JOURNAL OF BUSINESS, MANAGEMENT, AND SOCIAL STUDIES
Journal Website: www.jbms.site
J. Bus. Mgt. Soc. Studies 2(3) 147-154 (2022)

Analyses of Gen Z's Perceived Environmental Knowledge and Intention to Use Eco-Friendly Shopping Bags

Chuurur Roshi Anggraeny
Sampoerna University, Jakarta, Indonesia
chuurur.anggraeny@my.sampoernauniversity.ac.id

ABSTRACT

Objective – This study aims to find out how generation Z perceives environmental knowledge in relation to their intention to use environmentally friendly shopping bags.
Methodology – This study collected primary data from respondents via questionnaires. A 54-respondent online survey is sent throughout East Java, with a focus on Pasuruan city, in order to achieve the study's goal.
Findings – The results demonstrate that consumer attitudes are significantly influenced by environmental knowledge, which results in the intention to use environmentally friendly shopping bags.
Novelty – This study extends the literature by examining and demonstrating that perceived environmental knowledge and environmental awareness may contribute to attitude toward using environmental-friendly shopping bags.
Keywords: *perceived environmental knowledge, environmental-friendly shopping bags, environmental awareness*

JEL Classification: D90, F64, M00
Article Info: Received 28 January 2023; Revised 18 February 2023, Accepted 20 February 2023
Article Correspondence: chuurur.anggraeny@my.sampoernauniversity.ac.id
Recommended Citation: Anggraeny, C. R. (2022). Analyses of Gen Z's Perceived Environmental Knowledge and Intention to Use Eco-Friendly Shopping Bags. Journal of Business, Management, and Social Studies, 2(3), 147-154.

I. INTRODUCTION

Plastic waste produced by the pervasive use of plastic in daily life is a major cause of environmental issues (Okunola et al., 2019). Researchers found that between 19 and 23 million metric tons, or 11% of the total plastic waste produced globally in 2016, made it to aquatic systems (Borrelle et al., 2020). As they attempt to manage their own waste and the waste carried by the river, many coastal and isolated villages in Indonesia are feeling the effects of the plastic issue (Phelan et al., 2020). Another study discovered that the seashore near Banda Aceh city contained up to 51.4% plastic garbage (Ondara & Dhiauddin, 2020). Therefore, it is crucial to be conscious of the environment and take effective action to protect it. University students are highly aware of environmental challenges, but they are only moderately effective at protecting the environment, according to a survey (Jusoh et al., 2018). When it comes to the idea and condition of the environment, as well as environmental challenges and problems, science students in the Philippines are more knowledgeable than most (Rogayan & Nebrida, 2019). Also, there are many innovative products that are focused on environmental sustainability that are widely available right now, utilizing plastic waste as the main ingredient (Kumar et al., 2021). Using the products is the next effort that consumers can make after making them. A shopping bag, one of these items, is frequently used to purchase everyday necessities in shops or supermarkets. According to the study, customers are willing to pay more for environmentally

friendly shopping bags in order to support environmental protection and the promotion of a greener lifestyle (Gano-an, 2018).

According to the explanation above, communities all across the world are working together to address global environmental challenges, particularly plastic garbage. In light of the aforementioned, the purpose of this study is to ascertain how generation Z perceives environmental consciousness in relation to their intention to use eco-friendly shopping bags, particularly in Pasuruan, East Java. The question of this article is then developed into some concepts after viewing the context of this research. The first is to determine how much Generation Z thinks about environmental issues and environmentally friendly products, particularly shopping bags, to protect the environment. The second is what factors affect Gen Z's inclination to utilize environmentally friendly products, particularly shopping bags.

II. LITERATURE REVIEW

TPB (Theory of Planned Behavior)

This study employed the uses of the theory of planned behavior (TPB) model to investigate the factors that affect the use of eco-friendly shopping bags. The TPB hypothesis is used to explain the relationship between a number of characteristics and the intention to buy environmentally friendly goods. This idea is frequently applied in research on consumer behavior. The theory describes the relationships between an individual's attitude, beliefs, intention, norms, and action. It is an extension of the TRA (Theory of Reasoned Action), a model created by Fishbein and Ajzen (1975). To explain the connections between a consumer's behavior and their attitude, belief, purchase intention, and social influence toward a certain product in marketing, Setyawan et al. (2018) claim that TRA and TPB models are frequently utilized. Attitudes, subjective norms, and perceived behavioral control are the three factors that the TPB model uses to describe human behavior (Ajzen, 1991). These three factors help determine behavior intention, which in turn influences behavior (Zhang et al., 2018).

Generation Z

The Generation Z, those born between 1997 and 2009, are very self-assured, technologically competent, and enterprising (Dwidienawati & Gandasari, 2018). Gen Z's are more involved in pro-environmental conduct than persons from the older group, such as Gen X, because they are more conscious of the world (Parzonko et al., 2021). Another study demonstrates that Gen Z's are concerned about the environment and have strong opinions about recycling. Yet they also assert that giving up plastic is challenging and criticize big businesses for not doing enough (Mitchell & Topic, 2019). According to this study, Gen Z's do make an effort to buy from producers who are more environmentally friendly, but they also understand that this is not always possible.

Environmental-Friendly Shopping Bags

Environmentally friendly reusable shopping bags are created as a part of the 3R (reduce, reuse, and recycle) movement. According to a study, consumers who are aware of green products and who care about the environment believe that buying green items will benefit the sustainability of the environment (Antari & Pangaribuan, 2021).

Environmental Knowledge

Environmental knowledge is the understanding of one's surroundings as an ecologically interconnected system and an effort to contribute to the improvement of environmental sustainability (Pagiaslis & Krontalis, 2014). Another study demonstrates that environmental awareness can considerably and favorably influence environmental attitudes and plans to make green purchases (Pratiwi et al., 2018).

JOURNAL OF BUSINESS, MANAGEMENT, AND SOCIAL STUDIES
Journal Website: www.jbms.site
J. Bus. Mgt. Soc. Studies 2(3) 147-154 (2022)

Theoretical Framework

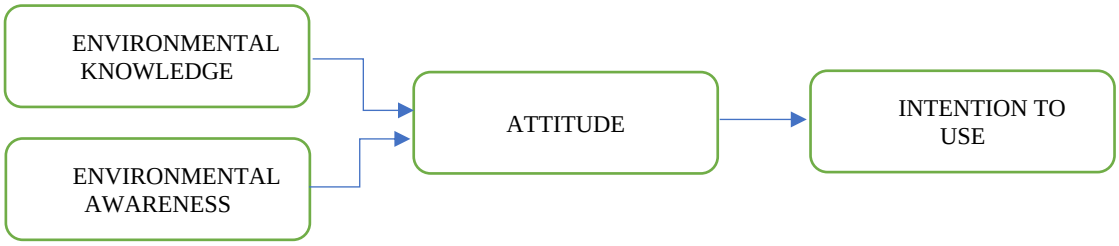

Figure 1. Proposed Conceptual Model

According to the framework in Figure 1, in the hypothesis 1, the independent variable, environmental knowledge, has an impact on attitude. In contrast, the independent variable in the second hypothesis, environmental awareness, also has an impact on attitude. The third hypothesis states that attitude, an independent variable, affects the intention to use.

Hypotheses Development

This study aims to explore the relationship between Generation Z's concern for the environment and their desire to use environmentally friendly shopping bags. The theories were developed based on past study on Generation Z's environmental behavior. According to studies, Generation Z's environmental awareness positively affects their propensity to make green purchases (Fabiola & Mayangsari 2020, Pratiwi et al., 2018). Not only are they more conscious of their surroundings, but they are also more concerned about environmental issues (Dwidienawati, 2020). According to another study, customers who care more about the environment will exhibit a high level of environmental awareness (Hojnik et al., 2019). As a result, consumer awareness may influence or contribute to their environmental views, particularly if they are more concerned with environmental quality, social welfare, and a desire to preserve the environment (Chen et al., 2018). Following the discussion, the following hypotheses are created:

Hypothesis 1: The adoption of environmentally friendly shopping bags by Generation Z is positively and significantly impacted by their environmental knowledge (H1)

Hypothesis 2: Generation Z's attitude toward using environmentally friendly shopping bags is positively and significantly impacted by environmental awareness (H2)

The discussion will continue with an analysis of the connection between attitude, environmental knowledge, environmental awareness, and purchase intention. Additionally, a prior study found that consumer attitudes affected their propensity to use environmentally friendly items (Arifani & Haryanto, 2018). It is consistent with a research that demonstrates how a consumer's attitude toward green products effectively connects environmental awareness and the intention to buy green products (Indriani et al., 2019). According to a study on customers' intentions to adopt environmentally friendly drinking straws, their environmental attitudes have a positive, significant impact on such intentions (Pangaribuan et al., 2020). On the basis of the previous discussion, the following theory is put forth:

Hypothesis 3: The attitude of Generation Z has a positive impact on the intention to use eco-friendly shopping bags (H3)

JOURNAL OF BUSINESS, MANAGEMENT, AND SOCIAL STUDIES
Journal Website: www.jbms.site
J. Bus. Mgt. Soc. Studies 2(3) 147-154 (2022)

III. METHODOLOGY

In this study, quantitative research will be used to explain the relationship between environmental knowledge, environmental awareness, and intention to use environmentally friendly shopping bags. The generation Z respondents who are eligible to participate in the study will get a questionnaire as its primary source of data. The researcher will use the Generation Z population in Pasuruan, East Java, for this investigation. Because it is simple to use and has a short time frame, the non-probability method will be used in this study to select a sample of responders from the entire population.

IV. RESULTS AND DISCUSSION

Due to the fact that a questionnaire will be utilized to collect the data, this study will be divided into two sections. In the first section, the researcher will ask the respondents questions about their history, including their gender, age, where they live, and what they do for a living. In the second portion, the researcher will set a number of questions from each variable related to environmental knowledge, environmental awareness, environmental attitude, and willingness to use ecologically friendly shopping bags.

Descriptive Analysis

People who live in East Java and are between the ages of 17 and 22 were asked to participate in an online survey for this study. There are 54 respondents to the survey, including both male and female respondents. Table 1's results show that 39 out of 54 respondents, or 72% of them, are female. Only 28% of respondents are men, however. Additionally, the results in the same table show that 46 out of 54 respondents—or 85% of those surveyed—were between the ages of 19 and 20. Those who are neither 19 or 20 years old make up the remaining 15% of responders. In addition, this survey yields a city result, which reveals that 69% of the respondents are from Pasuruan city in East Java. The majority of responders (69%), who are from Malang, Surabaya, Sidoarjo, Mojokerto, Lumajang, and Tuban in East Java, are from these other cities. 51 out of 54 respondents—or 94%—are students, while the remaining non-student respondents make up just 3%, or 3 people.

Table 1. Profile of the Respondents

Variable	Category	Sample	Frequency	Percentage
Gender	Male	54	15	28%
	Female		39	72%
Age	19-20	54	46	85%
	Non–19-20		8	15%
City	Pasuruan	54	37	69%
	Non–Pasuruan		17	31%
Occupation	Student	54	51	94%
	Non - student		3	6%

There are four variables and a total of 16 indicators in this poll, which uses a scale of 1 to 4 ranging from strongly disagree to strongly agree. Environmental Knowledge (EK) is a variable in Table 2 that contains four indicators with the names EK1, EK2, EK3, and EK4. This variable includes questions about a person's capacity to recognize ideas and actions connected to environmental data. The mean of the

environmental knowledge variable, 3.42, suggests that respondents had a solid understanding of the idea of environmental information. Environmental Awareness, also known as EA, is the other variable. It has four indications, numbered EA1, EA2, EA3, and EA4. Individual environmental concern, interest, or consciousness level is the definition of this variable.

The survey's final mean score of 3.52 out of 4 indicates that respondents are highly aware of environmental issues. The following variable, Attitude, is a dependent variable for environmental awareness and knowledge. This variable is described as a person's opinions, goals, emotions, and actions in relation to their surroundings. ATT stands for attitude and there are four indicators on it with the names ATT1, ATT2, ATT3, and ATT4. Its final mean, 3.71, is fairly high. This finding demonstrates that respondents' opinions, desires, and sentiments toward the environment are strong. Intention to Use, the final variable, comprises four indicators: IU1, IU2, IU3, and IU4. This variable represents the willingness of individuals to make purchases of environmentally friendly shopping bags. It shows that respondents' propensity to buy eco-friendly shopping bags is relatively strong.

Table 2. Descriptive Statistic of the Items

Variables	Indicators	Mean	Final Mean	Median	Mode	Std. Deviation
Environmental Knowledge (EK)	EK1	3.76	3.42	4	4	0.43
	EK2	3.33		3	4	0.75
	EK3	3.11		3	3	0.72
	EK4	3.46		4	4	0.64
Environmental Awareness (EA)	EA1	3.50	3.52	4	4	0.64
	EA2	3.74		4	4	0.48
	EA3	3.54		4	4	0.57
	EA4	3.28		3	3	0.68
Attitude (ATT)	ATT1	3.80	3.71	4	4	0.41
	ATT2	3.48		4	4	0.64
	ATT3	3.70		4	4	0.46
	ATT4	3.87		4	4	0.34
Intention to Use (IU)	IU1	3.39	3.37	3	3	0.60
	IU2	3.24		3	3	0.73
	IU3	3.50		4	4	0.57
	IU4	3.35		3	4	0.68

Reliability and Validity Test

In this study, the Cronbach's Alpha statistic test was performed using the software SmartPLS 3, which offers this capability. Because a value of Cronbach's Alpha between 0.6 and 0.8 is acceptable, if a variable's Cronbach's Alpha value is more than 0.6, it is considered reliable (Wim et al., 2008). Table 3 shows the reliability test outcome using SmartPLS.

Table 3. Reliability and Validity Result

	Alpha	rho_A	Composite Reliability (CR)	Average Variance Extracted (AVE)
Attitude	0.737	0.757	0.850	0.656
Awareness	0.689	0.702	0.865	0.762
Intention to Use	0.824	0.831	0.884	0.656
Knowledge	0.634	0.762	0.836	0.720

According to Table 3, Cronbach's alpha for the attitude variable is 0.737, 0.689 for environmental awareness, 0.824 for intention to use, and 0.634 for environmental knowledge. All four of those variables have Cronbach's Alpha values greater than 0.6, which denote dependable variables. By examining the Average Variance Extracted (AVE) value, the validity can be evaluated. According to Table 3, these variables are valid because their AVE values are more than the AVE minimum value of 0.5. These variables include attitude, environmental awareness, intention to use, and environmental knowledge.

Hypothesis Test

The first hypothesis asks whether or not environmental knowledge has a major impact on environmental attitudes. As seen in Table 4, environmental knowledge has a p-value of 0.106, which is higher than alpha 5%. It indicates that the initial hypothesis is incorrect. The second hypothesis explores whether or not environmental awareness has a major impact on environmental attitudes. It has a 0.000 p-value, which is greater than 0.05. It indicates that the second hypothesis is correct. The original sample, which has a positive value of 0.623, shows that environmental awareness has a positive, significant impact on attitude. Based on the third hypothesis, customer attitudes affect their decision to choose environmentally friendly shopping bags. Because it is more than the alpha 5% cutoff, the Intention to Use variable's p-value is 0.000, indicating that it is significant. Looking at the original sample, which has a positive value of 0.644, further demonstrates that one's intention to use eco-friendly shopping bags is positively influenced by one's environmental attitudes.

Table 4. Path Coefficients

	BETA	MEAN	STD DEV	T Statistics (|O/STDEV|)	P Values
Attitude → Intention to Use	0.644	0.660	0.070	9.255	0.000
Awareness → Attitude	0.623	0.632	0.086	7.266	0.000
Knowledge → Attitude	0.159	0.161	0.098	1.622	0.106

Correlation

The fact that Table 5 shows that the square root value of AVE for each variable is larger than the correlation value indicates that the variables in this study model still meet the criteria for having good discriminant validity.

Table 5. Correlation Value

	Attitude	Awareness	Intention to Use	Knowledge
Attitude	0.810			
Awareness	0.679	0.873		
Intention to Use	0.644	0.699	0.810	
Knowledge	0.378	0.352	0.405	0.849

R square is also used to determine how much an independent variable has on a dependent variable. According to Table 6's r-square, environmental awareness can account for 48.3% of the variation in attitude variable, with the remaining 51.7% being explained by factors not included in this study. Also, the attitude

variable can explain 41.5% of the variation in the intention to use variable, with other variables not examined in this study accounting for the other 58.5% of the difference.

Table 6. R Square

	R Square	R Square Adjusted
Attitude	0.483	0.462
Intention to Use	0.415	0.404

V. CONCLUSION

This study intends to examine generation Z's intentions regarding the purchase of environmentally friendly shopping bags in Pasuruan, East Java. According to the findings, environmental knowledge has little impact on consumer attitudes. Environmental awareness, meanwhile, has a big impact on consumer attitudes. Additionally, attitude has a big impact on whether or not you plan to use or buy environmentally friendly bags. As a result, the author proposes producing more environmental knowledge so that it can raise students' environmental awareness through formal education.

This research only considers the residents of Pasuruan in East Java of Indonesia. Future research is highly encouraged to investigate the residents' perspective in other cities on using environmental-friendly shopping bags. It is advisable as well to conduct a comparative study between the residents in Indonesia and other countries to learn from each other's experiences.

REFERENCES

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.

Antari, N. K., & Pangaribuan, C. H. (2021). Analyzing the millennials' intention towards purchasing reusable shopping bags (evidence from Bali). *Journal of Multidisciplinary Issues*, 1(1), 22-31.

Arifani, V. M., & Haryanto, H. (2018). Purchase intention: Implementation theory of planned behavior (Study on reusable shopping bags in Solo City, Indonesia). *IOP Conference Series: Earth and Environmental Science*, 200(1), 012019.

Borrelle, S. B., Ringma, J., Law, K. L., Monnahan, C. C., Lebreton, L., McGivern, A., Murphy, E., Jambeck, J., Leonard, G. H., Hilleary, M. A., Eriksen, M., Possingham, H. P., De Frond, H., Gerber, L. R., Polidoro, B., Tahir, A., Bernard, M., Mallos, N., Barnes, M., & Rochman, C. M. (2020). Predicted Growth in Plastic Waste Exceeds Efforts to Mitigate Plastic Pollution. *Science*, 369 (6510), 1515-1518.

Chen, C. C., Chen, C. W., & Tung, Y. C. (2018). Exploring the consumer behavior of intention to purchase green products in Belt and Road countries: An empirical analysis. Sustainability (Switzerland), 10(3), 854.

Dwidienawati, D., & Gandasari, D. (2018). Understanding Indonesia's Generation Z. *International Journal of Engineering & Technology*, 7(3.25), 245-252.

Dwidienawati, D. (2020). Brand Loyalty, Online Shopping, Environmental Awareness and Risk Averse: The Differences between Generation Y and Generation Z. *International Journal of Advanced Science and Technology*, 29(3), 7905-7916.

Fabiola, K., & Mayangsari, L. (2020). The Influence of Green Skepticism, Environmental Knowledge and Environmental Concern on Generation Z's Green Purchase Intentions in Indonesia. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, *5*(8), 96-105.

Gano-an, J. C. (2018). Consumers' preferences on the use of eco-friendly bags: A green marketing perspective. *Journal of Economics, Business & Accountancy Ventura*, 20(3), 357-362.

Indriani, D., Rahayu, M., & Hadiwidjojo, D. (2019). The Influence of Environmental Knowledge on Green Purchase Intention the Role of Attitude as Mediating Variable. International Journal of Multicultural and Multireligious Understanding, 6(2), 627.

Jusoh, S., Khairul Amri Kamarudin, M., Abd Wahab, N., Hafiz Md Saad, M., Huda Rohizat, N., & Hazwani Nik Mat, N. (2018). Environmental awareness level among university students in Malaysia: A review. *International Journal of Engineering & Technology*, 7(4.34), 28.

Kumar, R., Verma, A., Shome, A., Sinha, R., Sinha, S., Jha, P. K., Kumar, R., Kumar, P., Shubham, Das, S., Sharma, P., Prasad, P. V. V. (2021). Impacts of plastic pollution on ecosystem services, sustainable development goals, and need to focus on circular economy and policy interventions. *Sustainability*, 13(17), 9963.

Okunola A, A., Kehinde I, O., Oluwaseun, A., & Olufiropo E, A. (2019). Public and environmental health effects of plastic Wastes Disposal: A review. *Journal of Toxicology and Risk Assessment*, 5(2).

Ondara, K., & Dhiauddin, R. (2020). Indonesia marine debris: Banda Aceh Coastal Environment Identification. *Jurnal Kelautan Tropis*, 23(1), 117.

Pagiaslis, A., & Krontalis, A. K. (2014). Green consumption behavior antecedents: Environmental concern, knowledge, and beliefs. *Psychology & Marketing*, 31(5), 335-348.

Pangaribuan, C. H., Dewi, L. Y. I., Ardiansyah, M., Putra, O. P. B., & Hidayat, D. (2020). Investigation into Millennials' Perceived Environmental Knowledge towards Intention to Use Environmental Friendly Drinking Straws. Proceedings of The 1st International Congress on Regional Development, Information Technology, and Sustainable Business (INCREDIBLE) 2020, 20-33

Parzonko, A. J., Balińska, A., & Sieczko, A. (2021). Pro-Environmental behaviors of generation Z in the context of the concept of homo socio-oeconomicus. *Energies*, 14(6), 1597.

Phelan, A. A., Ross, H., Setianto, N. A., Fielding, K., & Pradipta, L. (2020). Ocean plastic crisis—mental models of plastic pollution from remote Indonesian coastal communities. *PLOS ONE*, 15(7).

Pratiwi, N. P. D. K., Sulhaini, & Rinuastuti, B. H. (2018). The effect of environmental knowledge, green advertising and environmental attitude toward Green Purchase intention. *Russian Journal of Agricultural and Socio-Economic Sciences*, 78(6), 95-105.

Rogayan, D. V., & Nebrida, E. E. D. (2019). Environmental Awareness and Practices of Science Students: Input for Ecological Management Plan. *International Electronic Journal of Environmental Education*, 9(2), 106-119.

Setyawan, A., Noermijati, N., Sunaryo, S., & Aisjah, S. (2018). Green product buying intentions among young consumers: Extending the application of theory of planned behavior. *Problems and Perspectives in Management*, 16(2), 145-154.

Wim J., Katrien W., Patrick D. P., & Patrick V. K., (2008). *Marketing Research with SPSS.* Pearson Education.

Zhang, L., Fan, Y., Zhang, W., & Zhang, S. (2018). Extending the theory of planned behavior to explain the effects of cognitive factors across different kinds of green products. Sustainability, 11(15), 1-17.