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Exploring Attitude and Behavior Towards Shopping at Zero-Waste Store: An intra-personal and external factors approach

Monica Hody Setiawan, Nosica Rizkalla*
**Corresponding Author*

Universitas Multimedia Nusantara, Tangerang, Indonesia

monica.hody@student.umn.ac.id, nosica.rizkalla@umn.ac.id
Tel: +62 856 9237 2028

Abstract
Many retailers have switched their business model to zero-waste retail to preserve the environment. However, many consumers still feel unfamiliar with this system and thus feel reluctant to continue shopping at zero-waste retail. This study employed the internal-external approach to comprehend consumers' intentions to shop at zero-waste stores. A total of 125 responses were collected and analyzed in SEM with Lisrel. This study found that environmental knowledge and reputation positively impact attitudes toward shopping in zero-waste stores, which in turn would also affect purchase behavior toward zero-waste stores.

Keywords: Zero-waste Store; Environmental Knowledge; Environmental Lifestyle; Attitude and Behavior;

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1.0 Introduction

Despite its vast growth, the retail industry is considered one of the industries responsible for increased environmental waste. The growth of the retail industry, especially in the consumption of FMCG products, has an unfavorable environmental impact. This is because the volume of plastic waste and the industry's growth continues to increase. In addition to packaging waste from products, the retail industry also increases the volume of waste plastic by providing plastic bags for their consumers.

Seeing the seriousness of the environmental problems caused by waste, several initiatives have been taken by both the government and businesses. Many retailers have implemented the no-plastic bag policy, in which consumers are expected to bring their shopping bags (Sang et al., 2022). This zero-waste policy is believed to help solve environmental problems. As the total elimination of waste is almost impossible to achieve, Zero Waste's focus is more on minimizing the amount of waste and promoting the adoption of recyclable packaging (Singh et al., 2017).

Most studies exploring zero-waste focus on the stakeholders' side, like the government's policies and companies' strategies (Singh et al., 2017). Despite the pivotal role consumers play in the success of zero waste, there are still very few studies exploring zero waste

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from the consumers' perspective (Sang et al., 2022). Understanding zero waste from consumers' point of view is essential, as consumers are the main actors in consumption (Su et al., 2020). Research has proven that consumers are concerned about environmental problems. However, their concern for the environment must be fully reflected in their behavior, as the growth rate of environmentally friendly products and practices is not growing as well as expected (Gleim et al., 2012). This shows a gap between consumers' attitudes and behaviors towards environmentally friendly products and practices.

Therefore, this study intends to investigate what factors can motivate consumers to adopt a zero-waste lifestyle, specifically shopping at zero-waste stores, in the context of this study, both internal and external factors. From the internal factors, consumers can be motivated to shop at zero-waste stores if they possess environmental knowledge, an environmental lifestyle, and a green identity. Meanwhile, external factors like promotion sales, advertisements, and environmental reputation can also stimulate consumers to switch their preferences from conventional to zero-waste stores.

2.0 Literature Review

2.1 Environmental Knowledge

According to Su et al. (2020), environmental knowledge is a person's knowledge and awareness of environmental problems and solutions to these problems. Based on research conducted by Maichum et al. (2016), environmental knowledge influences attitude; a consumer will have a positive attitude toward environmentally friendly products if they have high environmental knowledge. In addition, research conducted by Liu et al. (2020) also shows that consumers who know that sustainable or environmentally friendly products can help preserve nature will shape their attitudes toward using friendly products. In this sense, someone with more extensive knowledge about the environment will buy environmentally friendly products and spend more money on these products (Liu et al., 2020). Based on these postulations, the following hypothesis is proposed:

H1a: Environmental knowledge positively affects attitude towards shopping at a zero-waste store.

H1b: Environmental knowledge positively affects behavior toward shopping at a zero-waste store.

2.2 Environmental Lifestyle

A sustainable lifestyle or environmental lifestyle can be considered a routine related to the sustainable behavior of individuals where the individual maintains harmony with society, the economy, and, of course, the environment, where this behavior is reflected through practices related to the environment and also health so that they can live in prosperity without crossing the boundaries of the earth (Lubowiecki-Vikuk et al., 2020). The lifestyle of individuals, especially those with a sustainable lifestyle, will make them develop an attitude that makes them desire to consume environmentally friendly products. Singh & Gupta (2019). Research conducted by Khare (2015) also states that a person's lifestyle also influences their attitude toward consuming environmentally friendly goods, encouraging them to buy these products. Based on these postulations, the following hypothesis is proposed:

H2a: Environmental lifestyle positively affects attitude toward shopping at zero-waste stores.

H2b: Environmental lifestyle positively affects behavior toward shopping at zero-waste stores.

2.3 Green Self-identity

Self-identity can be defined as how an individual sees himself and decides to adhere to the values and behavior of a group that he wants and feels (Confente et al., 2020). In the context of this study, Barbarossa et al. (2017) define green self-identity as the overall identification of green consumers with general motivations associated with various eco-friendly behaviors. Gkargkavouzi et al. (2019) argue that a person can have a positive attitude towards actions that lead to environmental sustainability if they first have a green self-identity. Research conducted by Concente et al. (2020) also revealed that someone with a high green self-identity desires to buy or replace the products they usually buy with environmentally friendly products. Thus, this study proposes the following hypothesis:

H3a: Green self-identity positively affects attitude towards shopping at a zero-waste store.

H3b: Green self-identity positively affects behavior towards shopping at a zero-waste store.

2.4 Promotion Sales

Laroche et al. (2003) stated that sales promotion is an action that focuses on marketing to have a behavioral impact on the company's customers. According to Le Borgne et al. (2018), promotional sales, especially non-monetary sales such as buy one, get one, always effectively influence customers, so promotion sales can attract customers to buy a product. Research conducted by Park et al. (2013) states a significant relationship between promotion sales and a person's behavior, whereby giving discounts to customers will increase the customer's desire to buy again and recommend their store to other customers. According to these notions, the following hypothesis is formulated:

H4a: Promotional sales positively affect attitudes toward shopping at zero-waste stores.

H4b: Promotional sales positively affect behavior toward shopping at zero-waste stores.

2.5 Advertisement

Based on research conducted by Kim et al. (2019), advertisements have a significant effect on attitudes, where using messages related to the environment can increase a person's attitude towards the goals of environmental protection. In addition, Jeong et al. (2014) also

stated that customer views of a business actor are greatly influenced by other sources, such as advertisements related to environmental friendliness, compared to the customer's direct perspective. In addition to raising attitudes, advertisements can positively influence customer buying behavior (Malik et al., 2013). Therefore, this hypothesis is proposed.

H5a: Promotional sales positively affect attitudes toward shopping at zero-waste stores.
H5b: Promotional sales positively affect behavior toward shopping at zero-waste stores.

2.6 Environmental Reputation

Environmental reputation, according to Zhao et al. (2020), is the level of environmental credibility of a company to the company's stakeholders, where this reputation represents the level of perception of environmental performance in the past and present that is likely to be compared to other companies in the same industry. Ko et al. (2012) stated that a company that carries out activities related to environmental protection would form the reputation that the company is responsible for the environment so that it gets a positive view from its customers. In addition, Ryan and Cassidy (2017) also stated in their research that a company with a strong reputation can influence a person's attitude toward choosing products from that company. Based on these postulations, the following hypothesis is formulated:

H6a: Environmental reputation positively affects attitude towards shopping at a zero-waste store.
H6b: Environmental reputation positively affects behavior toward shopping at a zero-waste store.

2.6 Attitude and Behavior towards Shopping at Zero-waste Store

Attitude in this study refers to the customer's attitude towards stores or retailers that apply sustainable grocery packaging. According to Troudi and Bouyoucef (2020), attitude is a cognitive reaction to action and indicates how much a person has the desire to try and how much effort they plan to make. In this study, behavior refers to consumers' choices when buying and consuming environmentally friendly products (Su et al., 2020).

Cheung & To (2019) argue in their research that someone with a good attitude towards the environment will have a sense of concern for the environment, so this can change their behavior, where they will replace the products they usually consume with environmentally friendly products. Chen et al. (2020) also argue that a person's attitude is an influential determinant of that person's behavior, so someone with a positive attitude toward consuming environmentally friendly products will also have a positive attitude. Thus, the following hypothesis is proposed:

H7: Attitude has a positive effect on behavior towards shopping at zero-waste

2.7 Research Framework

Based on the literature reviews conducted to evaluate the relationship between each variable, the following framework is formulated.

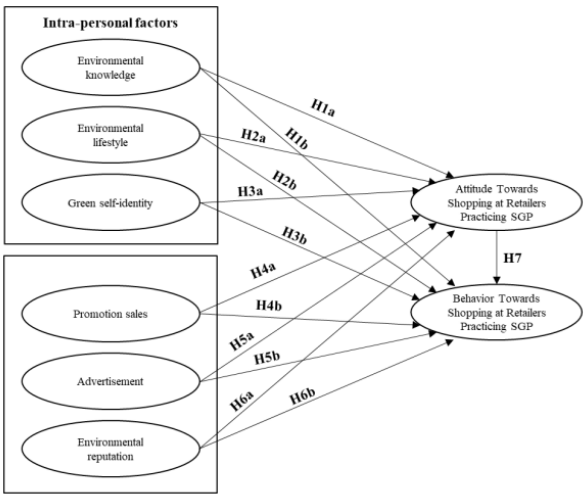

Fig. 1: Research Framework
(Source: Su et al., 2020)

3.0 Research Methodology

This study employed conclusive-descriptive research to evaluate the relationship between the proposed exogen and endogen variables. 125 responses were collected through an online survey using a self-administered questionnaire. Based on Hair et al. (2013), the minimum number of respondents sufficient for a study is acquired by multiplying the number of indicators by 5 (n x 5). In the context of this study, the number of indicators used to measure the variables is 24, which means the minimum number of samples is 120. The

respondents are those who have visited and made purchases in zero-waste stores in the past six months. Measurements for this study were adopted by Su et al. (2020). The responses were then analyzed using SEM with Lisrel. First, this study assessed the measurement model to evaluate the validity and reliability of the research instruments. Then, this study assessed the structural model to analyze the relationship between variables and test the research hypothesis.

4.0 Results and Findings

4.1 Respondents Profile

As shown in Table 1 below, most of the respondents are female (82%). As for the age, most of them are between 22 and 27 (52%). Meanwhile, for employment, most of them are employees (46%).

Table 1. Respondents Profile

	Percentage	Frequency
Gender		
Female	82%	103
Male	18%	22
Age Group		
16-21	15%	19
22-27	52%	65
28-35	22%	27
36-41	8%	10
42-47	3%	4
Employment		
Students	31%	39
Employee	46%	57
Entrepreneur	8%	10
Others	15%	19

4.1 Goodness of Fit

Before conducting the measurement and structural model evaluation, this study assessed the goodness of fit of the model first. There are three criteria used in this study, namely RMSEA, CFI, and PNFI. All measures were within a good fit criterion, as presented in Table 1 below. Table 2. Summary of Measurement Model Evaluation

Goodness of Fit Measure	Target	Value	Conclusion
RMSEA (Absolute Fit Measure)	RMSEA < 0.08	0.056	Good Fit
CFI (Incremental Fit Measure)	0.95 ≤ CFI	0.98	Good Fit
PNFI (Parsimonious Fit Measure	0 ≤ NFI ≤ 1	0.94	Good Fit

4.1 Measurement Model Evaluation

The measurement model is evaluated to assess the validity and reliability of research instruments. As presented in Table 3 below, all research instruments are deemed valid, as the SLF values exceed 0.5 and all the t-values are above the minimum threshold of 1.96 (Hair et al., 2013). Meanwhile, the reliability requirement is also fulfilled, as the CR and AVE exceed the minimum threshold of 0.7 and 0.5, respectively.

Table 3. Summary of Measurement Model Evaluation

Variable	Items	SLF (>0.5)	T-value (>1.96)	CR (>0.7)	AVE (>0.5)
Environmental Knowledge	EK1	0,79	9,10	0.76	0.51
	EK2	0,71	8,05		
	EK3	0,65	7,18		
Environmental Lifestyle	EL1	0,69	8,38	0.82	0.61
	EL2	0,79	10,10		
	EL3	0,87	11,67		
Green Self-Identity	GI1	0,88	12,21	0.84	0.64
	GI2	0,86	11,66		
	GI3	0,66	7,98		
Promotion Sales	PS1	0,78	9,16	0.80	0.57
	PS2	0,81	9,51		
	PS3	0,69	7,88		
Advertisement	AD1	0,73	8,52	0.79	0.55
	AD2	0,73	8,60		
	AD3	0,78	9,32		
Environmental Reputation	ER1	0,84	11,07	0.86	0.67
	ER2	0,75	9,36		
	ER3	0,87	11,65		
Attitude towards Shopping at Zero-waste Store	AT1	0,88	12,03	0.88	0.71
	AT2	0,83	11,10		
	AT3	0.82	10,77		
Behavior towards Shopping at Zero-waste Store	BE1	0,89	12,64	0.94	0.84
	BE2	0,95	14,02		
	BE3	0.91	13.07		

4.2 Structural Model Evaluation

Structural model evaluation is conducted by assessing the t-values of each relationship. A hypothesis is supported if the t-value exceeds the minimum threshold of 1.65. The summary of hypothesis testing is presented in Table 4 below

Table 4. Summary of Structural Model Evaluation

Hypothesis	Path	T-values	Critical Value	Conclusion
H1a	Environmental Knowledge → Attitude towards shopping at zero-waste store	3.08	≥ 1,65	Supported
H1b	Environmental Knowledge → Behavior towards shopping at zero-waste store	1.77	≥ 1,65	Supported
H2a	Environmental Lifestyle → Attitude towards shopping at zero-waste store	1.03	≥ 1,65	Not Supported
H2b	Environmental Lifestyle → Behavior towards shopping at zero-waste store	0.35	≥ 1,65	Not Supported
H3a	Green Self-Identity → Attitude towards shopping at zero-waste store	0.49	≥ 1,65	Not Supported
H3b	Green Self-Identity → Behavior towards shopping at zero-waste store	1.55	≥ 1,65	Not Supported
H4a	Promotion Sales → Attitude towards shopping at zero-waste store	1.24	≥ 1,65	Not Supported
H4b	Promotion Sales → Behavior towards shopping at zero-waste store	0.14	≥ 1,65	Not Supported
H5a	Advertisement → Attitude towards shopping at zero-waste store	0.68	≥ 1,65	Not Supported
H5b	Advertisement → Behavior towards shopping at zero-waste store	-1.41	≥ 1,65	Not Supported
H6a	Environmental Reputation → Attitude towards shopping at zero-waste store	3.58	≥ 1,65	Supported
H6b	Environmental Reputation → Behavior towards shopping at zero-waste store	1.99	≥ 1,65	Supported
H7	Attitude → Behavior towards shopping at zero-waste store	4.11	≥ 1,65	Supported

As shown in Table 3 above, out of 13 hypotheses, eight were not supported, while the remaining five were supported. This study shows that environmental knowledge has a positive effect on attitude and behavior toward shopping at zero-waste stores. The same result also applies to environmental reputation, which has been proven to positively affect both attitude and behavior towards shopping at zero-waste stores. Lastly, attitude towards shopping at zero-waste stores is also proven to affect behavior towards shopping at zero-waste stores.

5.0 Discussion

5.1 Discussion

Based on the research results, environmental knowledge positively affects attitude (H1a) and behavior towards shopping at zero-waste stores (H1b). This aligns with research from Maichum et al. (2016) and Liu et al. (2020). The results of this study indicate that consumers' environmental knowledge influences their attitudes and behaviors. Consumers realize that using environmentally friendly products can reduce things that harm the environment, such as preventing climate change, reducing carbon footprints, and reducing the waste of natural resources. Therefore, knowledge about the environment forms consumer attitudes that shopping at stores that do not use packaging that is harmful to the environment can help protect the environment, so in the end, they lead to the behavior of consuming products that are environmentally friendly compared to products that can harm the environment. Based on this result, the company can collaborate with zero-waste communities to implement the zero-waste policy. This collaboration can be in the form of a webinar, podcast, or particular campaign. According to Malik et al. (2013), a structured and entertaining program can help consumers comprehend environmental issues, making it easier for them to accept strategies and policies from the company.

This study also found that environmental reputation positively affects attitude (H6a) and behavior towards shopping at zero-waste stores (H6b). This is in line with research from Ko et al. (2013). The results of this study imply that if consumers perceive that a store is credible and has a good reputation in terms of the environment, then this will encourage them to shop at that store. A credible reputation related to protecting the environment will convince consumers to buy environmentally friendly products or participate in the zero-waste movement implemented by the store (Ko et al., 2013). In this study, attitude positively affects behavior toward shopping at a zero-waste store. This result is similar to the study by Chen et al. (2020), which also found that attitude influences behavior towards shopping at stores practicing zero-waste. The results of the study state that consumers have a good view and experience while shopping at zero-waste stores, so they desire to shop again and recommend the store to their friends and family. Customers feel that shopping at stores that use environmentally friendly packaging makes them feel responsible for the environment because they do not buy products that harm it. Based on this result, the company can enhance its reputation by improving the quality and publicity of its CSR programs. The CSR programs should focus not only on handling environmental problems but also on preventing them.

For future research, it is suggested to explore other aspects, like values, beliefs, and norms (Gkargkavouzi et al., 2019), habit and past behavior (Khare, 2015), and barriers to consumption (Gleim et al., 2013). Exploring these factors can provide a more holistic understanding of the factors affecting consumers' choices in engaging in environmental-related behavior.

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