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Factors influencing the behaviour of traders in waste management at Nanggalo Market, Padang City, 2023

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ABSTRACT

Waste is solid waste material from human activities at home, schools, shops, public places, markets and so on. One of the markets where there is still a lot of waste in Padang City is the Nanggalo Market in Padang City. Nanggalo Market is one of the traditional markets that sells the daily needs of the community in the market there are still many traders who litter and scatter, for this reason research was conducted at the Nanggalo Market. The purpose of this study was to determine the factors that influence the behaviour of traders in waste management in Nanggalo Market, Padang City in 2023. This research design is quantitative, conducted at Nanggalo Market, Padang City. The research was conducted from December 2022 to June 2023. The population was 408 traders in Nanggalo Market in Padang City with a sample of 80 traders, and the data analysis used was chi-square test statistics. The results showed that there was a significant relationship between knowledge and traders' behaviour in waste management (p<0.024), there was a significant relationship between attitudes and traders' behaviour in waste management (p<0.024), there was a significant relationship between facilities and traders' behaviour (p<0.004), there was a significant relationship between knowledge and traders' behaviour (p0.004), there is a significant relationship between government policy and traders' behaviour (p<0.000), and there is no significant relationship between the role of cleaning staff and traders' behaviour (p>0.182). It can be concluded that there are several factors that are related and some are not related to the behaviour of traders in waste management at Nanggalo Market, Padang City in 2023.

Keywords: *Behavioural Factors, Waste Management, Market*

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INTRODUCTION

Waste is the solid residue of daily human activities or natural processes. Specific waste is waste whose nature, concentration, or volume requires special management . Waste is solid waste from human activities in homes, schools, offices, restaurants, shops, public places, markets, and others (Wikipedia, 2021). The amount of waste generated from an area is influenced by the socio-economic level of the community, the higher the community's economy, the higher the community's consumption which will affect the amount of waste generated (Astiana N et al, 2020)

One of the public places that generate waste is the market. The market is one that drives the dynamics of economic life, where the function of this market institution as an economic institution cannot be separated from the activities carried out by buyers and traders (Nugroho, 2023). The generation of waste cannot be separated from the activities of traders as producers and managers of market waste. The problem arises because it is influenced by several factors related to the behaviour of traders, including low knowledge of waste management and attitudes that are still not positive towards waste management (Hs A, 2017).

Waste management is an activity carried out in relation to waste from generation to final disposal. Waste management activities include collection, transport, processing, recycling or disposal of waste materials (Law No.18, 2008). Data obtained from the Nanggalo Market manager in Padang City shows that waste generation can reach 3-5 tonnes/day, waste transported from the market TPS to the landfill is transported around 3-4 tonnes/day and waste collection is carried out every night at 18.00 Wib.

In the initial survey that has been conducted interviews with 20 traders, obtained information that traders in Nanggalo Market there are 10 people 8 of whom found that sacks or buckets of trash used daily, 7 people think that throwing garbage in front of the kiosk / booth is a common thing, 5 people do not know about waste management. These problems are caused by the lack of knowledge of market traders, the attitude of traders, the lack of waste infrastructure facilities available in the market. Some of these factors are very important in determining the behaviour of traders in waste management in the market. The purpose of this study was to determine the factors that influence the behaviour of traders in waste management in Nanggalo Market, Padang City in 2023.

METHODS

The type of research used in this study is quantitative, using an analytical research design with a cross sectional approach, namely research conducted that emphasises the time of measurement or observation of data on independent and dependent variables only once. This research was conducted at Nanggalo Market which is located at Jl. Raya Siteba No. 18, Surau Gadang, Kec. Nanggalo, Padang City. The research time is December 2022 to June 2023. The population in this study were 408 traders in Nanggalo Market, Padang City. Sampling using propotional random sampling technique. The sample required in this study was 80 traders. Data collection was obtained using questionnaires and checklist tables and primary data and secondary data. The data analysis used was univariate analysis and bivariate analysis using the *chi-square* test.

RESULT

1. Univariate Analysis

a. Knowledge

Table 1. Frequency Distribution of Knowledge Level in Nanggalo Market, Padang City Year 2023

Knowledge Level	n	%
High	31	38,8%
Low	49	61,3%
Total	80	100

Based on the table above, it can be seen that as many as 49 people (61.3%) traders have a low level of knowledge.

b. Attitude

Table 2. Frequency Distribution of Attitudes towards Waste Management in Nanggalo Market, Padang City 2023

Attitude	n	%
Positive	24	30,0
Negative	56	70,0
Total	80	100

Based on the table above, it can be seen that 56 people (70.0%) traders have a negative attitude.

c. Government Policy

Table 3. Frequency Distribution of Government Policies in Nanggalo Market, Padang City Year 2023

Government Policy	n	%
Good	27	33,8
Bad	53	66,3
Total	80	100

Based on the table above, it can be seen that 53 people (66.3%) of traders have bad government policies.

d. Role of the Janitor

Table 4. Frequency Distribution of the Role of Cleaners in Nanggalo Market, Padang City in 2023

Role of the Janitor	n	%
Good	50	62,5
Bad	30	37,5
Total	80	100

Based on the table above, it can be seen that as many as 50 people (62.5%) traders stated that the role of janitors in waste management is good.

e. Behaviour

Table 5. Frequency Distribution of Traders' Behaviour in Waste Management in Nanggalo Market, Padang City in 2023

Behaviour	n	%
Good	20	25,0
Bad	60	75,0
Total	80	100

Based on the table above, it can be seen that 60 people (75.0%) of traders have bad trader behaviour.

f. Means

Table 6: Frequency Distribution of Facilities in Nanggalo Market, Padang City in 2023

Means	n	%
Eligible	12	15,0
Not Eligible	68	85,0
Total	80	100

Based on the table above, it is known that 68 people (85.0%) traders have poor facilities.

2. Bivariate Analysis

a. Relationship between Knowledge and Traders' Behaviour in Waste Management

Table 7. Relationship between Knowledge and Traders' Behaviour in Waste Management in Nanggalo Market, Padang City,

Knowledge	Behaviour				Total		p - value	OR
	Good		Bad					
	n	%	n	%	n	%		
High	12	38,7	19	61,3	31	100		
Low	8	16,3	41	83,7	49	100	< 0,024	3,237
Total	20	25,0	75,0	75,0	80	100		

Based on the table above, the results of the analysis of the relationship between the level of knowledge and the behaviour of traders in waste management, there are 61.3% of traders in the bad behaviour group who have a high level of knowledge, while there are 83.7% of traders in the bad behaviour group with a low level of knowledge. At the *p-value*, the value is 0.024, the value is <0.05 so that H0 is rejected and H1 is accepted. Based on the results of this description, it can be decided that there is a relationship between knowledge and behaviour.

b. Relationship between Attitude and Traders' Behaviour in Waste Management

Table 8. Relationship between Attitude and Traders' Behaviour in Waste Management in Nanggalo Market, Padang City,

Attitude	Behaviour				Total		p - value	OR
	Good		Bad					
	n	%	n	%	n	%		
Positive	2	8,3	22	91,7	24	100		
Negative	18	32,1	38	67,9	56	100	< 0,024	0,192
Total	20	25,0	60	75,0	80	100		

Based on the table above, the results of the analysis of the relationship between attitudes and the behaviour of traders in waste management, there are 91.7% of traders in the bad behaviour group who have a positive attitude, while there are 67.9% of traders in the bad behaviour group with a negative attitude. The *p-value* obtained is 0.024, this value is <0.05 so that H0 is rejected and H1 is accepted. Based on the results of this description, it can be decided that there is a relationship between attitude and behaviour.

c. Relationship between Infrastructure Facilities and Traders' Behaviour in Waste Management

Table 9: Relationship between Infrastructure Facilities and Traders' Behaviour in Waste Management in Nanggalo Market, Padang City,

Means	Behaviour				Total		p - value	OR
	Good		Bad					
	n	%	n	%	n	%		
MS	7	58,3	5	41,7	12	100		
TMS	13	19,1	55	80,9	68	100	< 0,004	5,923
Total	20	25,0	60	75,0	80	100		

Based on the table above, it is obtained that the results of the analysis of the relationship between facilities and the behaviour of traders in waste management are 41.7% of traders in the bad behaviour group who have facilities that meet the requirements, while there are 80.9% of traders in the bad behaviour group who have facilities that do not meet the requirements. In the *p-value* obtained a value of 0.004, the value is <0.05 so that H0 is rejected and H1 is accepted. Based on the results of this description, it can be decided that there is a relationship between facilities and behaviour.

d. Relationship between Government Policies and Traders' Behaviour in Waste Management

Table 10: Relationship between Government Policy and Traders' Behaviour in Waste Management in Nanggalo Market, Padang City in .

Government Policy	Behaviour				Total		p - value	OR
	Good		Bad					
	n	%	n	%	n	%		
Good	14	51,9	13	48,1	27	100		
Bad	6	11,3	47	88,7	53	100	< 0,000	8,436
Total	20	25,0	60	75,0	80	100		

Based on the table above, it is obtained that the results of the analysis of the relationship between government policies and the behaviour of traders in waste management are 48.1% of traders in the bad behaviour group with good government policies, while there are 88.7% of traders in the bad behaviour group with bad government policies. The *p-value* obtained a value of 0.000, this value is <0.05 so that H0 is rejected and H1 is accepted. Based on the results of this description, it can be decided that there is a relationship between government policy and behaviour.

e. Relationship between the Role of the Cleaning Officer and Merchants' Behaviour in Waste Management

Table 11: Relationship between the role of cleaning officers and the behaviour of traders in waste management in Nanggalo Market, Padang City in .

Role of the Janitor	Behaviour				Total		p - value	OR
	Good		Bad					
	n	%	n	%	n	%		
Good	15	30,0	35	70,0	50	100		
Bad	5	16,7	25	83,3	30	100	< 0,182	2,143
Total	20	25,0	60	75,0	80	100		

Based on the table above, it is obtained that the results of the analysis of the relationship between the role of janitors and the behaviour of traders in waste management there are 70.0% of traders in the bad behaviour group with good janitors' roles, while there are 83.3% of traders in the bad behaviour group with bad janitors' roles. The *p-value* obtained is 0.182, the value is > 0.05 so that H0 is accepted and H1 is rejected. Based on the results of this description, it can be decided that there is no relationship between janitors and behaviour.

DISCUSSION

1. Univariate Analysis

a. Knowledg

Based on the results of the frequency distribution, it was found that the knowledge of traders in waste management out of 80 traders, there were 61.3% of traders who had a low level of knowledge. From these results it can be seen that low knowledge will cause a factor in the formation of bad behaviour in a person.

Based on the research that has been done, the results show that the level of knowledge of low traders is more than traders who have a high level of knowledge. This is because the lower the knowledge, the less knowledge about waste management in the market, on the contrary, the higher the knowledge of traders, the better the management of waste in the market. So it is necessary to increase the level of knowledge by holding counseling from the health centre about waste management so that the behaviour of traders can be better.

This research is in line with research conducted by Dina (2019) on waste management in Segamas Market, Purbalingga Regency that there were 52% who had poor knowledge (Dina L, Hilal N, Subagiyo A, 2020).

b. Attitud

Based on the results of the frequency distribution, it was found that the attitude of traders in waste management out of 80 traders there were 70.0% traders who had a negative attitude.

Based on the results of the research that has been carried out, there are still traders who have a negative attitude in waste management, such as disagreeing with sorting waste according to its type, disagreeing with providing separate bins for wet and dry waste, and disagreeing with sanctions if they litter. It can be said that attitude is one of the factors that influence the behaviour of traders, so traders must be given counseling from the puskesmas in the hope of getting traders to behave better in managing waste in the market.

This is also in line with research conducted by Oktarizal, et al (2021) on the behaviour of traders towards waste management in Bestari Bintan Center Market, Tanjung Pinang City, where 28.1% had a negative attitude (Oktarizal H, Siska GL, Sembiring FY, 2020).

c. Infrastructure Facilities

Based on the results of the frequency distribution, it was found that the infrastructure facilities of traders in waste management out of 80 traders, 85.0% of traders' infrastructure facilities did not meet the requirements.

Based on the results of the study, it is known that traders who do not meet the requirements for infrastructure facilities are more than traders who meet the requirements for waste disposal infrastructure. traders should provide bins that can separate wet and dry waste so that they do not accumulate and do not cause disease, and do not become nests for nuisance animals. So from the results of observations that have been made to traders, it is better for the Padang City Trade Office to cooperate with the Padang City Environment and Hygiene Office so that infrastructure facilities are provided for each trader.

This is also in line with Pangesti's (2018) research on factors related to the behaviour of vegetable traders in waste management at the Wage market in Purwokerto District that there are 51% of traders who have facilities that do not meet the requirements (Pangesti R, 2018).

d. Policy

Based on the results of the frequency distribution, it was found that out of 80 traders, 66.3% of traders stated that government policies were bad. Based on the research that has been done, it shows that more traders have poor government policies because there are no appeals related to government policies from market managers regarding waste management conveyed to traders. So that traders do not know what is related to the steps of managing good waste and there is no government policy in writing or posted at the Nanggalo Market regarding market cleanliness, especially waste management.

So it is better for the Padang City Trade Office to collaborate with the Padang City Environment and Hygiene Office to implement existing government policies on waste management so that traders can know good and correct waste management and can maintain the market environment to keep it clean, healthy, and avoid disease.

This is in line with research conducted by Zulkarnain (2009) in his research which stated that 59% of traders never received information about government policies on market management and market cleanliness (Zulkarnain, Saam Z, 2009).

e. Role of the

Based on the results of the frequency distribution, it was found that the role of janitors in waste management from 80 traders was 62.5% of traders who stated that the role of janitors was good.

Based on the research conducted, it is stated that there are more good janitors' roles than bad janitors' roles because the information conveyed regarding waste management has been conveyed regularly to traders and to remind traders to manage waste properly. And the role of the janitors is in accordance with the SOP of the Waste Management and Sanitation Division of Padang City that the role of janitors is to take waste from the los / stalls down to the TPS and raised to the dumps truck to be transported to the Air Dingin Landfill in Padang City. So it is better for the Padang City Trade Office to work together with the Padang City Environment and Sanitation Office to implement existing government policies on waste management so that traders can know good and correct waste management.

This is in line with research conducted by Dina (2019) on waste management in Segamas Market, Purbalingga Regency, where 51% of traders considered the role of cleaning staff to be good (Dina L, Hilal N, Subagiyo A, 2020).

2. Bivariate Analysis

a. Relationship between Knowledge and Traders' Behaviour in Waste Management

Traders' knowledge about waste management plays an important role in shaping their behaviour. Traders who have good knowledge about how to sort and manage waste tend to be more proactive in maintaining the cleanliness of the market environment (Armayani & Ilyas, 2020).

Based on the results of the Chi Square test between knowledge and trader behaviour in waste management at Nanggalo Market, Padang City, the p value = 0.024 <0.05, then H0 is rejected and H1 is accepted, it can be concluded that there is a relationship between the level of knowledge and behaviour in market waste management.

In this study, it can be interpreted that the knowledge of traders in Nanggalo Market is in the low category, seen directly from the results of interviews about the knowledge of traders is still lacking in market waste management, so knowledge is one of the factors that can influence the behaviour of traders. So it is necessary to increase the level of knowledge by holding counseling from the puskesmas about waste management so that the behaviour of traders can be better.

This is the same as research conducted by Dina (2019) on waste management in Segamas Market, Purbalingga Regency which states that there is a significant relationship between knowledge and trader behaviour in waste management.4 These results are also in line with Oktarizal's research (2021) on trader behaviour towards waste management in Bestari Bintan market, Tanjung Pinang City which states that there is a relationship between trader knowledge and waste management.

b. Relationship between Attitude and Traders' Behaviour in Management

Traders who have positive attitudes towards cleanliness and waste management tend to be more active in taking actions that support good waste management. For example, they are more likely to sort waste, use the bins provided, and participate in market hygiene programmes (Fadli Maulana et al., 2023).

Based on the results of the Chi Square test between attitudes and trader behaviour in waste management at Nanggalo Market, Padang City, the p value = 0.024 <0.05, then H0 is rejected and H1 is accepted, it can be concluded that there is a relationship between attitudes and behaviour in market waste management.

Based on the research that has been done, traders have a negative attitude and bad behaviour, this is because there are still many traders who have an indifferent attitude or lack of awareness to carry out waste management. There are still many traders who use sacks or plastic as a trash can. It can be said that attitude is one of the factors that influence the behaviour of traders, so traders must be given counseling from the puskesmas in the hope of getting traders to behave better in managing waste in the market.

This is in line with research conducted by Dina (2019) on waste management in Segamas Market, Purbalingga Regency which states that there is a relationship between attitudes and trader behaviour in waste management.4 This is also in line with research conducted by Oktarizal (2021) on trader behaviour towards waste management in Bestari Bintan market, Tanjung Pinang City which states that there is a relationship between trader attitude and waste management (Oktarizal H, Siska GL, Sembiring FY, 2020)

c. Relationship between Infrastructure Facilities and Traders' Behaviour in Management

The availability of sufficient and appropriate waste bins according to the type of waste (organic and inorganic) in the market greatly influences the behaviour of traders. If facilities such as temporary disposal sites (TPS) and waste carriers are available, traders will be more likely to dispose of their waste properly (Efrizal, 2023).

Based on the results of the Chi Square test between facilities and trader behaviour in waste management at Nanggalo Market, Padang City, the p value = 0.004 <0.05, then H0 is rejected and H1 is accepted, it can be concluded that there is a relationship between facilities and behaviour in market waste management.

Based on the research that has been conducted, it is known that many traders still have facilities that do not meet the requirements because they prefer sacks, plastics, and used buckets, and some are even just placed in front of the kiosk/clos. According to Indonesian Law Number 18 of 2008 concerning Waste Management, to carry out waste management must use containers that meet the requirements, namely strong construction, closed, and watertight.3 As well as separate containers for wet and dry waste. So from the results of observations that have been made to traders, it is better for the Padang City Trade Office to cooperate with the Padang City Environment and Hygiene Office to provide infrastructure facilities for each trader, not only TPS infrastructure facilities because sufficient infrastructure can protect the surrounding environment to avoid disease.

This is in line with research conducted by Dina (2019) on waste management in Segamas Market, Purbalingga Regency which states that there is a significant relationship between the availability of facilities and the behaviour of traders in waste management.4 This is also in line with research conducted by Pangesti (2018) on factors related to the behaviour of traders in waste management in the Wage market, Purwokerto District which states that there is a significant relationship between waste disposal facilities and the behaviour of vegetable traders in managing waste in the market (Pangesti R, 2018).

d. Relationship between Government Policies and Traders' Behaviour in Management

Government policies, such as Law No. 18/2008 on Waste Management, provide the legal framework for waste management. This regulation sets out the government's duties in raising public awareness and facilitating good waste management. When traders understand that there are regulations governing waste management, they are more likely to comply and participate in hygiene programmes (Madani, 2011).

Based on the results of the Chi Square test between government policies and trader behaviour in waste management at Nanggalo Market, Padang City, the p value = 0.000 <0.05, then H0 is rejected and H1 is accepted, it can be concluded that there is a relationship between government policies and behaviour in market waste management.

Based on the research that has been conducted, there are no specific regulations relating to government policies in waste management, there are only warnings delivered by market managers and cleaning staff verbally to traders without any applicable sanctions or penalties so that traders only listen and are not implemented. Market managers should implement government policies on waste management in the market in accordance with Indonesian Law No. 18/2008 on Waste Management. Then it is better for the Padang City Trade Office to work together with the Padang

City Environment and Hygiene Office to implement existing government policies on waste management.

This is in line with Andini's research (2021) on the factors influencing traders in waste management in the Pos Pengumben market which states that there is a significant relationship between government policies and the behaviour of traders in waste management in the market.8 This is different from Saqila's research (2020) on waste management in Senen market Lemahabang Cirebon Regency which states that there is no relationship between government policies and trader behaviour in waste management (Saqila N, 2020).

e. Relationship between the Role of the Cleaning Officer and Merchants' Behaviour in Waste Management

Based on the results of the Chi Square test between the role of janitors and the behaviour of traders in waste management in Nanggalo Market, Padang City, the p value = 0.182>0.05, then H0 is accepted and H1 is rejected, it can be concluded that there is no relationship between the role of janitors and behaviour in market waste management.

Based on the research that has been done, there is no relationship between the role of janitors and behaviour in waste management in the market because the information conveyed by janitors to traders is optimal with regard to waste management in the market and has been warned and verbally reprimanded to manage waste properly. And the role of janitors is in accordance with the SOP of the Waste Management and Sanitation Division of Padang City. It is expected that the role of officers will further improve the regulations relating to waste management in the market so that the spread of disease does not occur.

This research is in line with research conducted by Dina (2019) on waste management in Segamas Market, Purbalingga Regency in her research which states that there is no significant relationship between the role of janitors and the behaviour of traders in waste management in the market.4 This is also in line with Raharjo's research (2014) on factors affecting waste management performance in the Banjarsari market which states that there is a relationship between the role of janitors and traders in waste management (Raharjo et.al, 2014).

CONCLUSIONS

Based on the results of research conducted at Nanggalo Market, Padang City, it can be concluded that the factors of knowledge, attitudes, infrastructure, government policies have a relationship with the behaviour of traders in waste management, while the role of janitors does not have a relationship with the behaviour of traders in waste management at Nanggalo Market, Padang City in 2023.

It is expected that the Puskesmas of Nanggalo, Padang City will improve the process of socialisation and education to traders about waste management and market managers are expected to distribute information leaflets, posters or banners about waste management to encourage traders' willingness to handle waste in order to avoid the spread of diseases caused by waste.

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