

Investigating the Relationships between Environmental Awareness, Recycling Behaviour, Economic Disposal, Giving to Family or Friends and Donating to Charity

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An effort to reuse products that are no longer used is one example of environmentally friendly behaviour. A mother's effort to recycle baby equipment products is also another example of environmentally friendly behaviour. The purpose of this study is to understand the impact of awareness of the environment and recycling behaviour on giving to family or friends disposal behaviour, donating to charity disposal behaviour, and recycling behaviour. This study involved 216 respondents. The analytical technique used is structural equation modelling (SEM). The result of this study shows that awareness of the environment does have an impact on giving to family or friends behaviour and recycling behaviour, where recycling behaviour has an impact on economic disposal behaviour and giving to family or friends behaviour. In contrast, awareness of the environment has no impact on donating to charity disposal behaviour and recycling behaviour has no impact on donating to charity disposal behaviour. The results of this study make contributions to the development of green marketing concept.

Keywords: *Environment, Recycling behaviour, Donating, Economic disposal behaviour.*

Introduction

The total population of Indonesia keeps on growing year by year. Data from the National Population and Family Planning Agency of Indonesia shows that every year, there are approximately 4.2 million up to 4.8 million babies born in Indonesia (Munafe, 2019). A large

amount of baby birth rate increases the market potential of baby products into an exciting segment to pay attention to. However, as babies grow up, baby equipment products are rarely used or even not being used any longer, which boosts baby equipment products disposal behaviour.

Disposal behaviour is consumer behaviour in making a decision when the product is at the stage of no longer being used by the consumer (Laitala, 2014). Research on environmental responsibility has been started in the 1970s and 1980s when a few consumers realised the severe impact of products on the environment (Handriana and Ambara, 2016). Instead, the environmental conditions are very complex and dynamic; companies tend to explore to improve innovation (Winarno and Tjahjadi, 2017). Consumers with the awareness of environment choose not to dispose of their unused products in a way that might damage the environment with the perception that stopping the usage of the product will damage the environment. However, consumers need to keep on fulfilling their needs, and so, products that they no longer use will pile up and need to be removed. Bianchi and Birtwistle (2010) suggest that consumers with the awareness of the environment will dispose of their unusable products in a way that does not damage the environment by giving those products to their friends or close family and donate them to charity institutions. Moreover, environmentally friendly disposal can be done through recycling or reusing products to be sold, given to family or close friends, and donated (Winarno and Tjahjadi, 2017). According to Handriana and Ambara (2016), awareness of the environment affects consumer disposal behaviour that is not damaging to the environment by giving those unused products to family or close friends and donating them to charity institutions.

Theoretical Background

Disposal Behaviour

Disposal behaviour is consumer behaviour in making a decision when the product is at the stage of no longer being used by the consumer. Disposing behaviour is an act of removing something, which is the final stage of clothes' life with the current owner, regardless those clothes will end up as waste, intended to be recycled, or being reused (Laitala, 2014). There are five motivation factors that influence consumers in disposing of products, which include environment, economy, charity, comfort issues, and unavailable information (Bianchi and Birtwistle, 2010). Where consumers decide that products are no longer being used (Bianchi and Birtwistle, 2011), people can store those goods while others might throw them away permanently. This condition can be grouped into three categories: (a) keeping the products, (b) throwing them away temporarily, and (c) disposing of them permanently.



Awareness of the Environment

Stern(2000) defines environmentalism as the tendency to act on pro-environment purpose. Pro-environment behaviour includes purchase and disposalbehaviour in consuming products. Environmental buying includes buying environmentally friendly products (green products), while environmental disposal behaviour focuses on the reduction of household waste and promoting recycle and reuse behaviour (Joung and Park, 2013). Issues regarding the environment have become criticalissues. Moreover, this increases the motivation to recycle (Belli, 2007).

Consumers with a positive attitude towards environment participate in clothes recycling such as reselling, donating, or giving those clothes to family and friends (Bianchiand Birtwistle, 2010) and tell this behaviour to their family and friends (Winarno and Tjahjadi, 2017).

Recycling Behaviour

Recycling is one of so many solid waste management strategies which include activities such as sorting, compiling, processing, distributing, and creating second-hand products/ materials, main components in modern waste management, and third part in 4R (Reduce, Reuse, Recycle, and Replace) waste hierarchy process. Consumers who usually recycle materials such as plastic, glass, or paper are more likely to recycle their clothes. Consumers with the concern of the environment make an effort to dispose of their products in a way that will not damage the environment. Moreover, awareness of the environment is linked to recycling behaviour (Department for Environment Food and Rural Affairs, 2008). Recycling and reusing bring advantages in sustainable economic and social aspects, such as jobs and incomes generated from reselling textiles (Morgan and Birtwistl, 2019)

Economic Disposal Behaviour

Selling unwanted products is one of recycling behaviour which brings monetary value to the owner so that consumers can buy other products needed (Cuc and Vidovic, 2011). Consumer disposal behaviour is done through selling unwanted clothes to bring monetary advantage, help others through donation, save materials by reusing, bring comfort by throwing products away, and the unavailability of information regarding recycling(Bianchiand Birtwistle, 2010).

Giving to Family or Friends Disposal Behaviour

According toHandriana andAmbara (2016), awareness of the environment factor influences disposal behaviour by consumers that does not damage the environment by giving away unused products to family or close friends and donating them to charity institutions. Giving



products to relatives, friends, or acquaintances bring relational value (Denegri-Knott and Molesworth, 2009) while throwing away products brings easiness that saves time and effort (Bianchi&Birtwistle, 2010). Products disposal outside of household by giving away, throwing away, or selling them might give spaces in bedroom and cupboard as well as bring functional value (Department for Environment Food and Rural Affairs, 2008).

Donating to Charity Disposal Behaviour

According to Türe (2014), consumers feel better after donating goods they no longer use. Donation is made when clothes are given to an organisation rather than given to friends or family. These organisations are mostly non-profit with charity purpose while some others might be for-profit organisations. There is no economic benefit to donors. Reasons for donating clothes include the unwillingness to waste clothes, helping the poor, and considering environmental aspects (Ha-Brookshire and Hodges, 2009).

Relationship between Variables

Awareness of the Environment and Giving to Family or Friends Disposal Behaviour

Environmental awareness factors influence the act of disposal carried out by consumers not to damage the surrounding environment by providing products that are no longer used by family or closest friends and donating these products to charitable activities (Handriana and Ambara 2016). Psychologically, disposing of clothes by giving to friends or close family allows individuals to switch to new life stages such as getting variations, avoiding waste and feeling ethical or moral benefits to help someone (Baker, 2011)

H1: Awareness of the environment positively impacts giving to family or friends disposal behaviour

Awareness of the Environment and Donating to Charity Disposal Behaviour

When consumers dispose of products that have not been used and do not want to damage the environment, consumers will provide these products to people who are more in need without expecting a reward or commonly called donating unused products to organisations or charitable activities. Donations are used when clothing is given to the organisation, not to friends or family. These organisations are usually non-profit with charity goals without economic benefits for donors (Morgan and Birtwistle, 2019). Reasons for donating clothing include not wanting to waste clothes to use, helping poor people and, to a small degree, also environmental considerations (Ha-Brookshire and Hodges, 2009).

H2: Awareness of the environment positively impacts donating to charity disposal behaviour.



Recycling Behaviour and Economic Disposal Behaviour

Consumers who will dispose of their unused products by recycling such as reuse or reuse items that can still be used will prefer to dispose of these unused products by selling through different channels such as flea markets or social media (Laitala, 2014). The products it provides profits for consumers who later from the sale can be repurchased that will be used to meet current or future needs or commonly referred to as economic reasons. Economical disposal behaviour is also expected to have functional value for others and not to waste unused products (Department for Environment Food and Rural Affairs, 2008). Unwanted product sales are one of the recycling behaviours that produce monetary value for the owner so that consumers can buy other products needed (Cuc and Vidovic, 2011).

H3: Recycling behaviour positively impact economic disposal behaviour

Recycling Behaviour and Giving to Family or Friends Disposal Behaviour

Consumers who are concerned about the environment are more likely to make efforts to dispose of their products in ways that do not damage the environment (Türe, 2014). Recycling and reuse are useful for economic and social aspects of sustainability, such as work and income from resale textiles (Morgan and Birtwistle, 2019). One way to dispose of by not damaging the environment is by reusing (Handriana and Ambara, 2016). One of the reuses that can be done is by giving to family or close friends. This behaviour is chosen by mothers who have babies on the grounds that the product is given unused can increase relational value with recipients of unused products.

H4: Recycling behaviour positively impacts giving to family or friends disposal behaviour.

Recycling Behaviour and Donating to Charity Disposal Behaviour

Recycling behaviour is positively related to disposal methods such as donating to charity (Department for Environment Food and Rural Affairs, 2008). This means that consumers who usually recycle plastic, glass or paper are more likely to recycle their clothes. According to Bianchi and Birtwistle (2010), consumers feel better after donating clothes that they no longer use.

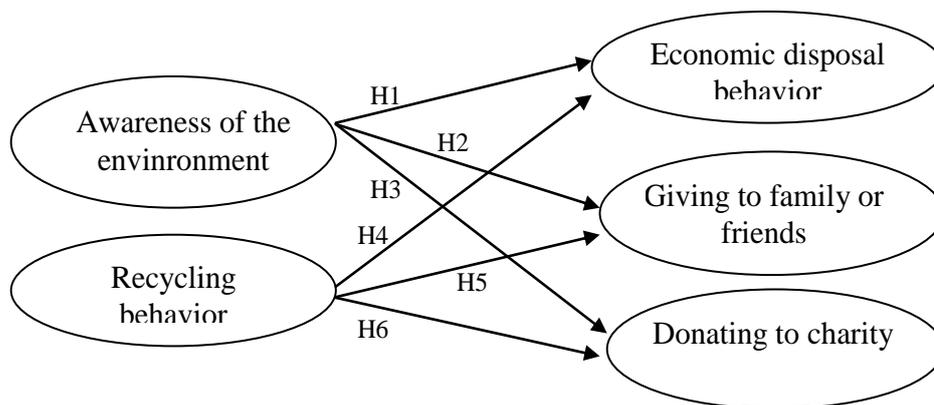
H5: Recycling behaviour positively impacts donating to charity disposal behaviour.

Awareness of the Environment and Recycling Behaviour

There is a significant positive relationship between environmental consumer awareness and sustainable disposal behaviour (Department for Environment Food and Rural Affairs, 2008). This means that consumers who are aware of environmental issues are more likely to make efforts to dispose of their textile clothing in ways that do not damage the environment. Consumers who are aware of environmental damage will dispose of their unused products by recycling these items with the assumption that recycling will not damage the environment.
H6: Awareness of the environment positively impacts recycling behaviour.

Model of Analysis

Figure 1. Model of analysis



Research Method

In this study, exogenous variables include awareness of the environment and recycling behaviour while endogenous variables include economic disposal behaviour, giving to family or friends' disposal behaviour, and donating to charity disposal behaviour. Indicators within each variable are measured using a 5-point Likert scale. Moreover, the sampling technique used is purposive sampling. This study involved 216 respondents. Criteria for the selected sample are 18 to 45-year-old housewives. The analytical technique used in this research is Structural Equation Modelling (SEM).

Result and Discussion

Analysis of Measurement Model

In the measurement model, convergent validity test, discriminant validity, and reliability test are done. The result of the tests can be seen in the table below. The data processing shows that all research indicators have standardised regression weight of above 0.6, which indicate that convergent validity for all research variables is fulfilled. Reliability test also shows that all variables have Average Variance Extracted (AVE) of above 0.5. This indicates that all variables in this study are reliable. Meanwhile, the convergent validity test result can be seen in Table 1. This table shows that the square root value of AVE is higher than the *correlation* among latent variables. It can be concluded that indicators are different from other indicators, and discriminant validity is fulfilled.

Table 1: Result of Correlation among Each indicator and Square Root AVE

Variable	AE	RB	ED	DD	GD	AVE
AE	0.725	0.576	0.558	-0.041	0.469	0.525
RB	0.576	0.774	0.694	0.088	0.525	0.599
ED	0.558	0.579	0.755	-0.019	0.571	0.570
DD	-0.041	0.088	-0.019	0.745	-0.010	0.555
GD	0.469	0.525	0.571	-0.010	0.742	0.551

Analysis of Structural Model

Goodness of Fit Model Test

Table 2: Result of Goodness of Fit Full Structural Model

Criterion	Critical Value	The Result of Testing Model	Result
Chi-Square	Expected to be small	181.917	Not Good
CMIN/DF	≤ 2.00	1.366	Good
RMSEA	≤ 0.08	0.041	Good
GFI	≥ 0.90	0.922	Good
AGFI	≥ 0.90	0.888	Not Good
TLI	≥ 0.95	0.969	Good
CFI	≥ 0.90	0.976	Good

Based on Table 2, the structural model fit shows CMIN/DF, RMSEA, GFI, TLI, and CFI. These indexes of fitness show and conclude that the structural models fulfilled the criterion of goodness of fit (GoF).

Causal and Hypotheses Test

Table 4: Result of Causal and Hypotheses Test

Hypothesis	Explanation	C.R	P-value	Result
H1	Awareness of the Environment → Giving to family or Friends Disposal Behavior	3.254	0.001	Supported
H2	Awareness of the Environment → Donating to Charity Disposal Behaviour	-0.940	0.347	Rejected
H3	Recycling Behaviour → Economic Disposal Behaviour	6.926	0.000	Supported
H4	Recycling Behaviour → Giving to family or Friends Disposal Behavior	4.171	0.000	Supported
H5	Recycling Behaviour → Donating to Charity Disposal Behaviour	1.008	0.313	Rejected
H6	Awareness of the Environment → Recycling Behaviour	6.232	0.000	Supported

Table 4 shows that four hypotheses, which are H1, H3, H4, and H6, are supported. Meanwhile, H2 and H5 are unsupported. The four supported hypotheses have a p-value of under 0.05 and critical ratio (CR) of above 1.65.

Discussion

Awareness of the environment positively impacts giving to family or friends disposal behaviour on mothers who have disposed of their baby equipment products by selling, giving away, or donating those baby equipment products. Stern(2000) defines environmentalism as the tendency to act on pro-environment purpose. Pro-environment behaviour includes purchase and disposal behaviour in consuming products. Environmental buying includes buying environmentally friendly products (green products), while environmental disposal behaviour focuses on the reduction of household waste and promoting recycle and reuse behaviour (Joung and Park, 2013). This shows that mothers with unused baby equipment products will give those products to family or close friends as a reason for those mothers to throw away products without damaging the environment (Handriana and Ambara, 2016).

In this study, the second hypothesis is unsupported, which means that awareness of the environment has no impact on donating to charity behaviour. This might happen due to consumers' awareness of the environment have no impact on charity giving. This study is supported by a study of Cruz-Cárdenas et al., (2016) who stated that people with awareness of the environment do not have to act pro-environment if they saw that others show no such behaviour. This finding is explained by the fact that donating to charity is a relatively new phenomenon with various findings on previous researches in terms of age in donating behaviour (Winarno and Tjahjadi, 2017).

Recycling behaviour positively impacts economic disposal behaviour. Previous researches show that consumers with a positive attitude towards recycling will dispose of their unused products in a way that will not damage the environment, such as reselling those products through social media, giving them to close family, or donating those (Handriana and Ambara, 2016). Selling unwanted products is one recycling behaviour that brings monetary value to the owner so that consumers can buy other products needed (Cuc and Vidovic, 2011). Therefore, a mother who disposes of their baby equipment products that they no longer use will reduce unused products that fill spaces within their houses and replace them with money by selling those products directly or through social media to buy baby equipment products that are needed currently or in the near future.

The fourth hypothesis in this research is supported, which means that recycling behaviour is proven true to have a positive impact on giving to family or friends disposal behaviour. Consumers with a positive attitude towards recycling will dispose of their unused products in a way that will not damage the environment such as reselling them through social media, giving them to close family, or donating the unused products (Handriana and Ambara, 2016). Disposing of unused products by giving them to friends or close family can save the current owner's time and effort (Bianchi and Birtwistle, 2010). Therefore, disposed goods will bring functional value which is freeing spaces in bedrooms and cupboards (Department for Environment Food and Rural Affairs, 2008). Moreover, clothing disposal by giving them to friends and family gives the individual the chance to switch to a new life phase, such as getting variation, avoiding excessive spending, and receiving ethical or moral benefit by helping others (Baker, 2011).

Differ from previous research (Department for Environment Food and Rural Affairs, 2008) which state that recycling behaviour positively impacts donating to charity activity, this study shows that recycling behaviour has no impact on donating to charity disposal behaviour. This might happen due to a mother who wishes to dispose of unused baby equipment products prefers storing them rather than donating them since those baby equipment products might have certain values to the mother so that she might prefer storing those products than disposing of them.

The sixth hypothesis testing shows that awareness of the environment positively impacts recycling behaviour on mothers who have never disposed of their baby equipment products by selling, giving away, or donating unused baby equipment products. Environmental disposal behaviour focuses on reducing household waste and promoting recycling and reusing activities (Joung and Park, 2013). This shows that a mother who wishes to dispose of their unused baby equipment products and has an awareness of the environment will choose to dispose of those products in a way that will not damage the environment, which is by recycling those unused products. Consumers with a positive attitude towards recycling will



dispose of their unused products in a way that will not damage the environment, such as reselling those products through social media, giving them to close family, or donating those (Handriana&Ambara, 2016).

Study Implications

In developed countries, social awareness to act environmentally friendly is starting to grow, which is why the topic of green behaviour is an interesting theme to be studied in those countries. In this study, research samples are women (mothers), and future researches are suggested to involve the husbands as respondents in the research. Meanwhile, business owners of baby equipment products need to involve themselves in facilitating to resell unused baby equipment products to other consumers with the intention to buy those second-hand products. Charity institutions can start developing campaigns or public service announcement regarding societal awareness to donate their unused baby equipment products.



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