元
□超出可負擔能力範圍(金錢、時間...)
□其他_____

第六部分：基本資料

1. 性別：

□男 □女

2. 年齡：

□18歲以下 □18～25歲 □26～35歲 □36～45歲 □46～55歲 □56～65歲
□65歲以上

3. 教育程度：

□國小 □國中 □高中（職）□專科及大學 □研究所（含）以上

4. 職業：

□學生 □軍公教 □工商業 □農林漁牧 □服務業 □自由業 □家管
□其他_____

5. 主要居住地區：

□北部 □中部 □南部 □東部 □外島

6. 平均月收入：

□ 10000元以下 □ 10001～20000元 □ 20001～30000元
□ 30001～40000元 □ 40001～50000元 □ 50001～60000元
□ 60001～70000元 □ 70001～80000元 □ 80001元以上

問卷到此結束，感謝您的填答!

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