Sustainable Consumption Behavior among Generation Y & Z in Jakarta Area

Magdalena Lestari Ginting [1], Devanny Gumulya [2]

[1] Faculty of Social and Political Sciences, Pelita Harapan University, Tangerang, Indonesia.

[2] School of Design, Pelita Harapan University, Tangerang, Indonesia.

Magdalenalestari.g@gmail.com

Abstract:
The Sustainable Consumption is starting become a global concern given that there is hyperconsumption. It produces a variety of environmental problems, ranging from damage to ecosystems to the decline in the quality of natural resources. Policies are taken from consumption motivation to find out how to create sustainable consumption. This study uses quantitative research methods by collecting questionnaire data to find out how sustainable consumption behavior occurs in generations Y and Z. The result showed 55,7% of sustainable consumption can be explain by Environmental Influence (PL), School and Data Reason (FE), Marketplace circumtances (KP), Social Pressure (TS) and Government Policies (AP).Market condition and environmental influence has the biggest impact of developing sustainable consumption among generation Y & Z.

Keywords:Sustainability, consumption behaviour, Jakarta

I. INTRODUCTION

The term 'sustainable consumption' was popularized during the action plan for sustainable development in which it directly become international discourse. It was adopted by 179 heads of state at the 1992 Rio Earth Summit. The manufacture technology has made mass production, and this has surround us with many products. We're getting used to buy more than we need. This is called hyper-consumption. Hyper-consumption in the developed world was associated as a straight cause of unsustainability. Eco efficiency and shifting market to a more responsible consumption pattern was proposed as the solutions for hyper-consumption. Government also take part by developing "new concept of wealth and prosperity that allow people to have higher standard of living by changing lifestyle and by being more independent from the limited natural resources and be more synergy with carrying capacity of the earth (UNCED, 1992). The responsiveness paid to support sustainable consumption configurations has improved over current ages(DEFRA, 2006). The Support also come from The European Commison (EC, 2004), to support some issues in the food sustainable consumption (Garnet, 2008) and climate change (PBL, 2008).

Many approaches on sustainable consumption came up from the scholars that tries to see the pattern of consumer motivations. All the theoretical comes from economics, politics, cultural theory, psychology, anthropology and sociology background. From the references the purpose of consumption theory is divided into utilitarian, social and psychological, and infrastructure of provision. (Gill Seyfang, 2009)

Table 1. Theoretical Approaches to Consumer Motivation

Type of Approach	Scale of Analysis	Decision Making	Definition of Consumption	Example of Tools for Sustainable Consumption
Utilitarian	Individual	Cognitive information-processing on basis of rational utility-maximisation	The means to increase utility	Green Product labelling, tax insentives for greener products
Social and psychological	Individual	Response to social context and psychological needs	Marker of social meaning, cultural differentiator, and satisfier of psychological needs	Social marketing to "sell" greener lifestyles as desireable e.g. through celebrity endorsement
Infrastructure of provision	Society	Constrained by socio-technical infrastructure	Inconspicuous, routinized habit	Local food initiatives which bypass mainstream provisioning routes

1. *The Beginning of Sustainable Consumption*

Psychology, administration, economics philosophy, sociology have been addressed as the source of ethical consumer discipline. Through this interdisciplinary approach comes the sustainable consumption. Since the 1990s the term sustainable consumption emerged, but it can be traced back 20 years ago in a report titled "The limits to Growth" ((D.H. Meadows, 1972)

In 1987, sustainable development came as an agenda on international scale, and there have been a change of importance, and now the mostly accepted definition of sustainable development is that provide the present needs without jeopardizing future generation being (WCED, 1987).

The sum of sustainable consumption can be seen fromproduct efficiency, sustainably-produced products, encourage the most-clean technology and techniques, and facilitating consumer choice for more sustainable products in the market. Sustainable consumption promotes changing purchasing behavior within the possibility of current public policies (Gill Seyfang, 2009).

2. *Sustainable Consumption: The Priority Agenda of the New Economics*

The new economy is first adopted in 1984, a new paradigm of economy constructed in the G7 Summit of The Other Economic Summit or TOES. The event addressed the issue of international debt, building social consistency, economic flexibility, valuing environmental and social unity through theoretical outlines and promising demonstrations of these principles in real life, for instance strengthening local exchange trading (Ekins, 1986).

The new economics is a philosophical perspective that economics cannot be separated from its roots twin tradition of environmental and social economics. The environmental movement was built upon the works of Schumacher (1993) to develop a framework about how justice and social concerns with humanistic economics could be planned and experienced.

These core assumptions aim to examine the substance and implications of sustainable consumption practices. First, an understanding of the key elements of wealth and prosperity is found in environmental and social values. Second, the value of work is more valuable. This proposes that the economic point of view is broadened for a

variety of workers who until now could not coexist with formal employment. In this case the effort to better appreciate the social workforce which is also a pillar of the household economy. Third, a new understanding of money in the economy which is an honest scale in its function as a medium of exchange of goods and services, and storage of an asset value. Fourth, economic reunification into a life that upholds morals and ethics. Sustainable consumption does not use the normative definition of economics alone but also considers the right way to facilitate society for a better life. (Gill Seyfang, 2009)

3. *Generation Y & Z*

The Gen Y is generation that turned eighteen this year that both prepare to join the professional world. They are eighty million in numbers and will define the future of career and business.

The challenges for business leader is to adapt to several new truths and to dispose the old 20th century management practices that no longer fit with today context. Entrepreneur must learn how to mix four generations of breadwinners in the workforce and adapt the leadership style in order to attract the best existing talent. Talent preservation is crucial for many reasons, including financial/bottom line returns. Financial performance of any business is directly influenced by turnover which is very costly (Buddy Hobart, 2014).

Understanding life habits, digital habits, struggles, role models, cultural touches, and how the Z generation tries to always be a trend setter by managing Fear of Missing Out (FOMO) are ways to find out the definition of the Z generation. generation Z is an inseparable relationship with media, technology and information. In recent years, researchers conducted hundreds of interviews with Gen Z children, adolescents, adolescents and young adults and have filtered our findings into a list of adolescent cultural attributes. These generation markers are the identifying characteristics of what will be the most

significant global demographic change in history. (Gregg L. Witt, 2018)

General characteristics of Gen Z are: (1) Independence: Gen Z is very diligent in working for success. (2) Respect diversity: As an internet citizen, Gen Z is very open in addressing ethnicity, race, gender, and orientation. these values are reflected in personal social media, brands, classrooms. (3) Involvement: this generation is conscious to be actively involved in politics, economics, social, environment, and defense and security. They want to make the world a better place and are very proud to be able to join in with organizations that are dedicated to making a difference. (4) Can manage information and knowledge: sometimes there is a misunderstanding about this, parents assume that this generation has a 'short attention span', Gen Z has developed the ability to quickly filter out the mass of information that appears on their screens and decide what valuable and what must be filtered and discarded. (Gregg L. Witt, 2018)

II. RESEARCH METHOD

Concern about the environmental issue has encouraged the appearance of sustainability consumption. Generation Y and Z as the future generation is taken as the sample of the study. Purposive sampling was conducted through an online survey to gather data. The questionnaire is developed from Garcia et al. (2018). It consisted of seven section; all items were measured with 5 points Likert scale 1 = "strongly disagree" to 5 =" strongly agree". The survey begins with a definition on sustainable consumption followed by hypothetical examples of sustainable consumption, as follows:

> *"Sustainable consumption is a holistic approach in the use of service and products to fulfil human needs while also minimizing the negative effect on environment throughout the whole production and consumption process to*

benefit the future generations (Developed from UNEP, 2011 and ISSD, 1994). The example of sustainable consumption: I prefer product with natural material to synthetic material. Sorting waste make the recycling process easier. "

The first section of the survey is the demographic questions followed by sustainable consumption; then respondents were asked to choose sustainable consumption actions that have been taken by the respondents. Followed by environmental influence section, School and information section, social pressure influence section, marketplace circumstances sections and government action sections.

No.	Measures	Definition
Demographic		
1	AGE	Age
2	OCU	occupation,
3	EDU	latest School
4	DOM	residence area
5	MAJOR	School background
5	EXP	Monthly expense
Sustainable Consumption Behavior (SC)		
6	SC 1	I care and preserve the environment through my daily activities
7	SC 2	I have done real actions on promoting civil rightss and social fairness
8	SC 3	I purchase local products to support local community's economy
9	SC 4	I feel motivated to make a change in my lifestyle toward a more responsible consumption
Environmental Influence (PL)		
10	PL 1	My relatives and friends inspire me to follow their actions in environmental care
11	PL 2	I was a volunteer for community service of ecological organizations
12	PL 3	I have bought organic ecological products or recycle products
13	PL 4	It is a tradition in my family to care for the environment
14	PL 5	In my community, waste management is common
15	PL 6	I have enough green area at my home
School and Data Reason (FE)		
16	FE 1	I have taken lesson, workshop or seminar about environmental issue or sustainable consumption
17	FE 2	My relatives and friends have taught me how to use resources (water, electricity, energy) more responsibly
18	FE 3	I am well informed about sustainability issues
19	FE 4	I have the information about the products I consume and its effect on the environment
Social Pressure (TS)		
20	TS 1	My friends pressured me to do activity that benefit the environment
21	TS 2	I feel pressured to affiliate with a pro-environmental group
Marketplace circumstances (KP)		
23	KP 1	I am confident that organic products are better than traditional products
24	KP 2	I notice there are advertising campaigns about organic products
25	KP 3	Sustainable living trend influence me to change my lifestyle toward a more responsible consumption
26	KP 4	There are many places to find organic products that are not harmful to the

		environment
27	KP 5	Despite the higher price, I still choose organic products over traditional one
28	KP 6	I feel that by buying recycle products I contribute in reducing waste
29	KP 7	Ethically produced product become one of my considerations when purchasing product
Governmental action (AP)		
30	AP 1	The government motivates me enough to change my lifestyle toward a more responsible consumption, and responsible behaviour through equality and social fairness
31	AP 2	I can do things that benefit the environment and the government supports me

All indicators were compiled in CSV file to be tested in Smart PLS Software to enable us to apply the PLS SEM path.

Table 2.Demographic Charactristic of Survey Respondents

No.	Demographic	Categories	Percentage
1	Age	18-23	88.3%
		24-29	9.7%
		30-35	0.6%
		35-40	1.3%
2	Occupation	College Student	87%
		Employee	5.8%
		Startup employee	1.9%
		Freelance	1.9%
		Entrepreneur	2.6%
3	Latest School	Highschool	74%
		Bachelor Degree	22.7%
		Master Degree	2.6%
		Doctoral Degree	0.6%
4	Residence	Tangerang	51.3%
		West Jakarta	23.4%
		East Jakarta	0.6%
		North Jakarta	8.4%
		South Jakarta	3.9%
		Central Jakarta	2.6%
		Bekasi	2.6%
		Bogor	2.6%
		Others	3.6%
5	School Background	Art and Design	52.6%
		Science	9.7%
		Social science	37.7%
6	Monthly Expense	1.400.000 – 2.800.000	46.1%
		2.800.000 - 4.250.000	34.4%
		4.250.000 – 7.000.000	11.7%
		7.000.000 – 11.0000.000	3.9%

7	The Sustainable consumption that respondents have done	>11.000.000	3.9%
		Reuse reusable packaging	69.5%
		Reduce single use packaging	61.7%
		Choose to walk or cycle as short distance means of transportation	50%
		Sorting organic and non-organic waste	42.9%
		Buy recycle products	29.2%
		Do urban farming at home	15.6%

Quantitative Structural Equation Modeling

Structural equation modeling (SEM) is a powerful and flexible tool for the analysis of data that is currently enjoying widespread popularity. A major reason for its frequent use is that it allows researchers to posit complex multivariate relations among observed and latent variables whereby direct and indirect effects can be evaluated along with indexes of their estimation precision. Researchers conducting SEM analyses generally proceed in three stages : (i) a theoretical model is hypothesized, (ii) the overall fit of data to the model is determined, and (iii) the specific parameters of the proposed model are evaluated. A variety of problems might be encountered at each of these stages (Gregory R. Hancock, 2013)

III. RESULT AND DISCUSSION

We collected data from online survey and received over 100 respondents. The respondents are mostly college students and young professionals that falls within the age group of 18 – 29 years old. We focused on this age group that we categorized as generation Y and Z to serve as target respondents in the path modeling because many of them are aware of the importance of sustainability and tend to have stronger tendency to preserve the environment. We ran several test to our model to determine fitness of the overall model.

The result showed 55,7% of sustainable consumption can be explain by Environmental Influence (PL), School and Data Reason (FE), Marketplace Circumstances (KP), Social Pressure (TS) and Government Policies (AP).

We adjusted our calculation by eliminating some indicators that failed to reflect the constructs or the ones with the lowest contribution to the constructs. The first test was the level of AVE (Average Variance Extracted) to measure the level of variance captured by each construct rather than the variance that emerged from faulty measurement. AVE determines the constructs validity or convergent validity. We removed indicators with the lowest path relations to the construct for those that did not pass the 0.5 threshold. In the beginning there were six indicators for the Environmental Influence (PL) and we deleted three indicators PL2, PL3 and PL6. These indicators had the lowest path relations with the construct:(PL2) I was a volunteer for community service of ecological organizations. (PL3) I take advantage of the fact that now there are organic or ecological products in the supermarket to buy them. (PL6) My home has enough space for a garden. We continued the Construct reliability and validity test with AVE until all the AVE levels for each construct are above 0.5. This indicates that the indicators such as volunteering does not these indicators out of 4 FE School and Informational Factors, two of them were taken out: (FE3) I am informed about sustainability issues environment. (FE4) I have information about the negative effects the products I consume have on the environment.

We keep both indicators for Social Pressure, TS1 I have felt pressured by my friends to perform an activity for the ecological benefit and TS2 I feel obligated to belong to the group of people whom are pro-environmental. Market Condition (KP)

shows the highest causal relation with Sustainable Consumption. There were 7 total indicators of Market Condition, one is deleted KP4 I think there are many places where you can find products that do not harm the environment. We maintain both indicators of the last construct, Government Policies. AP1 In my city, the government does enough to motivate more responsible behavior through equality and social fairness and AP2 The government is responsible to do what is necessary so people can do ecological things. Government Policies construct has the lowest causal relation with Sustainable Consumption behavior.

The result of our PLS calculation suggests that aside from demographic, there are positive relationships between each of our constructs to Sustainable Consumption. We are looking at the level of path causal relations in the inner model. The path coefficient calculation shows that Environmental Influence (PL), School and Data Reason (FE), Marketplace circumtances (KP), Social Pressure (TS) and Government Policies (AP); positively influence Sustainable Consumption behavior. Marketplace circumtances (KP) has the highest causal effects of 0.377. Environmental Influence (PL) is calculated to have an effect of 0.24, School and Data Reason (FE). Social pressure (TS) has positive causal relationship to Sustainable Consumption behavior

for 0.134 while Market Condition (KP) shows the highest causal relation of 0.377. The lowest causal relation to Sustainable Consumption is Government Policies with only 0.049.

We ran discriminant validity to determine that each construct is independent and unrelated to other constructs. The test produced good result since each of the construct has high discriminative measurement that they are unrelated to the others. The composite reliability demonstrates internal consistency of each indicators to measure the constructs. Expected composite reliability is to be higher than 0.7. Our result shows that for each construct, including Sustainable Consumption, meets the level of expected internal consistency ranging between 0.75 to 0.887.

The Bootstrap test is done to determine the level of significance from the P-values. We ran one -tail test since the causal relations mostly are positive and use 5000 samples. Bootstrapping reveals that three out of the four constructs meet the level of significance while the other three do not. Using 5% level of confidence that requires the result to be lower than 0.05, we found that Marketplace circumtances (KP), Environmental Influence (PL) and School and Data Reason (FE) are significant. The levels are 0.000, 0.002, and 0.018 respectively.

Latent variables	Composite Reliability	AVE	Discriminant Validity	P Value	Causal Relations
PL	0.814	0.596	0.772	0.001	0.240
FE	0.752	0.609	0.780	0.019	0.189
TS	0.844	0.731	0.855	0.077	0.134

KP	0.858	0.502	0.709	0.000	0.377
AP	0.887	0.796	0.892	0.267	0.049
SC	0.794	0.562	0.750		

With the SMART PLS calculation, we found that generation Y and Z around Jakarta and its outer region tend to be more prone to consume sustainable products based on three main factors. First is environmental influence, especially if caring for the environment is a tradition in family. Second, Schoolal and Information factor, mainly that a family member, friend or acquaintance has taught me an activity to help me be more responsible in the use of resources such as water, electricity, energy. Lastly, market condition or specifically the option that I choose an organic product over a traditional one, even if it is more expensive.

IV. CONCLUSION

The result showed 55,7% of sustainable consumption can be explain by Environmental Influence (PL), School and Data Reason (FE), Marketplace circumtances (KP), Social Pressure (TS) and Government Policies (AP). Market condition and environmental influence has the biggest impact of developing sustainable consumption among generation Y & Z.

V. ACKNOWLEDGEMENT

VI. REFERENCES

[1]. Aerens, R., Vorkov, V., & Duflou, J. R. (2019). Springback prediction and elasticity modulus variation. *Procedia Manufacturing, 29,* 185-192. doi:https://doi.org/10.1016/j.promfg.2019.02.125

[2]. Buddy Hobart, H. S. (2014). *Gen Y Now: Millenials and the Evolution of Leadership.* San Fransisco: John Wiley & Sons.

[3]. D.H. Meadows, J. R. (1972). *The Limit to Grow.* New York: Universe Books.

[4]. DEFRA. (2006). *Procuring The Future: Sustainable Procurement Action Plan.* London: DEFRA.

[5]. EC. (2004). *Sustainable Consumption and Production in the European Union.* Brussels: European Commision.

[6]. Edna C. Figueroa-García 1, J. J.-M.-B. (2018). Modeling the Social Factors That Determine Sustainable Consumption Behavior in the Community of Madrid. *Journal of Sustainability*.

[7]. Ekins, P. (1986). *The Living Economy: A New Economics in the Making.* London: Routledge.

[8]. Garnet, T. (2008). *Cooking Up A Storm Food, Greenhouse Gas Emissions and Our Changing Cllimates.* Brighton: Centre for Environmental Strategy.

[9]. Gill Seyfang, D. E. (2009). *The New Economic of Sustainable Consumption: Seend of Change.* UK: Palgrave Macmillan.

[10]. Gregg L. Witt, D. E. (2018). *The Gen Z Frequency: How Brands Tune In and Build Creativity.* USA: Kogan Page.

[11]. Gregory R. Hancock, R. O. (2013). *Structural Equation Modeling: A Volume in Quantitative Methods in Education and The Behavioral*

Sciences: Issues, Research, and Teaching. USA: Information Age Publishing.

[12]. Konzack, S., Radonjic, R., Liewald, M., & Altan, T. (2018). Prediction and reduction of springback in 3D hat shape forming of AHSS. *Procedia Manufacturing, 15*, 660-667. doi:https://doi.org/10.1016/j.promfg.2018.07.296

[13]. Maria Kalamas, M. C. (2014). Pro-environmental behaviors for thee but not for me: Green giants, green Gods, and external environmental locus of control. *Journal Business Research*, 12-22.

[14]. Nakagawa, Y., Mori, K.-i., Yashima, S., & Kaido, T. (2018). Springback behaviour and quenchability in hot stamping of thick sheets. *Procedia Manufacturing, 15*, 1071-1078. doi:https://doi.org/10.1016/j.promfg.2018.07.385

[15]. PBL. (2008). *Vleensconsumptie en Klimaatbeleid.* Netherlands: PBL.

[16]. Radonjic, R., & Liewald, M. (2019). New process design for reduction of springback by forming with alternating blank draw-in. *Procedia Manufacturing, 29*, 217-224. doi:https://doi.org/10.1016/j.promfg.2019.02.129

[17]. Ren, H., Xie, J., Liao, S., Leem, D., Ehmann, K., & Cao, J. (2019). In-situ springback compensation in incremental sheet forming. *CIRP Annals*. doi:https://doi.org/10.1016/j.cirp.2019.04.042

[18]. S. Dueñas Ocampo, J. P.-O. (2014). El concepto de consumo socialmente responsible y su medición. Una revisión de la literatura. *Una revisión de la literatura. Estud. Gerenciales*, 287–300.

[19]. Schumacher, E. (1993). *Small is Beautiful: A Study of Economics as If People Mattered.* London: Vintage.

[20]. Suttner, S., Schmid, H., & Merklein, M. (2019). Cross-profile deep drawing of magnesium alloy AZ31 sheet metal for springback analysis under various temperatures. *Procedia Manufacturing, 29*, 406-411. doi:https://doi.org/10.1016/j.promfg.2019.02.155

[21]. UNCED. (1992). *Agenda 21: The United Nations Program of Action From Rio.* New York: U.N. Publication.

[22]. Wang, J. L., Fu, M. W., Shi, S. Q., & Korsunsky, A. M. (2018). Influence of size effect and plastic strain gradient on the springback behaviour of metallic materials in microbending process. *International Journal of Mechanical Sciences, 146-147*, 105-115. doi:https://doi.org/10.1016/j.ijmecsci.2018.07.027

[23]. WCED. (1987). *Our Common Future.* Oxford: Oxford University Press.

[24]. Zhan, M., Xing, L., Gao, P. F., & Ma, F. (2019). An analytical springback model for bending of welded tube considering the weld characteristics. *International Journal of Mechanical Sciences, 150*, 594-609. doi:https://doi.org/10.1016/j.ijmecsci.2018.10.060

[25]. Zhang, F., Ruan, J., Zhang, J., He, K., & Du, R. (2018). Experimental study of springback behavior in incremental bending process. *Procedia Manufacturing, 15*, 1290-1297. doi:https://doi.org/10.1016/j.promfg.2018.07.356

[26]. Zhu, Y. X., Chen, W., Li, H. P., Liu, Y. L., & Chen, L. (2018). Springback study of RDB of rectangular H96 tube. *International Journal of Mechanical Sciences, 138-139*, 282-294. doi:https://doi.org/10.1016/j.ijmecsci.2018.02.022