



# DETERMINANTS OF FOOD WASTE BEHAVIORS ON MUSLIM GENERATION Z IN PADANG CITY, INDONESIA



- Deni Lubis
- Alla Asmara
- Muzdalifah Rahma Dewi





# Background

- Throwing away food is considered normal by most people, whereas food waste hurts the environment, and health, including potential economic loss, greenhouse gas emissions, and food security (Bappenas, 2021). Food waste also causes wasted resources, such as land, water, labor, capital, skills, and others.
- Muslim countries are among the highest food wasters, Indonesia as the Muslim majority is the second largest contributor to food loss and waste after Saudi Arabia (Barilla, 2019), on the other hand, Islam strictly prohibits food waste behavior (Quran, Al-Israa'/17: 26-27).
- Food loss and waste in Indonesia is estimated at around 23–48 million tons/year from 2000-2019, or equivalent to an economic loss of 213–551 trillion rupiah/year, equal to 4%-5% of Indonesia's GDP/ year. The biggest loss from the supply chain stage is the food waste of 107-346 trillion rupiah/year (Bappenas, 2021).

- Padang City has the highest food waste in West Sumatra Province with an annual waste generation of 233,385.96 tons and is dominated by food waste with 62.8% (SIPSN, 2021).
- Generation Z (13 to 28 years old) in Padang City is the highest compared to other age groups (PPID West Sumatra, 2021), and adolescents aged 15-24 years are the most likely to waste food (FAO, 2012).



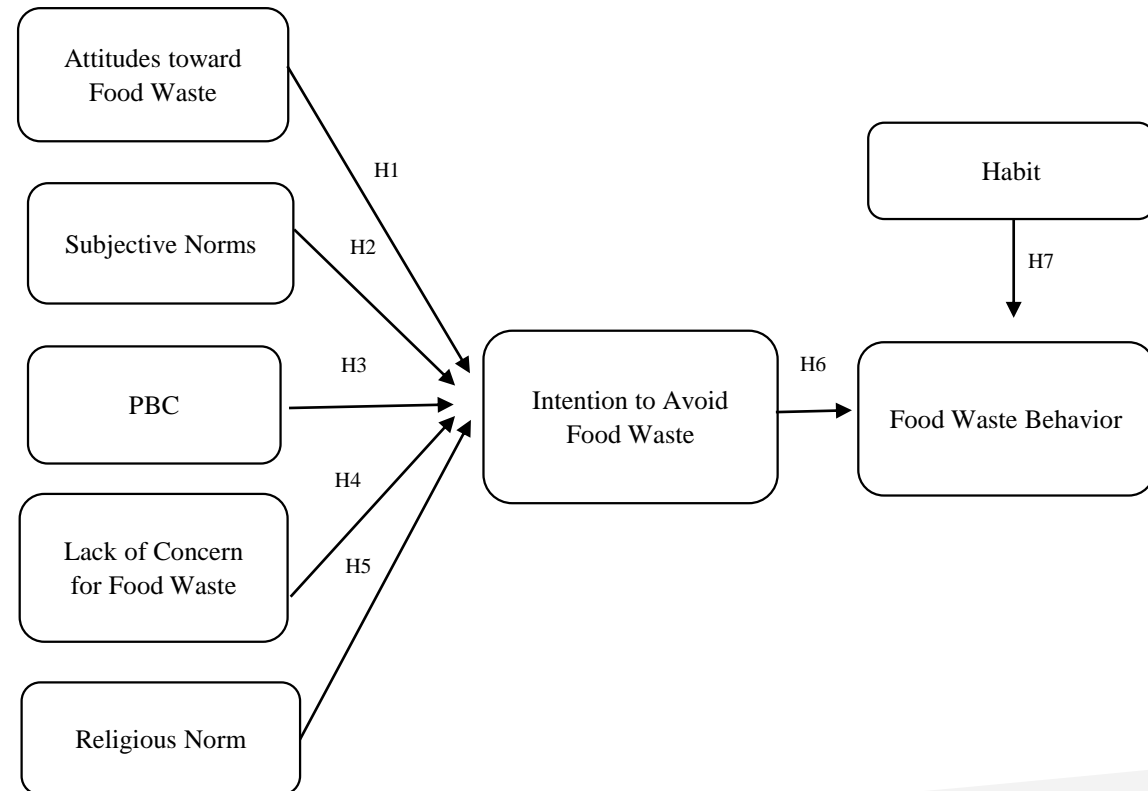


# Research objectives and benefits

- The purpose of this study is to analyze the factors that influence Food Wasting Behavior in Gen Z Muslims in Padang City
- The benefit of this study is to provide an overview of the factors that cause food waste behavior in Muslim Gen-Z and to assist the stakeholders/ government in formulating food waste reduction policies.

# Research Model and Theory

The theory used in this research is the Theory of Planned Behavior (TPB) by Ajzen (1991). In this study, Religious Norms were added as an exogenous variable.





# Hypothesis

- $H_1$  : Attitude towards Food Waste (A) has a positive and significant effect on Intention not to Food Waste (I).
- $H_2$  : Subjective Norms (SN) has a positive and significant effect on Intention not to Food Waste (I).
- $H_3$  : Perceived Behavior Control (PBC) has a negative and significant effect on Intention not to Food Waste (I).
- $H_4$  : Lack of Concern for food waste (LC) has a negative and significant effect on Intention not to Food Waste (I).
- $H_5$  : Religious Norm (RN) has a positive and significant effect on Intention not to Food Waste (I).
- $H_6$  : Intention not to Food Waste (I) has a negative and significant effect on Food Waste Behavior (FWB)
- $H_7$  : Habit (H) has a positive and significant effect on Food Waste Behavior (FWB)



# Methodology

- The survey was conducted online in February - April 2023 with Gen Z respondents in Padang City who are Muslims in the range of birth years 1995-2006.
- Sampling was conducted in this study using non-probability sampling techniques, and the type of sampling used was purposive sampling, namely Generation Z who live in Padang City and are Muslims
- Padang City has a total population in 2021 of 913,450 people. The number of people in the range of 15-24 years in 2021 is estimated at 153,578 people.
- The number of samples used in this study was 210, referring to Roscoe (1975) that good sample size is 5-10 times the number of variable indicators (40 indicators) therefore the minimum sample size for this study was 200 to 400.
- SEM-PLS analysis was used to predict the model and the data was processed using Microsoft Excel 2016 and SmartPLS 4 software.



# Respondent Characteristics

Characteristics	Demographic Variables	N	Percent
Gender	Male	83	40
	Female	<b>127</b>	<b>60</b>
Year of birth	1995 – 1997	31	15
	1998 – 2000	52	25
	2001 – 2003	<b>87</b>	<b>41</b>
	2004 – 2006	40	19
Tertiary Education	Junior High School	25	12
	Senior High School	<b>94</b>	<b>45</b>
	Diploma/Bachelor	87	41
	Postgraduate	4	2

Characteristics	Demographic Variables	N	Percent
Occupation	Student	37	18
	College Student	<b>92</b>	<b>44</b>
	Employee	55	26
	Other	26	12
Monthly Income	< Rp1.000.000	<b>87</b>	<b>41</b>
	Rp1.000.000 – Rp2.500.000	59	28
	Rp2.500.000 – Rp4.000.000	31	15
	> Rp4.000.000	33	16
Distance	< 100 m	51	24
	100-300 m	51	24
	300-500 m	29	14
	> 500 m	<b>79</b>	<b>38</b>

Sumber : diolah dari data primer 2023



# Outer Model Measurement

## Convergent Validity Test

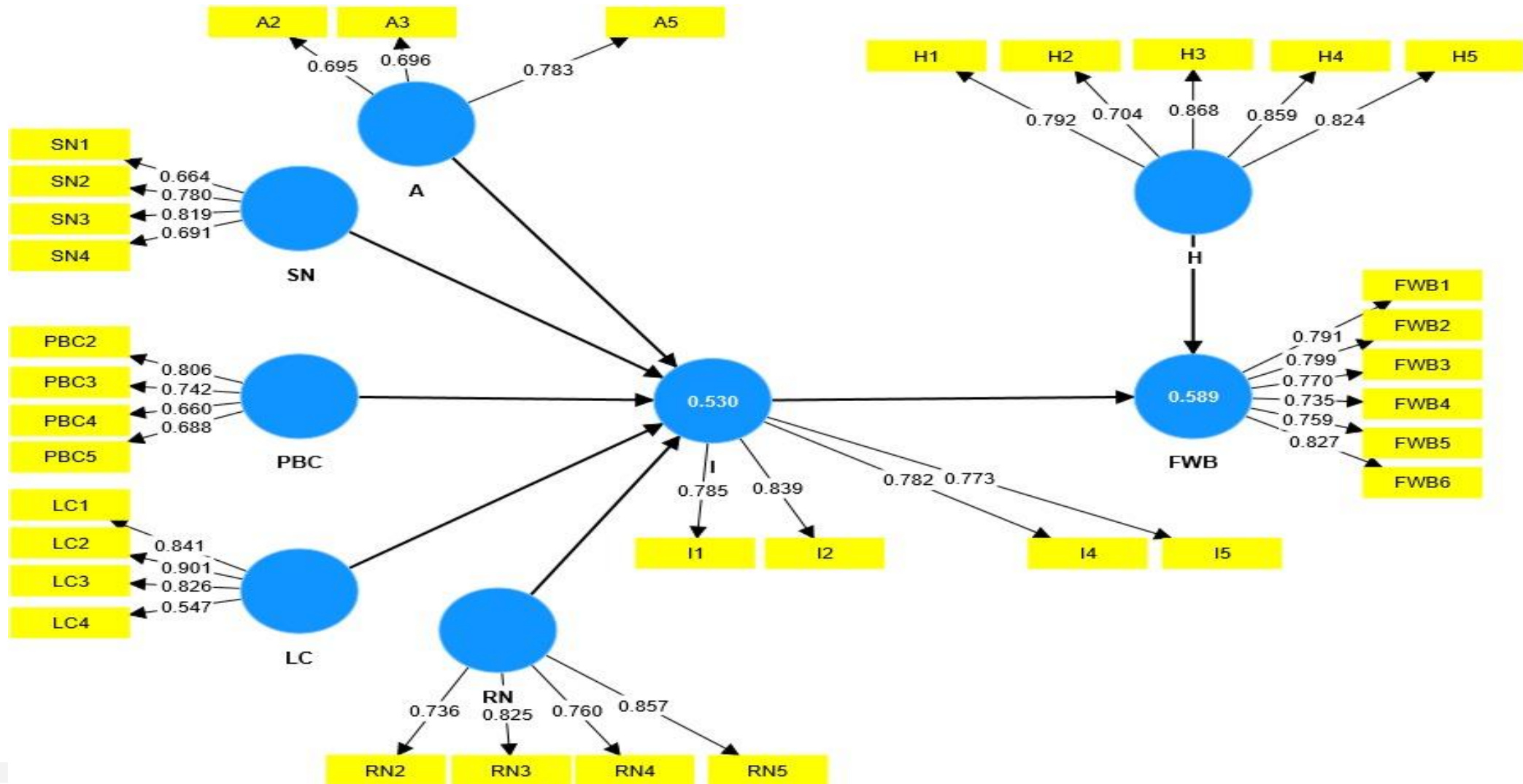
AVE Value

Variable	AVE
<i>Attitudes Towards Food Waste (A)</i>	0,526
<i>Subjective Norms (SN)</i>	0,550
<i>Perceived Behavior Control (PBC)</i>	0,530
<i>Lack of Concern for Food Waste (LC)</i>	0,624
<i>Religious Norm (RN)</i>	0,633
<i>Habit (H)</i>	0,657
<i>Intention not to Food Waste (I)</i>	0,632

Sumber : diolah dari data primer 2023



# Outer Loading



# Significance Test of Path Coefficient

Hypothesis	Original Sample (O)	T Statistics (O/STDEV)	P Values
H <sub>1</sub> . A → I	0,148	2,500	0,012
H <sub>2</sub> . SN → I	0,056	0,958	0,338
H <sub>3</sub> . PBC → I	-0,174	3,121	0,002
H <sub>4</sub> . LC → I	-0,008	0,151	0,880
H <sub>5</sub> . RN → I	0,590	8,471	0,000
H <sub>6</sub> . I → FWB	-0,008	0,103	0,918
H <sub>7</sub> . H → FWB	0,763	17,613	0,000

H<sub>1</sub> : Attitude towards Food Waste (A) has a positive and significant effect on Intention not to Food Waste (I) → **ACCEPTED**

H<sub>2</sub> : Subjective Norms (SN) has a positive and significant effect on Intention not to Food Waste (I) → **DECLINED**

H<sub>3</sub> : Perceived Behavior Control (PBC) has a positive and significant effect on Intention not to Food Waste (I) → **ACCEPTED**

H<sub>4</sub> : Lack of Concern for food waste (LC) has a negative and significant effect on Intention not to Food Waste (I) → **DENIED**

H<sub>5</sub> : Religious Norm (RN) has a positive and significant effect on Intention not to Food Waste (I) → **ACCEPTED**

H<sub>6</sub> : Intention not to Food Waste (I) has a negative and significant effect on Food Waste Behavior (FWB) → **DENIED**

H<sub>7</sub> : Habit (H) has a positive and significant effect on Food Waste Behavior (FWB) → **ACCEPTED**



# Discussion

- Attitude towards Food Waste (A) has a positive and significant effect on Intention not to Food Waste. The better the consumer's attitude towards food waste, the better the intention not to waste food. Customers are more likely to want to minimize food waste if they feel guilty about throwing it away (Aktas et al. 2018). In conclusion, it can be said that H<sub>1</sub>'s aim to prevent food waste is positively and significantly influenced by their attitudes towards it. It can be concluded that attitudes towards food waste positively and significantly affect the intention to avoid food waste.
- There was a substantial negative correlation between the aim of avoiding food waste and perceived behavioral control. The stronger the consumer's intention to not leave food, the lower the barriers to decreasing food waste (Wajon et al., 2019). This justification leads to the conclusion that the aim of preventing food waste is significantly negatively affected by perceived behavior control.
- There was a positive and significant correlation between religious norms and the intention to avoid food waste. The results show that religious norms affect a person's behavior, the better the religious norms, the less food is thrown away.
- The significance test results indicate that there is a substantial and positive association between habit and food waste behavior. Habits influence food-throwing behavior. This is in line with research by Aydin and Yildirim (2021), which explains that consumers who buy outside of consumer needs will end up in wasteful behavior.



# Conclusion

- The variables that have a positive effect on the intention not to food waste are attitude and religious norms, while habit has a positive effect on food waste behavior. In addition, the variable that negatively affects the intention not to food waste is perceived behavioral control (PBC). Other variables such as subjective norm, lack of concern, and intention not to food waste have no effect.
- Habits will greatly affect one's behavior towards food waste. Therefore, consumers are expected to estimate their food portions to avoid the habit of leaving food.
- Respondents in this study were dominated by university students. Therefore, the local government can provide education through education regarding the adverse effects of throwing away food waste and the prohibition of tabdzir behavior in religion.