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Gen-Z and Urban Waste Management Policy: Uncovering Perceptions and Forms of Action

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Abstract: Urban waste management is a major challenge in sustainable development, especially in cities with high consumption levels such as Denpasar. Generation Z as a demographic group that grows in the digital era has great potential in supporting waste management policies. This study aims to analyze the perception and participation of Gen-Z in waste management policies in the city of Denpasar and identify the factors that affect their involvement. A qualitative method with a phenomenological approach was used in this study, where primary data was obtained through structured interviews with 24 Gen-Z respondents who were purposively selected through questionnaires on the <https://bit.ly/PersepsiPartisipasiGenZ> link, as well as semi-structured interviews with representatives of relevant government elements. Secondary data includes policy documents and reports related to waste management in Denpasar City. Data analysis was carried out using the analysis of the model of Miles and Huberman (1994) which included three main stages, namely data reduction, data presentation, and drawing conclusions to identify the main themes related to perception and participation. The results show that attitudes towards policies, subjective norms, and perceptions of behavioral control play a significant role in encouraging or inhibiting Gen-Z's participation in waste management. The majority of Gen-Z has a positive perception of the applicable waste management policies. This perception brings Gen-Z participation to the level of acting together based on the theory of participation levels by Wilcox (1994), where environmental awareness, community support and information accessibility are supporting factors, while the lack of adequate waste management facilities, weak regulatory enforcement, a suboptimal waste transportation system, and bureaucratic flows that seem slow and convoluted are still factors inhibiting Gen-Z participation.

Keyword: Generation Z, Waste Management, Perception, Participation.

INTRODUCTION

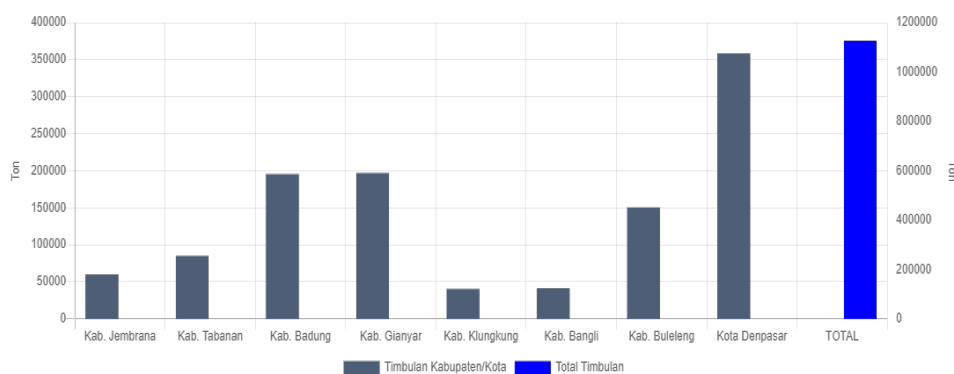
Solid waste management has become a serious problem both on a global and national scale. Global economic development has increased in recent decades and is expected to grow sharply in the future. Simultaneously, the world's population is growing and is expected to exceed 8 billion by 2024 and up to 11.2 billion by 2100 (Rousta et al., 2020). Waste generation

that continues to increase as the population around the world grows brings new challenges and makes waste management strategies even more complicated. Based on World Bank data, by 2030, the world is expected to produce 2.59 billion tons of waste every year. By 2050, worldwide waste generation is expected to reach 3.40 billion tons (Kaza et al., 2018). In other words, the volume of waste will increase by about 77% in the future, with low-income and downward countries expected to experience the largest increase in waste production.

Indonesia as one of the developing countries that is a member of the East Asia and Pacific region is the second largest contributor of waste in the world after China which has 262.9 million tons of waste/year, the third Philippines 83.4 million tons, the fourth Vietnam which reaches 55.9 million tons, and the fifth Sri Lanka which reaches 14.6 million tons per year (Kaza et al., 2018) Reporting from the official website of the National Waste Management Information System (SIPSN), national waste generation has reached 36.3 million tons/year, but 37.47% of the total amount has not been managed properly (National Waste Management Information System, 2023). This shows that there are around 13.6 million tons of waste generated that has the potential to pollute the environment in Indonesia if not handled immediately.

Based on data from the National Waste Management Information System (SIPSN) in 2023, Denpasar City is the highest waste contributor area in Bali Province, with a total waste generation of 357,984.70 tons per year, which means that Denpasar City produces 980.78 tons of waste per day.

Figure 1. Bali Province Waste Generation Chart in 2023



The high amount of waste generation in Denpasar City is influenced by several factors such as the increase in the number of human populations, the rise of industrialist activities, increasing communerism and urbanization. According to data from *World Bank* In 2022, rural population in Indonesia has continued to decline in the last ten years, while the urban population continues to increase steadily (Pambudi, 2023).

Following up on the increasingly complicated waste problem, Denpasar City Regional Regulation Number 8 of 2023 concerning the Implementation of Waste Management has been stipulated, which was reaffirmed by the Instruction of the Mayor of Denpasar Number 1 of 2024 concerning Optimization of Source-Based Waste Management. The determination of this regulation is carried out so that waste that is often considered useless by the community does not only end up in a pile in a Temporary Disposal Site (TPS) or Final Disposal Site (TPA), but can become something useful and has a selling value. Even though the regulation has been designed in such a way, there are still obstacles and challenges in the implementation process. This can be seen from the generation of waste in Denpasar City which increased in 2023, where there was a decrease in waste generation in 2021-2022 of 33,206.79 tons, but again jumped by 41,672.05 tons in 2023. This data is supported by public issues about waste handling problems

in Denpasar City. Some TPST/TPS3R reportedly failed to achieve the waste processing target (National Waste Management Information System, 2023).

Waste management in Denpasar City requires the right strategy considering the issue of revitalization of the Suwung Landfill which has resulted in narrowing the land to accommodate waste generation in Bali. According to information obtained by the researcher from the official website of the Bali Provincial Government, the Acting Governor of Bali, S. M. Mahendra Jaya, stated that regulations related to waste entering the Suwung Landfill must be sorted first (Bali Provincial Government, 2024). Responding to this issue, the Mayor of Denpasar, I Gusti Ngurah Jaya Negara, who was interviewed by the Bali Tribune on August 17, 2024, stated that starting October 1, 2024, the people of Denpasar City are required to sort waste. So it is hoped that this waste problem can be solved at least 30% from upstream (the source). In the interview, he also added that the government's efforts must be accompanied by public support. Because one of the biggest challenges in waste management is the lack of awareness of the community itself (Supartika, 2024). This shows the importance of community participation in the process of sorting waste from the source. However, in Denpasar City, the level of community participation in waste sorting is still relatively low, until the City Government through the Environment Agency conducts door-to-door socialization of waste sorting (Widiastusi, 2024). However, this socialization has not been quite effective and efficient considering the limited resources and rampant rejection from the community.

The success of the source-based waste sorting program in Denpasar City is highly dependent on public perception and participation. In line with previous research that found that environmental goals, environmental education, personal waste-related experiences, environmental policy, environmental self-awareness, reinforcement contingencies, community engagement, social responsibility, exemplary leadership, and social media influence people's pro-environmental behavior (zero waste) (Baba-Nalिकant et al., 2023). Therefore, waste sorting behavior needs to be formed with 3 strategies: (1) policy strengthening; (2) the provision of ergonomic facilities; and (3) community involvement in changing behavior (Andina, 2019).

Generation Z or familiarly called *Gen-Z* themselves are those born between 1997-2012 (Karina, 2021). Which means that at this time, the *Gen-Z* are in the age range of 12-27 years. Based on data from the Central Statistics Agency of the City of Denpasar in 2023, the population of Denpasar City in 2024 is projected to reach 755,560 people, with an estimated *Gen-Z* a total of 174,000 people. In other words, the projected population *Gen-Z* in 2024 it will be 23% of the total population of Denpasar City as a whole (Denpasar City Central Statistics Agency, 2023). Based on a survey from Bank DBS Indonesia in 2024 of 3,055 respondents aged 18-24 years, it shows that *Gen-Z* have a higher level of concern about waste issues than the generation above them (Farrasdzaki, 2024). This is supported by the results of a study by Universitas Multimedia Nusantara (UMN) Consulting on adolescent respondents aged 15-24 years from all over Indonesia in 2022 which found that 75% of respondents understood waste classification well. However, only 20% of waste sorted at home, with 13.56% of respondents admitting to participating in communities engaged in environmental issues (Dellanita & Nariswari, 2022).

Based on the description of the survey results above, it can be said that as a generation that grows and develops in the digital era, *Gen-Z* is not only familiar with technology, but also has a high level of sensitivity to the environment so that it has great potential to become agents of change towards a greener and more beautiful future for Indonesia. However, unfortunately, their knowledge of environmental issues does not guarantee their high participation in waste management policy programs. These findings are of interest to researchers to examine more deeply how *Gen-Z* views the prevailing waste management policies and their influence on the level of their participation in these policies with the location of the study in the city of Denpasar, as a representation of urban areas in Indonesia. The selection of the research location was based

on the previous description of the waste problem being faced by the Denpasar City Government. With a deep understanding of *Gen-Z*'s perception and participation in waste management policies, this research is expected to bring positive changes in the development of urban waste management systems.

Most previous studies on waste management policies have examined public participation in general without considering the psychological factors that influence individual decisions. In addition, although *the Theory of Planned Behavior* (Ajzen, 1991) has been used in various pro-environmental behavior studies, studies that apply TPB in analyzing the psychological factors that affect *Gen-Z*'s participation in waste management policies, particularly in the context of the City of Denpasar, are still limited. Therefore, this study aims to fill this gap by exploring attitudes, subjective norms, and behavioral controls that affect *Gen-Z*'s participation in waste management policies in Denpasar City.

METHOD

This research was conducted by taking a location in Denpasar City, Bali Province. The selection of Denpasar City as the location of the research is based on the problems that are being faced due to the high generation of waste produced every year. This research uses a qualitative method with a phenomenological approach. Primary data were obtained through structured interviews with 24 respondents *Gen-Z* selected by *Purposive* through Questionnaire on the link <https://bit.ly/PersepsiPartisipasiGenZ>, as well as semi-structured interviews with representatives of related government elements. Secondary data includes policy documents and reports related to waste management in Denpasar City. Data analysis was carried out using the analysis of the Miles and Huberman (1994) model which included three main stages, namely data reduction, data presentation, and drawing conclusions to identify the main themes related to perception and participation (Nasution, 2023).

RESULTS AND DISCUSSION

The researcher managed to obtain 30 questionnaire respondents and conducted direct interviews with 6 (six) supporting informants. Of the 30 responses given by *key informants* (*Gen-Z*), there were 6 (six) responses that did not meet the criteria. So that the total informants in this study amounted to 30 people consisting of 24 *key informants* and 6 (six) supporting informants.

Table 1. Characteristics of *Gen-Z* Respondents

No.	Category	Characteristic	n	%
1.	Gender	Man	11	46%
		Woman	13	54%
2.	Age	17	1	4,2%
		19	2	8,3%
		20	2	8,3%
		21	4	16,7%
		22	3	12,5%
		24	4	16,7%
		25	1	4,2%
		26	6	25%
3.	Education	27	1	4,2%
		JUNIOR	1	4,2%
		SMA	8	34%
		Diploma/S1	14	58%
		S2	1	4,2%

4.	Domicile	West Denpasar	5	21%
		East Denpasar	6	25%
		North Denpasar	7	29%
		South Denpasar	6	25%
		Denpasar		

Table 2. Characteristics of Additional Informants

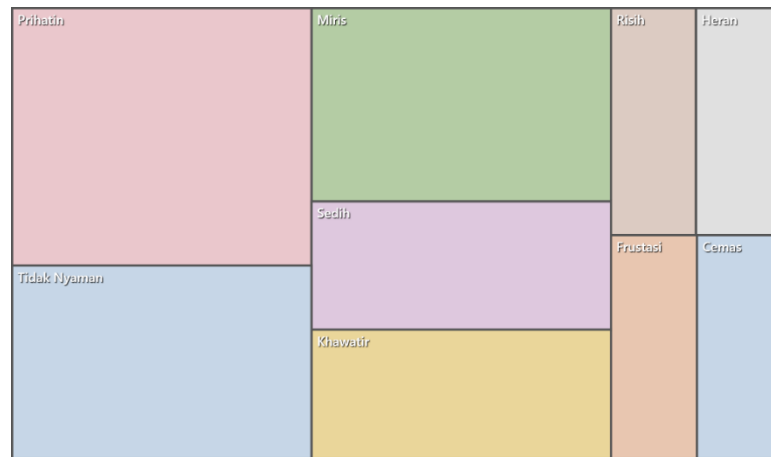
	Interview time	Position	Work Unit
1	21/10/2024	Head of Community Empowerment Section	North Denpasar Sub-district Office
	21/10/2024	Head of the Peace and Order Section	West Denpasar Sub-district Office
	23/10/2024	Acting Head of Community Empowerment Section	South Denpasar Sub-district Office
	31/10/2024	Head of the Peace and Order Section	East Denpasar Sub-district Office
	21/10/2024	Waste and Waste Management B3	Denpasar City Environment and Hygiene Agency
	22/10/2024	Founder	Community Shame.

Gen-Z's Perception of Waste Management Policies

Attitude Toward the Behavior (Sikap terhadap Perilaku)

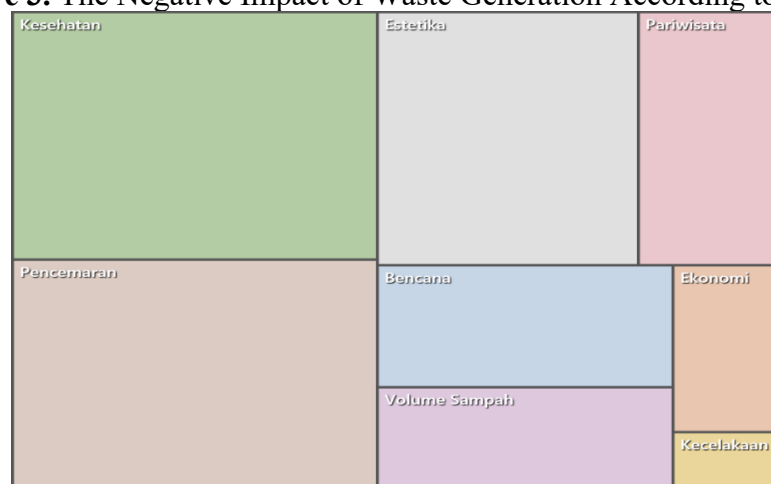
Gen-Z's behavior in waste management is greatly influenced by their personal beliefs about the essence and urgency of the activity, as well as the consequences they believe will arise from the existence of the waste problem.

Figure 2. *Gen-Z's View on the Waste Problem in Denpasar City*



The results of the study show that *Gen-Z* has been able to interpret waste management well from various perspectives they have. The picture above illustrates the things felt by *Gen-Z* seeing the increasingly complicated waste problem which is dominated by feelings of concern, sadness and discomfort.

Figure 3. The Negative Impact of Waste Generation According to *Gen-Z*

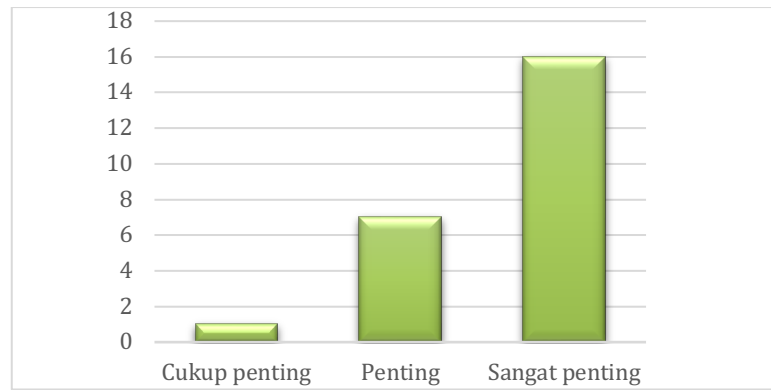


The image above shows that the decline in health quality, environmental pollution, and decrease in aesthetic value are the 3 aspects most affected by the waste problem in Denpasar City according to *Gen-Z's opinion*. This is reinforced by the submission from I21 that the opinion that:

If the waste problem in Denpasar City is not addressed immediately, the impact can be very serious. In addition to polluting the environment and reducing the quality of life of residents, it can also disrupt public health through the potential spread of disease. In addition, the city's tourism image that relies on cleanliness and natural beauty will also be affected, which in turn can negatively impact the local economy.

On the other hand, I14 also expressed its opinion regarding the waste problem which will have a great impact on health, economy, and tourism in Bali, especially the city of Denpasar, because a bad management system can cause a domino effect for all sectors.

Figure 4. Understanding Policy Urgency



Based on *Gen-Z's perception* of the waste problem, the results of the study show that *Gen-Z* considers waste management policy to be quite important, even very important. From the image above, it is known that 16 people out of a total of 24 people or 66.6% of the total *key informants* consider waste management policies, especially source-based waste sorting, to be very important.

Subjective Norms

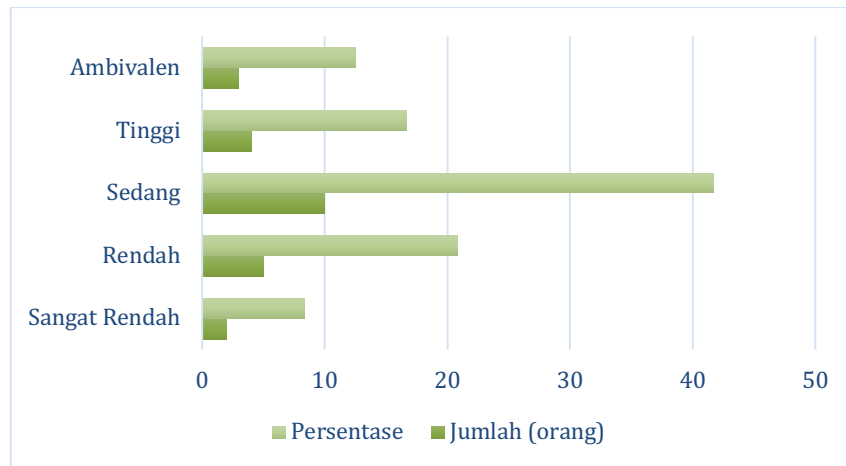
The social environment can affect *Gen-Z's* behavior in managing waste, especially sorting waste based on its source. The environment referred to in this study is parents/family, peers and public figures who may have a role in influencing *Gen-Z behavior*.

Figure 5. Parent/Family Waste Sorting Behavior



Based on the data in the image above, 16 *Gen-Z* people or 66.6% of the total number of informants stated that their parents/families had sorted waste before disposing of it at the nearest landfill or polling station. Meanwhile, 8 other people or 33% of them admitted that their parents/family had been throwing garbage just like that or in other words not sorting.

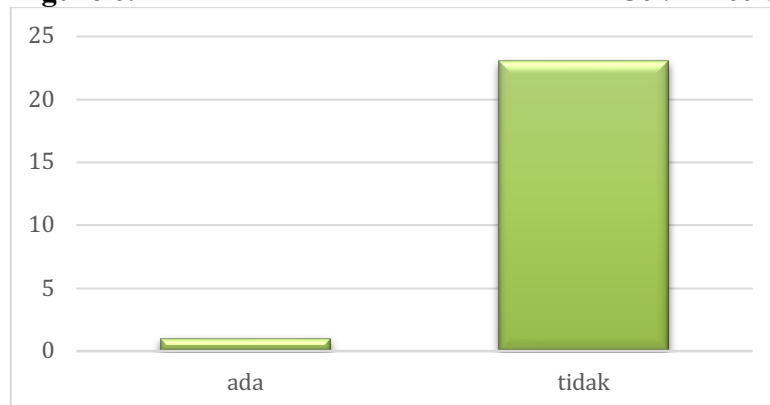
Figure 6. Environmental Awareness Levels of *Gen-Z* Peers



The data above shows *Gen-Z's* views on the level of environmental concern and waste sorting behavior of their peers. Based on the researcher's analysis, it was found that 2 people (8.3%) *Gen-Z* answered "very low", 5 people (20.8%) answered "low", 10 people (41.7%) answered "moderate", 4 people (16.7%) answered "high", and 3 others (12.5%) said that there were 2 sides where their colleagues had concern for the environment but on the other hand were not used to sorting waste (ambivalent).

As a factor that has an influence on *Gen-Z behavior*, the level of participation of parents/family and peers can be said to be quite high. However, the results of the study found an interesting gap, where *Gen-Z* tends not to feel social pressure in doing waste sorting.

Figure 6. Environmental Awareness Levels of *Gen-Z* Peers



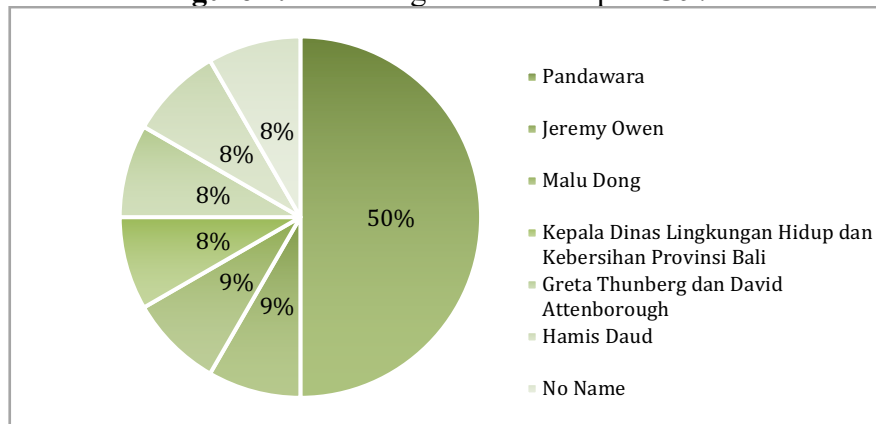
Based on this data, it appears that only 1 *Gen-Z* person feels social pressure to follow the habits of the people around him in sorting waste. This was conveyed by I20 which said that:

There are times when feelings of pressure arise to follow the habits of the people around, especially if they are very active in sorting out garbage and keeping clean. Social pressure can motivate you to participate, but it can also make you feel overwhelmed if you don't know where to start.

Meanwhile, 23 other informants or 96% of *Gen-Z* admitted that they did not feel the pressure, where 7 of them provided information that waste sorting is a positive activity and has been cultured in them so that to do this, they feel not burdened by the applicable social norms. In other words, they do it voluntarily because they believe in the positive impact.

Talking about individual awareness, it is also inseparable from the influence of public figures or *influencers* who inspire *Gen-Z* to care more about the environment. The results show that 50% of *Gen-Z* have a public figure who inspires them:

Figure 7. Public Figures Who Inspire *Gen-Z*

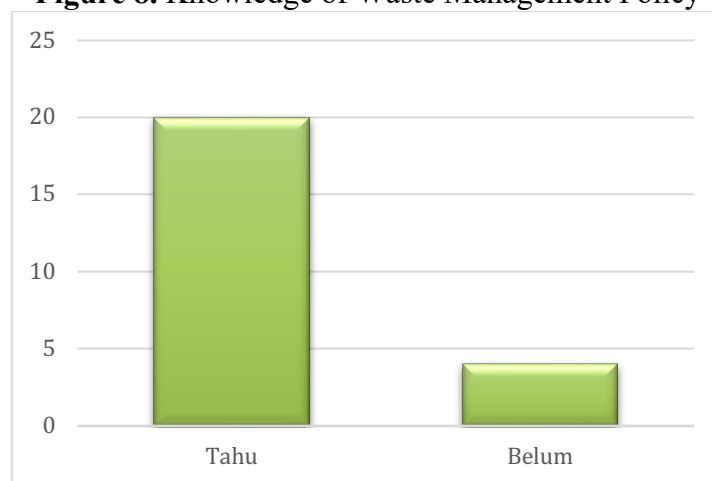


Of the 12 informants who had their role models, 1 of them did not specifically mention who the figure in question was. Meanwhile, the public figure who seems to dominate based on this data is Pandawara. These findings show that public figures/influencers and communities have a significant role in *Gen-Z*'s behavior towards waste management policies.

Perceived Behavioral Control

The perceived aspect of behavioral control has an emphasis on *Gen-Z*'s belief to be able to implement waste management policies, especially in sorting waste based on sources. In this study, this belief depends on factors including the ease of access to information that affects knowledge about policies, the active role of the government in encouraging community participation, and the availability of adequate infrastructure.

Figure 8. Knowledge of Waste Management Policy



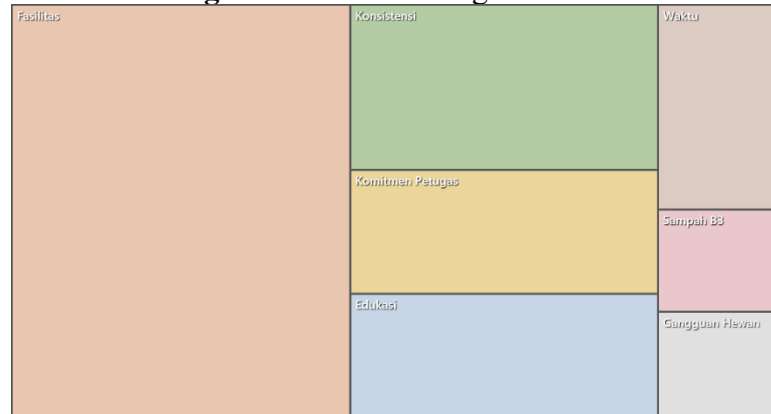
The data above shows that 83% of *Gen-Z* already know about waste management policies in Denpasar City, while the other 17% have not. This proves that there is still a gap between environmental awareness and knowledge about waste management policies. Despite this, *Gen-Z* can be said to be well aware of the waste management policies that apply in their region. In fact, some of them mentioned the Instruction of the Mayor of Denpasar Number 1 of 2024 concerning Optimizing Source-Based Waste Management in the questionnaire answers. As

stated by I15 that, "the latest policy that I know about waste management in the City of Denpasar is that starting October 1, 2024, Denpasar City residents are required to sort waste".

Knowledge related to waste management policies was obtained by Gen-Z from various media, one of the most mentioned by informants was through digital social media such as Youtube and Instagram. The sources are also diverse, ranging from non-governmental institutions to the Denpasar City Government. This shows the ease of access to information felt by Gen-Z, especially through social media.

Although Gen-Z's level of knowledge of policy is quite high due to the ease of access to information, the results show that 83.3% of them feel obstacles in sorting waste.

Figure 9. Waste Sorting Obstacles

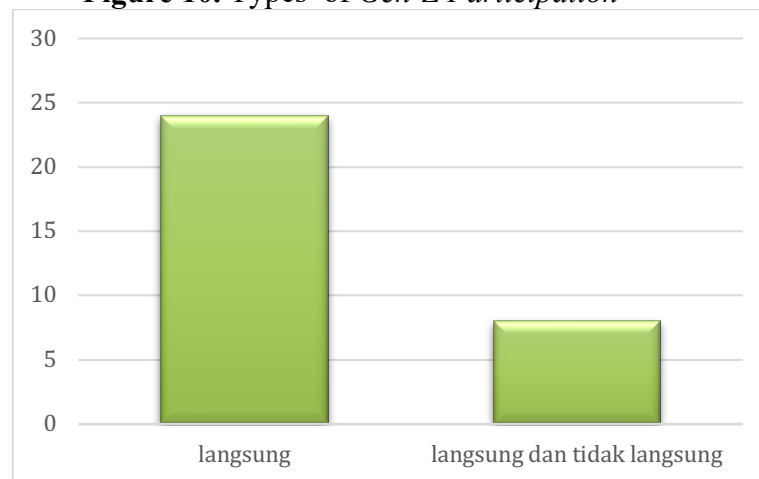


Based on the data above, the availability of adequate facilities both in terms of quality and quantity is the main obstacle felt by Gen-Z in sorting waste.

Gen-Z Participation

In the implementation of waste management policies in Denpasar City, the results of this study show variations in the level of involvement of Gen-Z both directly and indirectly.

Figure 10. Types of Gen-Z Participation



The data above shows that out of a total of 24 informants, all of them participated directly, with 8 of them also participating indirectly. The direct participation carried out by Gen-Z based on the findings of this study includes sorting waste independently, reducing the use of single-use plastics, participating in environmental clean-up activities, recycling waste, and depositing waste into the Waste Bank. Meanwhile, forms of indirect participation include participating in socialization, training on waste management, and helping to educate the surrounding people.

Providing Information (*Infromation*)

The results of the study show that the Denpasar City Government has made efforts in distributing information related to waste management policies to the community, including *Gen-Z*. In addition to providing information to the public, the Denpasar City Government also involves the community in the implementation of policies, as conveyed by Mr. I Ketut Adi Wiguna, SH. M.Si, as the Head of Waste and B3 Waste Management of the Denpasar City Environment and Hygiene Office, in an interview on Monday, October 21, 2024, that:

Speaking of environmental and waste issues, now our hope is that we at DLHK in the city are indeed not youth, everyone. If the youth are yes, because they are the next generation, yes, it is mandatory for us to be able to invite them to continue government programs in the future, especially in the main environment where waste management is done. Well, yesterday we had a discussion. The extent to which the roles of youth for us can be together to teach that Bali must be clean because Bali is a center of tourism. Yes no? It's amazing because I see the mindset of young people today.

Supported by a statement from Mrs. Luh Nyoman Sinta Ary Komala, S.IP, in an interview conducted on Wednesday, October 23, 2024 via *zoom meeting* which said that:

For the involvement of *Gen-Z* itself, in the sub-district, especially in every implementation, it may be community service because we are only facilitation and coordination, so activities in the sub-district are just mutual cooperation. So in every implementation of mutual cooperation, *Gen-Z has been involved*, so we usually invite junior high school students, high school students and even communities, so maybe it includes *Gen-Z*.

Consultation

This research found that in the implementation of waste management policies, the Denpasar City Government has provided opportunities for the community, including *Gen-Z*, to convey their aspirations. As conveyed by Mrs. Ni Putu Yuni Ekayanti, SE., MM, Head of the Community Empowerment Section of North Denpasar District, whom the researcher interviewed on Monday, October 21, 2024, she stated that:

If at the moment it's only through the forum, they're e.. has been accommodated for the younger generation, there are many STTs, there are youth organizations in the village head, including us in the sub-district, there are e.. Karang Taruna, there are also LPMs that have been termed LKD-LKD in the Village and in the District and also in the City Government. Maybe through that, one of them will also be formed from the young people of our young generation who are accommodated who participate in that generation.

The informant's statement stated the involvement of *Gen-Z* in providing input through representatives of existing community groups and youth groups, especially at the village and sub-district levels. But not only through representatives, *Gen-Z* has also actively provided suggestions and input to the City Government regarding waste management systems as conveyed by Mr. I Ketut Adi Wiguna, SH. M.Si, Head of Waste and B3 Waste Management Division of the Denpasar City Environment and Hygiene Office, in an interview on Monday, October 21, 2024, where he stated that:

Extraordinary. Yes, what is the response? In terms of a lot of suggestions for input through the media, including his actions in the field, he wants to invite them together. Yes, we can improve it in terms of socialization, supervision, monitoring. That's why like yesterday during the discussion, yes, young people who have been there, wow, there are so many, I was overwhelmed to give a statement and give at least a briefing and answer that is one of the things that in the future in Denpasar is the waste problem, yes the waste problem must be solved so that it is no longer a spectacle as at least like Singapore.

Deciding Together

At this level, the results of the study show that Gen-Z has been given the opportunity to support government programs in waste management. Even though it is not directly involved in the decision-making process, the Government in making policies always tries to consider the suggestions/inputs provided by the community, including Gen-Z. As conveyed by Mrs. Ni Putu Yuni Ekayanti, SE., MM, Head of the Community Empowerment Section of North Denpasar District, whom the researcher interviewed on Monday, October 21, 2024, who said that:

If we make decisions, because we call it the term, if there is a communication forum, if we have it, usually young people will give input. Surely they will give suggestions, we will accommodate their ideas, we will unite, we will also have the same perception with the results of the meeting. If the term is good and seems easy to do, it will be included, it will definitely be implemented.

The above informant's statement shows that the involvement of Gen-Z in decision-making has been carried out even though it is only representative in nature, this is justified by the Head of Waste and B3 Management of the Denpasar City Environment and Hygiene Office, Mr. I Ketut Adi Wiguna, SH. M.Si, in an interview on Monday, October 21, 2024 which stated that:

Well, if you make that decision, it seems that it has not been until now. But at most, those who discuss in the village and in the sub-district that we often inform at the beginning we are often asked, invited, as resource persons, the participants are Sekaa Teruna Teruni, Mrs. PKK, Community Leaders, Hamlet Heads, Kaling, limited to discussions, the results of this discussion are our policy so that later input suggestions, now we will accommodate.

Acting Together

The results of the study show that Gen-Z has a positive attitude by participating in activity programs organized by the government, as conveyed by Mr. I Ketut Adi Wiguna, SH. M.Si, as the Head of Waste and B3 Waste Management of the Denpasar City Environment and Hygiene Office, in an interview on Monday, October 21, 2024 which stated that:

If I see that young people have an active role for us, the term is to provide some kind of input suggestions to speed up the process like that. Why is it possible in Singapore? That's it, right? Why did he succeed? Well, Well, that's one of them Well, we've headed towards yes technology back to the budget and so on

In line with this statement, the Head of the Peace and Order Section of West Denpasar District, Mr. Anak Agung Putu Sujendra, S.Sos, who the researcher interviewed on Monday, October 21, 2024, stated that:

That's if like in Pemecutan Kelod Village, there is a community service once a week, for example, such as Belanga Village, Dauh Puri Klod, in Tukad Beling, it is community service, he cleans the river once a week so that the environment is clean, involving sekaa teruna. The one who initiated it was from his office, yes, the hamlets. Sekaa teruna has been invited there, until then the river will be used for a clean river competition for the city of Denpasar, uuh enthusiasm there.

Furthermore, this study found that Gen-Z through the environmental care community, especially in the city of Denpasar, namely the Malu Dong Community, has shown a form of cooperation with the Denpasar City Government in handling the waste problem. As stated by Komang Sudiarta, Founder of the Malu Dong Community, whom the author interviewed on Tuesday, October 22, 2024, who stated that:

Waste management and waste processing, Gen-Z in this Gen-Z era I see young people starting to be interested, maybe they see in the media, with natural disasters that are so destructive, maybe they are starting to grow it. There's a lot of garbage, so when I move around in the field, I'm mostly with these Gen-Z kids . Maybe Bella can see it on our Instagram, what

does it mean? They have started to wake up, like yesterday I also had a gang boy I invited. This means that they also care. Well, this work cannot be completed by Gen-Z, which means that our work is together.

Supporting Independent Community Interest

This study found that Gen-Z through the Malu Dong community has shown support for government programs in overcoming the waste problem. The support is in the form of handing over 50 Modern Teba assistance and installing banners "Wisely Sorting Waste Properly" at 496 points in Denpasar City. As conveyed by the Founder of the Malu Dong Community, Mr. Komang Sudiarta, in an interview on Tuesday, October 22, 2024, who stated that:

If this Teba Modern is from what year am I from, 2023. I have donated 50 Modern Teba when I was in banjar, now I am adding another 50 in Sanur Village. I installed this in Sanur Kaja Village, Sanur Kauh, the same village. The total is 50. The funds are from sponsors.

This was confirmed by Mr. Anak Agung Putu Sujendra, S.Sos, Head of the Peace and Order Section of West Denpasar District, during an interview with the researcher on Monday, October 21, 2024, who stated that:

Similar to Malu Dong, all of the villages were given how many banjars there were, for example, Pemecutan Kelod there were 15 banjars, all in each banjar were given and installed in their respective banjars, "Malu Dong Dumped Garbage Carelessly". Waste is sorted from home as I said earlier, as of October 1, it must be organic and inorganic. There was that last time we took it to Dauh Puri Klod because it was not taken, all those places happened to be sold out here. Everything can be from Malu Dong to give here, then all the banjars how much he has banjars, all get one by one, per village we support him.

Discussion

Gen-Z's Perception of Waste Management Policies

In this study, *Gen-Z* tend to have a positive perception of the applicable waste management policies because of their high environmental awareness. *Gen-Z* realizing that the consequences of the waste problem not only have a bad impact on the environment but also public health, to the image of the island of Bali as a world-class tourist destination. So they consider that waste management policy is important, even very important for 67% of informants. This positive attitude encourages their intention to actively participate in waste management activities. These findings are in line with research Baba-Nalikant et al., (2023) which states that personal experience related to waste, environmental policy, and self-awareness of the environment are factors that influence pro-environmental behavior (*Zero Waste*) community.

In addition to attitudes, perceptions *Gen-Z* Waste management policies are also influenced by the social norms that apply in their environment. This study shows that social norms are quite influential for *Gen-Z*, where they are inspired by the habits of parents, environmental communities, and public figures/*Influencers* in managing waste. However, it is interesting, *Gen-Z* do not feel pressured to follow these social norms, because they consciously consider that waste management is a shared responsibility. The results of this study are different from the results of previous research which stated that in Indonesia in particular, individuals tend to behave as shown by many people or what is commonly called collectivism culture, where individuals always want to adjust their behavior to the majority in order to get recognition as part of the majority group (Andina, 2019). This finding shows the uniqueness of the characteristics *Gen-Z* compared to other generations, where they tend to be realistic, pragmatic, and independent in deciding an action. Instead of relying on the surrounding

authorities, *Gen-Z* prefer to seek out information and analyze it on your own (Parengkuan & Tumewu, 2020).

Borrow from *Theory of Planned Behavior* which states that, when the perception of control is low, individuals tend to feel incapable of performing such actions despite having strong intentions (Purwanto et al., 2022). This study found that the ease of access to information in the perceptual factors of behavioral control was apparently not enough to maintain positive perceptions *Gen-Z*. Several main obstacles such as the lack of facilities and the lack of optimal waste transportation system also play a role in limiting the ability to *Gen-Z* to consistently manage waste, especially sorting waste. This low perception of control can weaken intent and active participation *Gen-Z*, despite supportive attitudes and social norms. This is in line with the findings of previous research which revealed that the availability of facilities to support the reduction of waste from its source and the existence of a clear and strong legal system as a form of environmental policy are very important (Baba-Nalikant et al., 2023).

The Influence of Perception on *Gen-Z* Participation in the Implementation of Waste Management Policies

Perception *Gen-Z* waste management policies in the City of Denpasar have a significant influence on the level of their participation in the implementation of the policy. These findings are in line with research that states that perception and participation, both directly and indirectly towards waste management, have a significant relationship with positive linear relationship patterns. In other words, the better the perception, the higher the level of participation shown (Rahmadda, 2022).

Based on the results of the study, the majority *Gen-Z* shows a positive attitude driven by a high awareness of the importance of preserving the environment and maintaining the image of Bali tourism. This positive perception then creates motivation to be involved in waste management activities, such as sorting waste from home and participating in community activities that care for the environment. These findings are consistent with *Theory of Planned Behavior* which was put forward by Ajzen in 1991, which stated that perception is formed from the individual's desire for the benefits of an action and it is able to encourage intentions and real actions (Purwanto et al., 2022). In addition, social norms that support environmentally caring behaviors also have an important influence, although they are not always external pressures for *Gen-Z*. Although public figures and communities care about the environment are quite inspiring, *Gen-Z* more motivated by a personal awareness of collective responsibility in addressing the waste problem. These findings indicate that *Gen-Z* It is a generation that has a high sensitivity and intention to participate in environmental problems, including waste problems. This is a unique feature that is different from the results of previous research where the involvement of *Gen-Z* in pro-environmental behaviors it is said to be still lacking when compared to people from older age groups (Parzonko et al., 2021).

Although positive perceptions encourage the desire to get involved, the results show that various structural barriers stand in the way *Gen-Z* to be able to participate more optimally. Obstacles such as the lack of adequate waste disposal and processing facilities and transportation systems that still need to be evaluated are challenges that reduce the perception of behavioral control. This affects the extent to which they feel able to contribute consistently. These barriers hold back participation *Gen-Z* at the level of "acting together" within the framework of Wilcox's (1994) theory of participation, where *Gen-Z* has been able to collaborate with the government and communities that care about the environment, but has not yet achieved an independent and proactive level of participation (Hutagalung, 2022).

Factors Influencing *Gen Z* Participation

Attitudes towards behavior are the main predictors of individual intentions and participation in phenomena in the field (Purwanto et al., 2022). Based on the results of this study, *Gen-Z* Not only viewing policies as a regulation that inevitably has to be implemented, but also as a collective responsibility that is in line with the values they embrace.

Community support also plays a significant role. Collective activities such as recycling campaigns and environmental education, provide space for *Gen-Z* to actively participate. The community cares about the environment not only as a driving force, but also as a motivating party *Gen-Z* to contribute. As the findings of previous research stated that collaborative community involvement with certain groups is one of the pillars of education about environmental sustainability (Baba-Nalikant et al., 2023).

The accessibility of information through social media, including government and community accounts, has a positive influence on the intention to participate *Gen-Z*. Where according to previous research, environmental conservation program campaigns are greatly influenced by technological developments and digitalization processes (Rizky et al., 2024). Engaging and accessible information allows this generation to understand policy more comprehensively and increase their engagement. These findings are consistent with previous research, where social media as a persuasive technology is a factor that can encourage pro-environmental behavior (Baba-Nalikant et al., 2023).

One of the biggest obstacles *Gen-Z* In this study, there is a lack of adequate waste management facilities. Limited infrastructure, such as strategic landfills or recycling facilities, is a big challenge for both the Denpasar City Government as a policy maker, and the community in this case *Gen-Z* as a policy implementer. The impact of the lack of facilities also affects the perception of the effectiveness of government policies. *Gen-Z*, as an information-literate group and often compare their experiences with waste management practices in other countries, tend to have higher expectations of the quality of infrastructure. When those expectations are not met, trust in government policies and efforts can also decline, ultimately affecting their compliance and participation levels. This shows that although *Gen-Z* showing high participation in waste management, inadequate infrastructure available makes waste management efforts ineffective (Herdiansyah et al., 2021).

Weak regulatory enforcement in the implementation of waste management is also one of the significant obstacles. In line with the findings of the research which states that institutional weaknesses are the main obstacles in effective waste management (Adekola et al., 2021). The results of this study show that the lack of consistency in the application of sanctions against policy violations makes *Gen-Z* doubts the effectiveness of the policy. Less than optimal waste transportation systems such as schedule mismatches, transportation delays, and the reunification of segregated waste by transportation officers create frustration and reduce the level of active participation *Gen-Z*. So that to overcome this in order to increase community participation in sorting waste, several strategies are needed such as strengthening policies, providing ergonomic facilities and actively and consistently engaging the community (Andina, 2019).

In addition, slow bureaucratic flows and convoluted procedures make it difficult for people, especially *Gen-Z*, to contribute more actively. Considering that *Gen-Z* is a generation that is used to instant and fast processes in the era of technological advancement, this makes this an obstacle that cannot be ruled out by the Denpasar City Government. There is a need for a clear and socialized Standard Operating Procedure (SOP) to the public accompanied by simplification of bureaucratic flows that facilitate and increase the intention of the younger generation to actively participate.

CONCLUSION

The majority of *Gen-Z* has a positive perception of waste management policies in Denpasar City. This perception is influenced by factors such as environmental awareness, understanding of the urgency of policies, the behavior of the closest people (parents and peers), environmental campaigns by public figures and/or communities, and ease of access to information. This positive perception is in line with *Gen-Z's high awareness* of their responsibility for the waste issue in Denpasar City and the importance of the role of policies in protecting the environment, especially Bali as a tourism destination.

Gen-Z's perception of waste management policies has a significant influence on the level of their participation in the implementation of these policies. The positive perception of *Gen-Z* brings their participation to the level of *acting together* based on Wilcox's (1994) theory of participation levels, which is reflected in activities such as waste sorting from home and involvement in environmental care activities through the community.

Gen-Z participation is influenced by interrelated supporting and inhibiting factors. Environmental awareness, community support and information accessibility have proven to encourage *Gen-Z's* intention to actively participate in waste management. However, in addition, the lack of adequate waste management facilities, weak regulatory enforcement, a suboptimal waste transportation system, and bureaucratic flows that seem slow and convoluted are still obstacles for *Gen-Z* to be able to contribute optimally.

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