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ANALYSING GENERATION Z'S INTENTION TOWARDS USING ENVIRONMENT FRIENDLY DRINKING STRAWS: APPLYING AN EXTENDED THEORY OF PLANNED BEHAVIOUR

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Abstrak

Penggunaan sedotan plastik secara berlebihan telah menyebabkan jumlah limbah plastik yang besar, yang menimbulkan ancaman serius bagi lingkungan. Akumulasi limbah plastik ini tidak hanya menyebabkan polusi lingkungan yang signifikan tetapi juga menimbulkan kekhawatiran kesehatan bagi manusia dan hewan. Sebagai alternatif ramah lingkungan untuk sedotan plastik, para peneliti telah beralih ke sedotan ramah lingkungan. Untuk mengeksplorasi faktor-faktor yang mempengaruhi adopsi sedotan ramah lingkungan oleh Generasi Z (Gen Z), penelitian ini menggunakan Teori Perilaku Terencana (TPB) sambil juga memasukkan kesadaran dan pengetahuan lingkungan sebagai penentu tambahan. Baik metode kuantitatif menggunakan Partial Least Square – Structural Equation Model (PLS-SEM) maupun kualitatif menggunakan analisis tematik digunakan untuk analisis yang komprehensif. Hasilnya menunjukkan bahwa sikap terhadap perilaku, kontrol perilaku yang dirasakan, kesadaran lingkungan, dan pengetahuan lingkungan semuanya memainkan peran penting dalam mempengaruhi intensitas penggunaan sedotan ramah lingkungan oleh Gen Z.

Kata kunci: *Theory of Planned Behaviour; sedotan ramah lingkungan; PLS-SEM; analisis tematik; intensi pemakaian*

Abstract

The overuse of plastic straws has led to a considerable volume of plastic waste, posing a serious threat to the environment. This accumulation of plastic waste not only causes significant environmental pollution but also raises health concerns for both humans and animals. As an eco-friendly alternative to plastic straws, researchers have turned to environmentally friendly straws. To explore the factors influencing Generation Z's (Gen Z) adoption of these eco-friendly straws, this study utilizes the Theory of Planned Behaviour (TPB) while also incorporating environmental awareness and knowledge as additional determinants. Both quantitative using Partial Least Square – Structural Equation Model (PLS-SEM) and qualitative using thematic analysis methods are employed for comprehensive analysis. The results indicate that attitudes towards behaviour, perceived behavioural control, environmental awareness, and environmental knowledge all play pivotal roles in influencing the intensity of Gen Z's usage of environmentally friendly straws.

Keywords: *Theory of Planned Behaviour; eco-friendly drinking straws; PLS-SEM; thematic analysis; usage intention*

1. Introduction

Plastic has remained a persistent and challenging issue over time, accounting for 60% to 80% of global waste (Derraik, n.d.). Indonesia, being among the world's major plastic waste producers, holds the second position in marine plastic waste production, following China (Jambeck et al., 2015). According to the Indonesian Central Statistics Agency, Indonesia's plastic waste reached a staggering 66 million tons by 2021. The amount of plastic that pollutes the

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environment has a serious impact because a lot of it ends up in the oceans. Various studies, including those conducted by the Indonesian Institute of Sciences, have revealed that millions to hundreds of thousands of tons of plastic find their way into water bodies. Plastics take centuries to decompose and have the potential to release harmful contaminants (Napper, Bakir, Rowland, & Thompson, 2015). Once plastic waste makes its way into the waters, it can break down into micro- and nano plastic particles, posing a grave environmental threat (Koelmans et al., 2019). Plastic waste in the oceans can even find its way back into the human body (Smith, Love, Rochman, & Neff, 2018).

Plastic straws are among the top 10 contributors to plastic waste in the world's oceans, accounting for around 4% of the total amount of plastic ("Plastic Straw Ban I Facts & Figures," n.d.). Despite their small size, plastic straws have a major impact on marine ecosystems and animal life, as they are often ingested by wildlife and affect aquatic life (Bauer-Civiello, Critchell, Hoogenboom, & Hamann, 2019; Wilcox, Mallos, Leonard, Rodriguez, & Hardesty, 2016). Several countries and regions have taken steps to reduce their use of single-use plastics, including straws. Notably, India imposed a ban on single-use plastic products on 2 October 2019, and the European parliament adopted the "Single-Use Plastics Directive prohibiting the use of plastic straws by 2021 (Bauer-Civiello et al., 2019). Canada is also planning a ban on single-use plastics by 2021. Major corporations such as Starbucks and McDonald's have joined the movement to ban single-use plastic straws (Williams & Rangel-Buitrago, 2019). Starbucks, for example, has committed to replacing single-use plastic straws with modified cup lids by 2020. The movement has spread to cities and countries, including Europe, India, and Canada, although some cities provide exemptions for customers with special needs (Jenks & Obringer, 2020).

In response to the ban on single-use plastic straws, various types of eco-friendly straws have emerged, such as biodegradable straws, reusable straws, metal straws, paper, cardboard, and waxed paper (Lehmann, 2018). Some are even made from natural materials such as bamboo. Due to increasing concern about the environmental impact of plastic straws, straws made from wood, glass and metal are also gaining popularity. Despite the increasing availability of eco-friendly straws, their adoption remains limited, particularly in Indonesia, where plastic straws continue to be extensively used. A study conducted by Divers Clean Action (DCA) in ten major Indonesian cities revealed that people commonly use single-use plastic straws one to two times daily, resulting in an estimated 93,244,847 straws being used per day (DCA). These discarded straws originate from various sources, including restaurants and beverage packaging. Another investigation by environmental activists at DCA identified approximately 400 plastic straws along every 100 meters of coastline.

To minimize the usage of plastic straws, it is crucial for consumers to avoid using them. Generation Z, constituting approximately 27.94% of Indonesia's population in 2022, holds significant potential in reducing plastic straw consumption. This generation typically includes individuals who were born from the mid-1990s to the early 2010s. Generation Z stands as the largest generational group globally, surpassing both millennials and Baby Boomers (J. Liu, Wang, Zhang, & Qiao, 2023). Given their profound concern for the environment, Generation Z becomes the central focus of this research. Some researchers have explored young consumers' attitude towards eco-friendly products (Kuźniar, Surmacz, & Wierzbiński, 2021; Varah, Mahongnao, Pani, & Khamrang, 2021). However, there are no existing studies that investigate environmentally-friendly drinking straws, especially in Indonesia. This study takes the case of Yogyakarta, a major city in Indonesia, as it represents a unique opportunity to analyse behavioural trends among this demographic. Yogyakarta is known for its youthful population and strong educational institutions, making it an ideal location to study the environmental behaviours of Generation Z.

In assessing usage intentions, Theory of planned behaviour (TPB) is a suitable framework that can forecast consumer behaviour by connecting individual beliefs with their actions (Ajzen, 1985). TPB, an advancement over the Theory of Reasoned Action (TRA), is particularly adept at predicting behaviours that are under volitional control, such as the use of environmentally friendly straws (Ajzen, 1991). TPB has been extensively used to investigate environmentally related behaviour and has consistently shown effectiveness in numerous studies (Aboelmaged, 2021; Al-Swidi, Huque, Hafeez, & Shariff, 2014; Klöckner, Nayum, & Mehmetoglu, 2013; Nugroho, Fahma, & Damayanti, 2022; Pangaribuan, Yuniaristanto, & Zakaria, 2023; Voon, Sing Ngui, & Agrawal, 2011). Vassanadumrongdee et al. studied the perception and acceptance level of university students towards a plastic bag charging program on their campuses. They utilized the TPB as the basis to understand the factors influencing students' intention and behaviour regarding plastic bag use. The results indicate a positive change in students' attitudes and behaviours over time. Batooli et al. also used TPB to analyse the consumers' intentions, attitudes, subjective norms, and perceived behavioural control regarding the reduction of plastic bag consumption and the use of cloth bags in Iran. The findings revealed that certain demographic factors like age and gender influenced perceived behavioural control, with employed consumers demonstrating a stronger intention to use cloth bags. Furthermore, efforts have been made to enhance the explanatory power of TPB by incorporating additional variables (Mohiuddin, Al Mamun, Syed, Masud, & Su, 2018; X. Wang, Waris, Bhutto, Sun, & Hameed, 2022; Wu, Zhu, & Zhai, 2022; Xu, Hua, Wang, & Xu, 2020a). Wang et al. (S. Wang, Fan, Zhao, Yang, & Fu, 2016) demonstrated that environmental concern positively influences attitudes, subjective norms, perceptions of behavioural control, and personal moral norms. Similarly, environmental knowledge was observed to have a significant impact on consumer attitudes towards purchasing

environmentally friendly home appliances (Asif, Zhongfu, Irfan, & Işık, 2022). In this study, we integrate environmental knowledge and environmental concern variables into the TPB model to analyse the intention of using environmentally friendly straws.

While several behavioural models such as the Norm Activation Model (NAM) and Value-Belief-Norm Theory (VBN) have also been applied in environmental research, TPB was chosen for this study due to its broader applicability in predicting volitional, consumer-driven behaviours. Unlike NAM and VBN, which focus primarily on altruistic or moral obligations, TPB captures a more comprehensive range of motivational factors by integrating attitudes, social norms, and perceived behavioural control. This makes it particularly relevant for analysing the adoption of eco-friendly straws, where the decision is often influenced by practical considerations and individual choice rather than solely moral obligation. TPB's flexibility and consistent predictive strength across environmental contexts further support its suitability for this study's objectives.

There is limited research utilizing qualitative methods within the TPB framework. Data collection and analysis techniques predominantly rely on quantitative approaches, with only a few studies incorporating qualitative methods (Renzi & Klobas, 2008). Qualitative research aims to explain the context in which individuals or groups make decisions and behave in certain ways and explain why precisely observed phenomena occur (Siripipatthanakul, Limna, Siripipattanakul, & Auttawechasakoon, 2022). Furthermore, research concerning behaviours and intentions related to reducing plastic straw utilization or transitioning to eco-friendly alternatives remains limited, despite a growing interest in this field. Notably, Hassan et al. (Kadir, Hassan, & Aziz, 2018; Mohmad Hassan, Mohd Abdul Kadir, & Abd Aziz, 2020) explored the intention to use biodegradable straws among students in Johor, Malaysia, using the foundational TPB framework and analysing outcomes through the Partial Least Square regression method. Asmuni et al. (Asmuni, Yusoff, & Mohd Jafri, 2021) directed their focus towards the intention to use reusable straws. Hence, this study stands as an expansion of prior research, exploring the intent of Generation Z to embrace eco-friendly straws, including both reusable and biodegradable straws. Additionally, it combines qualitative and quantitative methodologies while integrating environmental concern and environmental knowledge variables into the TPB basic framework.

2. Research Methodology

This study employed a mixed-methods approach, combining quantitative and qualitative strategies to gain a comprehensive understanding of the factors influencing Generation Z's intention to use environmentally friendly straws. The quantitative phase, using Partial Least Squares–Structural Equation Modelling (PLS-SEM), was conducted to examine causal relationships among constructs in the extended TPB framework. Complementarily, qualitative data were collected through structured interviews to provide contextual depth and explore underlying motivations and barriers.

2.1 Research Subject

The research sample consisted of Generation Z aged between 18-27 years currently residing in Yogyakarta, Indonesia. This age range encompasses the entirety of the Generation Z cohort that has reached adulthood. Yogyakarta was specifically chosen due to its significant population of young adults, many of whom are students at local universities. The sampling technique utilized was purposive sampling to ensure that the participants chosen are representative of the population of interest and likely to possess the information necessary to meet the study's objectives.

For the quantitative part of the study, a survey was administered using Google Forms, gathering data from 247 respondents. This sample size is considered more than sufficient for PLS-SEM analysis. Hair et al. (Hair, Black, Babin, & Anderson, 2019) recommend that the ideal number of samples for Covariance-based Structural Equation Model (CB-SEM), which generally requires larger sample sizes, ranges between 200 and 400 respondents. Given that PLS-SEM is more flexible with smaller samples compared to CB-SEM, our sample size of 247 is robust enough to ensure reliable analysis and model stability in PLS-SEM. Additionally, qualitative data was collected through interviews with 10 participants. Although smaller in number, this approach is typical in qualitative research, where the depth and richness of data are prioritized over quantity.

2.2 Research Framework, Method, and Measurement

In analysing Generation Z's intention to use environmentally friendly straws, this study adopts the TPB research framework established by Yadav and Pathak (Yadav & Pathak, 2016), with the incorporation of environmental knowledge and environmental concerns can be seen in **Figure 1**.

Measuring Gen Z's intention to use eco-friendly straws was accomplished through a combination of a survey and interviews. The survey involved the collection of demographic data from respondents and included a questionnaire comprising 24 questions, each measured on a Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The questions explored several constructs: *Attitude Towards Behaviour*, which refers to beliefs about the outcomes of performing a specific behaviour (Edberg, 2015); *Subjective Norm*, defined as the social pressure perceived by individuals from their surroundings, influencing their decision to perform a behaviour (Ajzen, 1991); *Perceived Behavioural Control*, which pertains to the degree of confidence individuals have in their ability to perform a task, influenced by past experiences and external information (Ajzen, 1991): and *Intention*, which is the level of willingness and the amount of effort an individual is willing to put into performing a behaviour (Ajzen, 1991). Additionally, the survey included measures of *Environmental Concern*, which assesses an individual's evaluation or

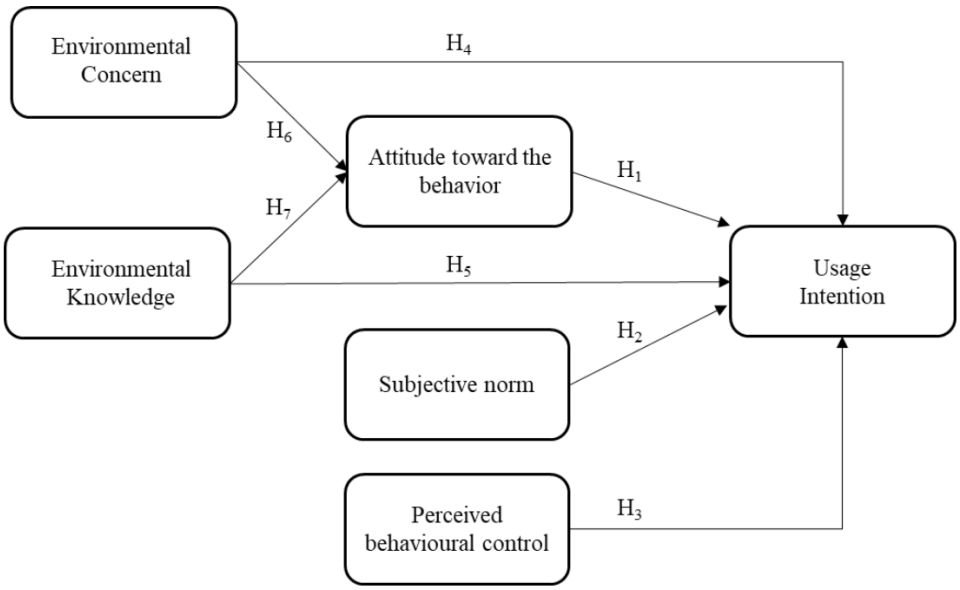

Figure 1. TPB Framework

attitude towards environmental facts and behaviours with consequences for the environment (Fransson & Gärling, 1999), and *Environmental Knowledge*, which evaluates general knowledge about environmental concepts, facts, and relationships within natural ecosystems (Fryxell & Lo, 2003). The data collected from the survey were analysed using the PLS-SEM method to explore these constructs' interrelationships.

In addition to the survey, the study also incorporated an interview segment with 20 structured questions aimed at exploring deeper into participants' environmental awareness and their specific attitudes towards eco-friendly products, particularly straws. These questions covered topics such as participants' personal usage of plastic products, their views on environmental issues in Indonesia, and their thoughts on potential solutions. The results of these interviews were analysed using thematic analysis to identify key themes and patterns in the responses.

2.3 Hypothesis

The hypothesis used in this study is as follows:

H1: Attitude toward behaviour has a significant effect on the intention to use eco-friendly straws (adopted from (Yadav & Pathak, 2016)).

H2: Subjective norms have a significant effect on the intention to use eco-friendly straws (adopted from (Al-Swidi, Mohammed Rafiul Huque, Haroon Hafeez, & Noor Mohd Shariff, 2014)).

H3: Perceived behavioural control has a significant effect on the intention to use eco-friendly straws (adopted from (Y. Kim & Han, 2010)).

H4: Environmental concern has a significant effect on the intention to use eco-friendly straws (adopted from (Y. J. Kim, Njite, & Hancer, 2013)).

H5: Environmental concern has a significant effect on attitude towards behaviour (adopted from (Xu, Hua, Wang, & Xu, 2020b)).

H6: Environmental knowledge has a significant effect on the intention to use o eco-friendly straws (adopted from (Yadav & Pathak, 2016)).

H7: Environmental knowledge has a significant effect on attitude towards behaviour (adopted from (Yadav & Pathak, 2016)).

3. Results and Discussion

Results

3.1 Demographic Characteristics of Respondents

The questionnaire garnered responses from 100 percent of Generation Z participants who had previous experience with environmentally friendly straws, out of which 67.6 percent had made purchases of such straws. The types of straws that are most widely used are stainless steel straws, namely 54%, followed by paper straws, 40.2%. Stainless steel straws were the most frequently bought, making up 60.1 percent of purchases. We observe that most respondents infrequently use eco-friendly straws, around 37.1 percent reported using them less than once a month. Additionally, the study discovered a gender distribution of 53.4 percent women and 46.6 percent men. In terms of age, the most common age group was 21 years old, constituting 24.7 percent of respondents, closely followed by 22-year-olds at 23.1 percent. Most respondents identified as students, making up 85.4 percent of the sample. The interview participants comprised 10 individuals, with an equal gender distribution of 50% men and 50% women. The predominant age group was 21-22 years, with 40% being 21 years old and another 40% being 22 years old. All interviewees were undergraduate students actively engaged in their studies.

Table 1. Measurement Model

Constructs	Item	Loadings	AVE	CR
Attitude Towards Behaviour (ATB)	ATB1	0.716	0.57	0.89
	ATB2	0.761		
	ATB3	0.784		
	ATB4	0.702		
	ATB5	0.738		
	ATB6	0.813		
Subjective Norm (SN)	SN1	0.741	0.64	0.84
	SN2	0.667		
	SN3	0.825		
	SN4	0.79		
Perceived Control Behaviour (PBC)	PBC1	0.674	0.68	0.81
	PBC2	0.597		
	PBC3	0.77		
	PBC4	0.716		
Usage Intention (UI)	UI1	0.844	0.68	0.81
	UI2	0.769		
	UI3	0.859		
Environmental Concern (EC)	EC1	0.85	0.59	0.81
	EC2	0.719		
	EC3	0.727		
Environmental Knowledge (EK)	EK1	0.697	0.77	0.87
	EK2	0.827		
	EK3	0.783		
	EK4	0.685		

Table 2. Discriminant Validity ($HTMT_{0.9}$)

	ATB	EC	EK	PBC	SN	UI
ATB						
EC	0.731					
EK	0.416	0.555				
PBC	0.421	0.408	0.487			
SN	0.541	0.65	0.546	0.579		
UI	0.754	0.831	0.428	0.568	0.644	

Note: ATB: Attribute towards Behaviour; EC: Environmental Concern, EK: Environmental Knowledge, PBC: Perceived Control Behaviour; SN: Subjective Norm, UI: Usage Intention

3.2 Measurement Model

In evaluating the measurement model, it involves 4 aspects, i.e., indicator loadings, construct reliability, convergent validity, and discriminant validity (Hair et al., 2019). The results of the measurement model using SmartPLS 4.0 software are presented in **Table 1**. SmartPLS 4.0 is utilized for PLS-SEM analysis to efficiently handle complex models and large datasets, facilitating robust estimation of paths and loadings in the model. Indicator loadings, which assess the strength of the relationship between indicators and their respective latent variables, are deemed acceptable if they exceed 0.7 (Hair et al., 2019); in this study, all items except for EK1, EK4, PBC1, PBC2, and SN1 meet this criterion and thus will be retained.

Convergent validity, evaluated by examining the Average Variance Extracted (AVE) value, measures the extent to which a construct explains the variance of its indicators. It is deemed sufficient when the AVE is 0.5 or higher (Hair et al., 2019), indicating that the majority of variance in the indicators is accounted for by the construct. All constructs in this study surpass this threshold. Furthermore, construct reliability is assessed using composite reliability (CR) values, which should exceed 0.6 to be considered acceptable (Hair et al., 2019). **Table 1** demonstrates that all values fulfil these criteria, confirming the measurement model's alignment with the three essential standards.

Discriminant validity was tested using heterotrait-monotrait ratio (HTMT) correlation. Based on Hair et al. (Hair et al., 2019) the HTMT value should not exceed 0.9 ($HTMT_{0.9}$). As presented in **Table 2**, all recorded values fall below 0.9, signifying favourable discriminant validity for the variables. This outcome underscores that the construct differs significantly from other constructs, aligning well with the expected standards.

3.3 Structural Model

After the measurement model results are obtained, path analysis is then carried out using SmartPLS 4.0. The results of the structural model can be seen in **Figure 2**. The model explains 53.3% of the variance in UI and 32.7% in ATB. The path coefficient significance test was carried out to test the significance and strength of the relationship between latent variables

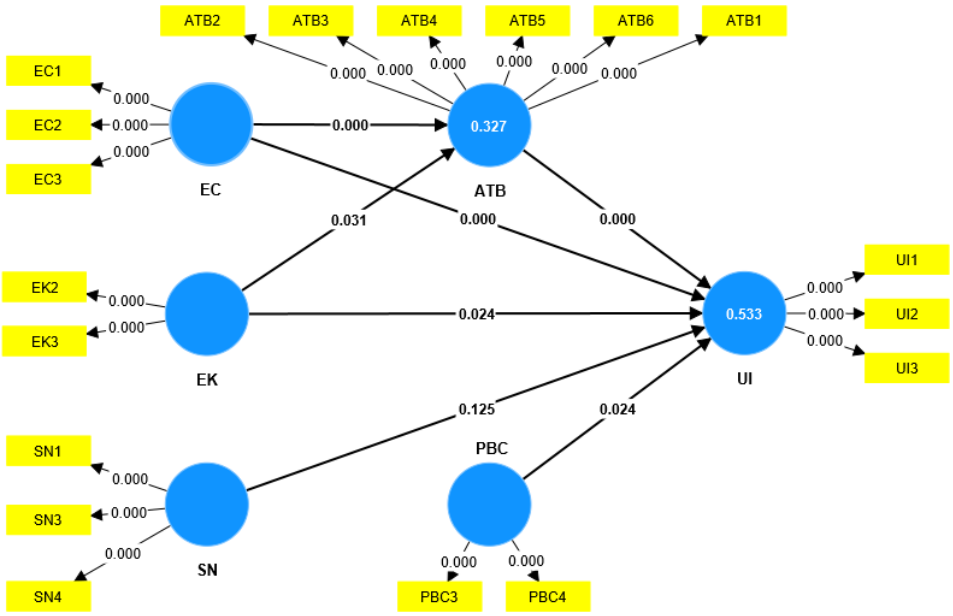

Figure 2. Results of Structural Model

Table 3. Path Coefficient of Structural Model

Variable	Path coefficient	T statistics	P values	Decision
ATB → UI	0.317	4.667	<0.001	Accepted
EC → ATB	0.731	10.161	<0.001	Accepted
EC → UI	0.307	4.497	<0.001	Accepted
EK → ATB	0.133	2.157	0.031	Accepted
EK → UI	0.127	2.262	0.024	Accepted
PBC → UI	0.126	2.254	0.024	Accepted
SN → UI	0.106	1.534	0.125	Rejected

Note: T statistics > 1.96, two tailed test is accepted

Table 4. Results of Thematic Analysis

Theme	Subtheme	Frequencies
Infrequently utilizing eco-friendly straws	Infrequently provided at food and beverage establishments	45
	Forgetfulness	1
	Reluctance to clean	6
	Difficult to carry	49
Methods to increase the utilization of eco-friendly straws	Design made more appealing	13
	Easy to carry	10
	Increasing public awareness	34
	Food and beverage establishments provide environmentally friendly straws	26

in the research model (Hair et al., 2019). The test was conducted using the bootstrapping method with 5000 subsamples at a significance level of 0.05. The outcomes of the path coefficient test are presented in **Table 3** reveals that ATB, EC, EK, and PBC exhibit a significant relationship with UI. Additionally, both EC and EK also demonstrate a significant relationship with EC. Moreover, it is apparent that all relationships between variables exhibit a positive impact.

3.4 Thematic Analysis

The interview results were analysed using the thematic analysis method. Through these interviews, researchers wanted to find out the reasons behind the infrequent usage of environmentally friendly straws among respondents, despite their high inclination to use them. The interview outcomes revealed that the primary cause for this infrequency was the limited availability of environmentally friendly straws at food and beverage establishments, coupled with the challenge of carrying them. Should these straws not be provided by the stalls, respondents refrained from utilizing them. Additionally, some respondents cited forgetfulness and reluctance to clean the straws as contributing factors to their sporadic usage. Another aspect explored in the interviews was identifying strategies to enhance the uptake of environmentally friendly straws. The interviews highlight the importance of elevating public awareness regarding the significance of adopting such straws. Moreover, participants emphasized the need for stalls and food vendors to make these straws readily available and advocated for the design of more practical and appealing environmentally friendly straw options. The outcomes of the thematic analysis regarding the utilization of environmentally friendly straws can be found in **Table 4.**

Discussion

This study revealed that there is a significant relationship between the Extended Theory Planned Behaviour variables in determining the intention to use environmentally friendly straws. The results showed that the intention to use environmental straws was influenced by attitude towards behaviour. Generation Z's positive attitude towards utilizing eco-friendly straws contributes to an elevated intention to use them. This attitude towards behaviour is influenced by two pivotal factors: environmental concern and environmental knowledge. Furthermore, both environmental concern and knowledge, along with perceived behavioural control, exhibited significant and positive impacts on the use of environment friendly straws. Individuals who understand the adverse effects of plastic waste and the benefits of eco-friendly alternatives are more inclined to adopt these practices. Those who feel confident in their ability to use these straws, influenced by their past experiences and external information, are also more likely to intend to use them. However, this research did not identify any influence of subjective norms on intentions for environmentally friendly straws, this could be due to the relatively low level of environment concern and knowledge of Indonesian society, which means social influence still does not significantly impact behavioural intention.

These findings are consistent with prior studies that emphasize the importance of environmental concern and perceived behavioural control in shaping pro-environmental intentions. For example, in Vietnam, environmental concern was found to influence employees' green behaviours through its effect on attitudes and perceived behavioural control (Thanh & Cong, 2025). In the context of green consumption in China, environmental cognition positively influenced attitudes, subjective norms, and perceived behavioural control, ultimately increasing both intention and actual green behaviour (Xie, Wang, & Gong, 2022). Another study reported that environmental concern—particularly when combined with perceived personal responsibility—can mediate the relationship between media exposure and pro-environmental behaviour (Y. Liu & Li, 2021). These results suggest that fostering environmental concern through targeted communication strategies may significantly enhance pro-environmental engagement, aligning well with the findings of this study.

To some extent, these research findings contribute both theoretically and practically. They offer insights valuable to both the government and sellers of environmentally friendly straws. For the government, boosting Generation Z's intention to adopt eco-friendly straws can be achieved by enhancing environmental awareness and knowledge, particularly regarding plastic straw waste issues. As for straw sellers, promotional efforts could highlight the ecological and economic benefits tied to eco-friendly straws, elevating attitudes, and intentions for their adoption. Targeting environmentally aware individuals with positive attitudes towards such straws would be beneficial. This study also revealed limited usage of environmentally friendly straws among Generation Z, despite their high intention. This discrepancy can be attributed to the current design of larger eco-friendly straws, which complicates their convenience. Sellers of reusable straws should focus on designing products that are user-friendly and aesthetically appealing. Furthermore, a significant presence of plastic straws within food and beverage establishments remains. Replacing these with eco-friendly alternatives is crucial, and governmental regulations can help ensure this transition. Stringent rules could extend to manufacturing companies providing goods commonly used in the food industry, such as packaging and disposable utensils.

4. Conclusion

This study explored the factors influencing Generation Z's intention to use environmentally friendly straws in Yogyakarta, Indonesia, utilizing an extended Theory of Planned Behaviour (TPB) framework. The findings demonstrate that attitudes towards behaviour, environmental concern, environmental knowledge, and perceived behavioural control significantly influence the intention to adopt eco-friendly straws. However, subjective norms did not show a significant impact, highlighting the need for broader societal shifts towards environmental consciousness. Despite the high intention to use eco-friendly straws among Generation Z, actual usage remains low due to practical barriers such as convenience and availability. Addressing these barriers through targeted strategies can bridge the gap between intention and behaviour, promoting sustainable consumption patterns.

The study carries certain limitations that warrant attention in future research. Specifically, the analysis focused on behavioural intention rather than actual usage. This approach is consistent with the TPB framework, which suggests that intention is the most immediate and reliable predictor of behaviour, particularly for actions that are under personal control. Moreover, the actual use of eco-friendly straws often depends on situational factors—such as whether straws are provided by food vendors or the practicality of carrying reusable options—which can distort behavioural observations. By focusing on intention, the study captures the psychological readiness to adopt sustainable practices in a way that is stable and interpretable. Further research is anticipated to expand the geographical scope beyond Yogyakarta and incorporate additional variables to provide a comprehensive understanding of the determinants of eco-friendly behaviour.

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