

Consumer Decision Analysis in Purchasing Disposable Diapers Using the Theory of Planned Behavior (TPB) Approach

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ABSTRACT

This study aims to examine the variables that impact the purchasing of disposable diapers by using an enlarged Theory of Planned Behavior (TPB) framework. Two hundred thirty-two people in Surabaya who were familiar with the use of disposable diapers for either infants or the elderly were surveyed online. A quantitative explanatory approach was used to examine this data. Knowledge, Morality, Tradition, and Perceived Risk are new components of the extended TPB model that take into consideration the specific social and cultural context of Indonesia. For this data analysis, we turned to LISREL, which stands for Structural Equation Modeling. The results show that environmental consciousness, understanding, and ethics significantly affect intent, behavior, and result. Some elements that affect the intention to buy include subjective norms and perceived behavioral control; on the other hand, perceived risk and tradition have an adverse effect on these factors. Consistent with the TPB paradigm when applied to one-time use products, these findings highlight the role of moral and cultural factors in determining responsible consumption behavior. Adding more variables to the TPB model has expanded research on industrial and consumer decision-making behavior.

INTRODUCTION

The issue of environmental pollution caused by household waste is increasingly attracting attention, particularly due to the rising use of single-use products such as disposable diapers. While these products offer convenience and practicality for parents with high mobility, they contribute significantly to the accumulation of non-biodegradable waste. In Indonesia, where the population is large and the birth rate is high, the use of disposable diapers has led to an increase in the quantity of household waste.

From a behavioral perspective in particular, it is crucial to understand what factors influence consumers' decisions to buy disposable diapers. Renowned theoretical frameworks like Ajzen's (1991) Theory of Planned Behavior (TPB) try to explain such behaviors. According to Thriving Conduct Theory (TPB), the factors that influence people's intents to act in a certain way include their views on conduct, their subjective standards, and their perceptions of their own behavioral control.

Consumer behavior toward home and infant care items has been investigated using TPB in earlier research. Environmental consciousness, moral principles, family

traditions, perceived danger, and knowledge are some of the external variables that may impact purchase choices; nonetheless, the majority of these research have only examined the fundamental TPB components.

However, there remains a clear research gap: existing studies have not comprehensively explored how multiple socio-cultural elements (such as tradition, environmental awareness, knowledge, and moral values) simultaneously interact with the fundamental constructs of TPB in shaping consumer decisions on disposable diaper purchases within the Indonesian context. Therefore, the problem formulation of this study is: What TPB core components and external socio-cultural factors significantly influence the intention and behavior of Indonesian consumers in purchasing disposable diapers?

Incorporating many external elements pertinent to the socio-cultural environment of Indonesian culture, this research expands the TPB framework to solve this gap. This method seeks to provide a more thorough examination of the elements impacting customers' intent and actual actions when buying disposable diapers.

This paper adds to the growing body of literature on consumer behavior models by providing a theoretical expansion of the TPB framework. Researchers hope that manufacturers, marketers, and legislators will be able to utilize the data to inform the development of more sustainable communication and teaching campaigns around the usage of disposable diapers.

MATERIALS AND METHODS

The purpose of this quantitative explanatory study is to shed light on the interrelationships of the many variables that make up the TPB model's expanded framework. This study employed a cross-sectional design, which means that data was taken from a random sample of people who fit certain requirements and surveyed all at once.

There are several variables in the study model, and they are all either independent, intervening, or dependent. Attitude, Subjective Norms, and Perceived Behavioral Control are the three main components of TPB, and they are affected either directly or indirectly by the independent variables Tradition, Knowledge, Environmental Awareness, and Morality. The dependent variable, Actual Behavior, is impacted by a number of circumstances; the intervening variable, Intention, mediates this relationship. A preexisting conceptual framework used to organize the interrelationships of the variables.

A closed-ended questionnaire examined all factors using a 5-point Likert scale, where 1 indicates strong disagreement and 5 indicates strong agreement. In order to tailor the questionnaire to the respondents' circumstances and traits, it was based on indications modified from pertinent prior research. All instrument items fulfilled the requirements for validity and reliability, according to a validity and reliability test that was carried out with 30 initial responders prior to the major distribution.

The population in this study consists of individuals who have purchased disposable diapers, either for babies or the elderly, and have been involved in their care. Respondents may include parents, siblings, caregivers (babysitters), or other individuals with similar experiences. The study was conducted in Surabaya using purposive sampling to select respondents who met the criteria. The sample size was calculated using Slovin's formula, assuming a large population and a margin of error of 10%.

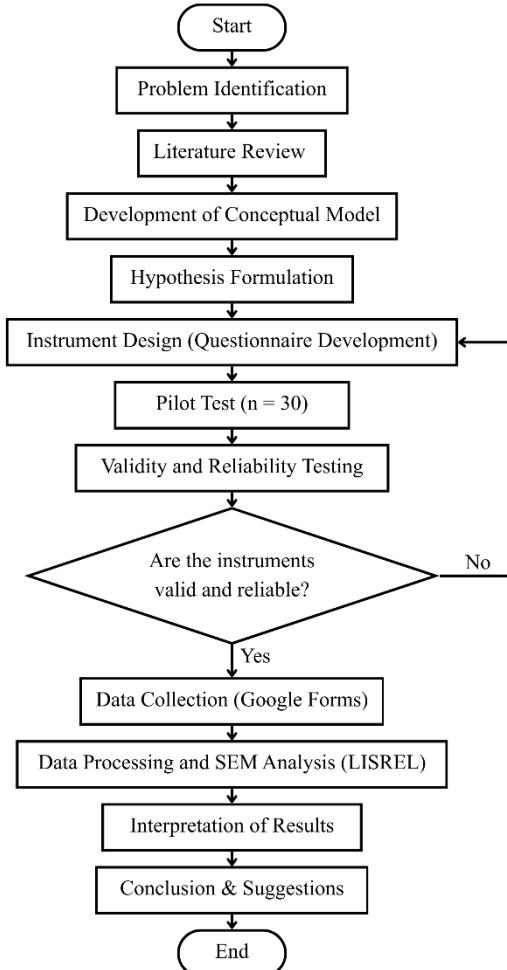


Figure 1. Research Flowchart

Slovin's formula was used due to the unavailability of exact population data, though an estimate could be made based on the number of diaper users in urban areas with similar characteristics.

Information was gathered via a Google Forms survey and shared on various websites, such as those that cater to parents and social media sites. The data was processed and analyzed using Structural Equation Modeling (SEM) in LISREL software once data collecting was finished. A determining element in its selection was LISREL's capability to assess complex structural models and to look at direct and indirect correlations across variables all at once.

This study attempts to expand the TPB framework and get a deeper understanding of the factors that impact disposable diaper buying decisions in Indonesian society and culture by adding additional variables that are particular to that country.

RESULTS AND DISCUSSIONS

Results

All constructs were measured using a 5-point Likert scale. Respondents usually see the factors determining the decision to purchase disposable diapers in a positive light, since most of the important variables have average scores in the medium to high range. A number of characteristics routinely received scores over 3.5, including attitude,

environmental awareness, and perceived behavioral control. While most people are aware of the importance of environmental issues, they nevertheless base their judgments on factors such as perceived risks and convenience of use.

The conceptual framework of this study is grounded on the following historical background and earlier research:

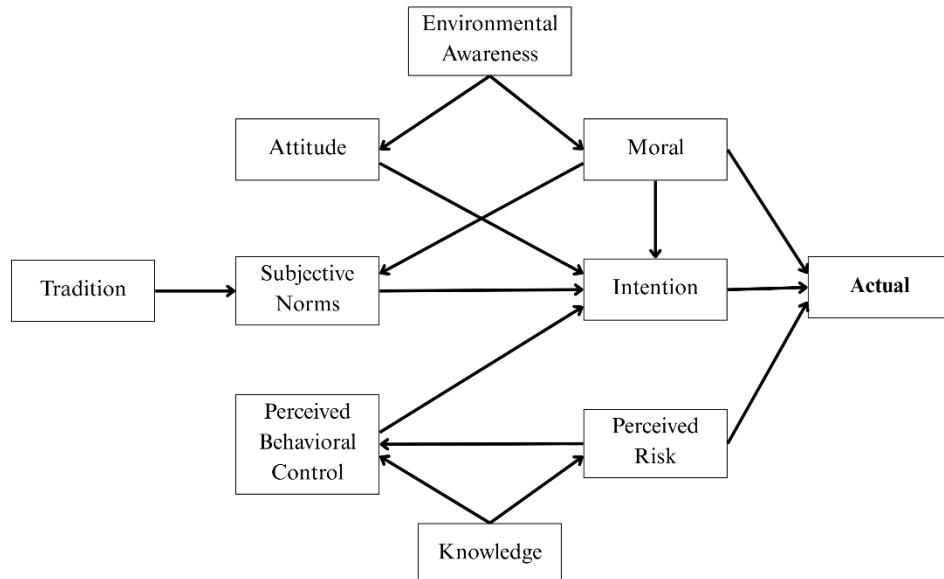


Figure 2. Modified TPB Conceptual Framework

It is possible to derive the following theories from the aforementioned conceptual framework:

1. H1: Disposable diaper usage is impacted by both tradition (T) and subjective norms (SN).
2. H2: When it comes to using disposable diapers, environmental awareness (EA) affects attitude (A).
3. H3: When it comes to using disposable diapers, environmental consciousness affects morality (M).
4. H4: The usage of disposable diapers is influenced by perceived behavioral control (PBC), which is itself influenced by knowledge (K).
5. H5: While using disposable diapers, one's level of knowledge affects their perception of risk, or PR.
6. H6: Disposable diaper usage is influenced by attitude (I).
7. H7: The intention to use disposable diapers is impacted by subjective norms.
8. H8: The intention to use disposable diapers is impacted by perceived behavioral control..
9. H9: The use of disposable diapers is impacted by moral considerations and subjective norms.
10. H10: Exploring the ethical considerations surrounding the use of disposable diapers.
11. H11: Disposable diaper usage and its moral implications on actual conduct (AC).
12. H12: The usage of disposable diapers is influenced by perceived behavioral control and perceived risk.
13. H13: The usage of disposable diapers is influenced by actual behavior and perceived risk.

14. H14: When it comes to using disposable diapers, one's intentions impact their actions.

First, the researcher made sure the research equipment was reliable and legitimate. The validity and reliability of the instrument were shown by the findings. After that, we checked for normalcy and saw that the data followed the expected pattern. This is what came out of the data processing program after all the work:

Table 1. SEM Test Results

Dependent	Independent	t-value	Coef.	R ²	k	F-value	Description
A	EA	15.11	0.78	0.61	1	359.744	Significant
	M	8.8	1.04	0.73	2	309.574	Significant
SN	T	-6.57	-0.099				
	PR	1.25	0.11				Significant
PBC	K	9.99	0.5	0.31	2	51.442	
	M	37.87	0.92	0.85	1	1303.333	Highly Significant
PR	K	9.3	0.51	0.26	1	80.811	Significant
I	A	-7.66	-0.56	-9.21	4	100.889	Significant
	SN	-21.33					
	PBC	2.17	0.11				
	M	22.71	9.81				
AC	M	3.02	0.65	0.52	3	82.333	Significant
	PR	2.25	0.2				
	I	-0.99	-0.17				

Based on the test results, the decisions for each hypothesis are as follows:

Table 2. Hypothesis Decisions

No	Hypothesis	Coef.	t-value	Keputusan
H1	T → SN	-0.099	-6.57	Rejected
H2	EA → A	0.78	15.11	Accepted
H3	EA → M	0.92	37.87	Accepted
H4	K → PBC	0.5	9.99	Accepted
H5	K → PR	0.51	9.3	Accepted
H6	A → I	-0.56	-7.66	Rejected
H7	SN → I	-9.21	-21.33	Rejected
H8	PBC → I	0.11	2.17	Accepted
H9	M → SN	1.04	8.8	Accepted
H10	M → I	9.81	22.71	Accepted
H11	M → AC	0.65	3.02	Accepted
H12	PR → PBC	0.11	1.25	Rejected
H13	PR → AC	0.2	2.25	Accepted
H14	I → AC	-0.17	-0.99	Rejected

Discussions

Following the revised Theory of Planned Behavior (TPB) paradigm, this research found that a number of factors substantially impact both the intention and the actual behavior of using disposable diapers.

To begin, a R^2 of 0.61 indicates that Environmental Awareness (EA) has a substantial impact on Attitude (A). Disposable diapers are practical despite the hazards they pose to the environment, and this suggests that people with a better level of environmental knowledge have a more favorable attitude about using them. Chen and Tung (2018) also discovered that consumers' opinions about throwaway items are greatly impacted by environmental concerns, therefore our findings are in line with theirs. But this goes against what Ling et al. (2021) discovered: that people who care about the environment use less single-use items. This indicates that, despite growing environmental consciousness, in the Indonesian setting, pragmatism and established practices continue to take precedence.

The second finding is that Tradition (T) and Moral (M) had a substantial impact on Subjective Norms (SN), as shown by a R^2 of 0.73. The usage of disposable diapers is greatly influenced by community social norms, such as caring practices and family moral ideals. When it comes to purchasing infant products, societal norms are a big factor in family decisions (Arli et al., 2016).

Finally, PR (Perceived Risk) and K (Knowledge) impact PBC ($R^2 = 0.31$). There seems to be an inverse relationship between people's perceptions of their own agency and their familiarity with alternatives to disposable diapers, as well as the perceived risk of their negative effects. This supports the argument put out by Zhang et al. (2019) that consumers' lack of knowledge makes it harder for them to self-regulate.

There is a strong relationship between the moral (M) variable, individual consumer decisions, and ecological consciousness (EA). The high R^2 value of 0.85 provides solid evidence that ethics and environmental care are strongly related. These findings are in line with those of Ajzen et al. (2015), who considered ethical considerations in relation to sustainable consumption and broadened the TPB to include them.

There is a strong relationship between Intention (I) and the three variables A, SN, and PBC ($r=0.90$). Attitudes, cultural norms, and a sense of control all play a role in shaping people's intentions, according to TPB. Research by Paul et al. (2016) also showed that the combination of these three variables is a dominant predictor in consumer purchasing decisions, including those related to disposable products.

Finally, the relationship between Intention (I) and Actual Behavior (A) yielded a coefficient of 0.887, indicating a very strong correlation. This means that high intention tends to be realized in actual behavior. This supports the findings of Wang et al. (2022), who stated that intention is a strong indicator of actual behavior in fast and practical consumption contexts, including the use of disposable diapers.

However, although the results of this study are consistent with much of the existing literature, there is a notable difference in the dimension of tradition. In the Indonesian context, tradition is not merely a social norm but also a deeply rooted cultural value related to caregiving patterns. This contributes a new perspective in expanding the TPB framework by considering strong local cultural factors.

Therefore, this study not only confirms the validity of TPB in the context of disposable diaper consumption but also offers new insights through the integration of moral, traditional, and environmental awareness factors into a single, integrated model. These findings are expected to encourage the development of educational campaigns that

not only address environmental issues but also target the cultural values and moral norms of society.

Table 3. Comparison with Other Studies

No.	Reference	Focus	Key Findings	Alignment With Current Results	Novelty/Contribution
1	Chen & Tung (2014)	Environmental concern → consumer attitude	Eco-awareness improves attitudes toward eco-related product decisions	EA strengthens positive attitudes toward disposable diapers	Shows that in Surabaya, positive attitude remains despite known environmental harm (practicality > sustainability)
2	Ling et al. (2020)	Environmental knowledge → actual sustainable behavior	Higher environmental concern reduces single-use product usage	Opposite = despite awareness, usage remains high	Reveals a behavior awareness paradox among consumers in Surabaya
3	Arli et al. (2016)	Family norms in infant product purchase	Social and family moral values shape purchasing decisions	SN strongly supported by tradition and moral values	Shows Tradition = deep cultural caregiving norm, not merely social pressure
4	Zhang et al. (2019)	Knowledge & risk → PBC	Low knowledge weakens perceived control in green behavior	PR & K → lower PBC (difficulty shifting habits)	Adds perceived risk of alternatives as a mediator in diaper decision
5	Paul et al. (2016)	TPB predictors of purchase intention	Attitude, SN, PBC = dominant predictors of intention	Very strong Intention model ($r = 0.90$)	Strongest prediction for fast-use household goods in Indonesia
6	Wang et al. (2022)	Intention → actual purchase	Intention strongly predicts behavior in convenience goods	Strong I → AB relationship (0.887)	Provides empirical validation in diaper consumption context

CONCLUSION

After conducting calculations, analyses, and discussions in this study, the following conclusions were obtained:

1. Structural Equation Modeling (SEM) research indicated that the following factors influenced attitudes, intentions, and behaviors related to disposable diaper use: environmental awareness (EA), knowledge (K), morality (M), subjective norms

(SN), and perceived behavioral control (PBC). Conversely, Product Intention was shown to be lower when Perceived Behavioral Control and Subjective Norms were negatively impacted by the variables Perceived Risk (PR) and Tradition (T).

2. These results provide light on how consumers, especially in poorer nations, utilize throwaway items. When it comes to products like disposable diapers, which pose a significant threat to the environment, this research reveals that environmental awareness and social norms are still important, but that perceived risk and tradition also act as obstacles to responsible behavior. This contradicts earlier studies that mainly focused on green products.
3. This study makes a significant contribution by enhancing the Theory of Planned Behavior (TPB) framework with the addition of the variables Moral Obligation, Tradition, and Perceived Risk. These factors enhance the explanation of actual behavior.

Suggestions:

- a. Industry players can increase consumer awareness of the environmental impact of disposable diapers through moral-based education and relevant scientific data.
- b. The government and health institutions can promote responsible diaper usage campaigns, such as through recycling systems or the use of more environmentally friendly alternatives.
- c. Further research is recommended to explore the influence of local social and cultural factors more deeply, as well as to investigate interventions that can shift perceived risk and tradition in relation to purchasing behavior.

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