

Determinants of intention and behavior of responsible consumption through reduce waste generation in Thailand

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Abstract

The purpose of this research was to investigate the determinants of intention and behavior of responsible consumption through reduce waste generation in Thailand. Reduce waste generation is one of the targets under Sustainable Development Goal 12 (SDG12), responsible consumption and production. The four components in reducing waste generation under this study are prevention, reduction, recycling, and reuse. An analysis was conducted by employing the theory of planned behavior (TPB) model that examined associations among attitude, subjective norms, perceived behavioral control, intention, and behavior. Additionally, knowledge about waste management was included in the TPB. The results were obtained based on the survey data from 174 participants in Thailand during May 2023. Partial least squares structural equation modeling (PLS-SEM) was employed to examine the path associations between each variable in the research framework. The evidence from this study was beneficial to understand how the intention and behavior of Thai people toward reduce waste generation are determined by attitude, subjective norms, perceived behavioral control, and households' knowledge on waste management. More importantly, it was beneficial for policy makers to form optimal strategies aimed to promote the intention and behavior to reduce waste generation and to further achieve responsible consumption under SDG12.

Keywords: Sustainable Development Goal, Responsible Consumption, Reduce Waste Generation, Theory of Planned Behavior, PLS-SEM.

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ปัจจัยที่มีผลต่อความตั้งใจและพฤติกรรมในการบริโภคที่มีความรับผิดชอบโดยการลดการสร้างขยะ การศึกษาในประเทศไทย

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บทคัดย่อ

วัตถุประสงค์ของงานวิจัยนี้ คือ การสำรวจปัจจัยที่มีผลต่อความตั้งใจและพฤติกรรมในการบริโภคที่มีความรับผิดชอบโดยการลดการสร้างขยะ การศึกษาในประเทศไทย การลดการสร้างขยะเป็นหนึ่งในเป้าหมายภายใต้เป้าหมายการพัฒนาที่ยั่งยืนที่ 12 ที่เน้นการบริโภคและการผลิตที่รับผิดชอบ การลดการสร้างขยะภายใต้งานวิจัยนี้ประกอบไปด้วยสี่ส่วนประกอบ คือ การป้องกัน, การลด, การรีไซเคิล, และการนำกลับมาใช้ใหม่ การวิเคราะห์ในงานวิจัยใช้ทฤษฎีพหุติกรรมตามแผน ซึ่งตรวจสอบความสัมพันธ์ระหว่างปัจจัยต่าง ๆ ต่อความตั้งใจและพฤติกรรม นอกจากปัจจัยในทฤษฎีพหุติกรรมตามแผนนี้ งานวิจัยนี้ได้เพิ่มปัจจัยอีกหนึ่งปัจจัยคือ ความรู้เกี่ยวกับการจัดการขยะ ผลการวิจัยได้วิเคราะห์จากข้อมูลการสำรวจจากผู้ตอบแบบสอบถามจำนวน 174 คนในประเทศไทย มีการวิเคราะห์โดยใช้วิธีทางสถิติ PLS-SEM (Partial least squares structural equation modeling) ในการตรวจสอบความสัมพันธ์ระหว่างตัวแปรแต่ละตัวแปรในกรอบงานวิจัย ข้อมูลจากการศึกษานี้ เป็นประโยชน์ในการเข้าใจว่าความตั้งใจและพฤติกรรมของคนไทยในการลดการสร้างขยะถูกกำหนดโดยทัศนคติ มาตรฐานทางสังคม การรับรู้ว่าพหุติกรรมมีผลในระดับใด และความรู้ของครัวเรือนเกี่ยวกับการจัดการขยะ ผลจากการวิจัยนี้มีประโยชน์สำหรับผู้บริหารนโยบายภาครัฐในการจัดแผนกลยุทธ์ที่เหมาะสมเพื่อส่งเสริมความตั้งใจและพฤติกรรมในการลดการสร้างขยะและประสบการณ์การบริโภคที่มีความรับผิดชอบเพื่อให้ประเทศไทยบรรลุเป้าหมายใน SDG12 ได้ในอนาคต

คำสำคัญ: เป้าหมายการพัฒนาที่ยั่งยืน การบริโภคที่มีความรับผิดชอบ การลดการสร้างขยะ ทฤษฎีพหุติกรรม ตามแผน โมเดลสมการโครงสร้าง

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Introduction

The waste production has become a major global environmental concern since it contributes to the depletion of natural resources, pollution, and climate change. Conscious consumption and production in the context of sustainable development are essential for achieving a more sustainable future. According to the United Nation's Sustainable Development Goals Report (2023), Sustainable Development Goal 12 (SDG 12), promotes responsible consumption and production patterns, including waste reduction. Waste reduction incorporates numerous strategies, including prevention, reduction, recycling, and reuse, which are crucial for mitigating the environmental impact of waste disposal and promoting a circular economy.

Like many other nations, Thailand confronts numerous waste management challenges. Due to rapid urbanization, industrialization, and shifting consumption patterns, the country is experiencing a substantial increase in refuse production (Muttamara et al., 2004). To address these challenges, a comprehensive comprehension of the factors that influence the intentions and behaviors of individuals in relation to responsible consumption and waste reduction is necessary.

The theory of planned behavior (TPB) has been extensively utilized in environmental behavior research, including waste reduction (Bamberg et al., 2007). Ajzen (1991) suggests that the TPB suggests that intentions are influenced by three primary constructs: attitude, subjective norms, and perceived behavioral control, which influence actual behaviors. Attitude is an individual's positive or negative evaluation of behavior; subjective norms include social influences and perceptions of what others believe; and perceived behavioral control is an individual's perception of the behavior's ease or difficulty. Additionally, knowledge about waste management was included in the TPB based on Gusti (2016), Wang et al. (2020) and Obuobi et al. (2022). Examining these factors in the context of responsible consumption and waste reduction in Thailand can shed light on the factors that influence the intentions and behaviors of individuals in this domain.

Therefore, this study aims to investigate the determinants of intention and behavior in Thailand regarding responsible consumption through waste reduction. The relationships between attitude, subjective norms, perceived behavioral control, knowledge, intention, and behavior will be investigated based on the planned behavior model theory. By examining the relationships between attitude, subjective norms, perceived behavioral control, knowledge about waste management, intention, and behavior, this study sheds light on the determinants of individuals' responsible consumption behaviors, particularly in waste generation reduction.

In May of 2023, a survey was conducted with 176 participants in Thailand to achieve the research objectives. Participants from diverse backgrounds and locations were selected to ensure a representative sample. The survey instrument included measures of waste reduction-related attitudes, subjective norms, perceived behavioral control, knowledge, intention, and behavior. The survey data were analyzed with Partial Least Squares Structural Equation Modeling (PLS-SEM), a statistical method appropriate for examining complex relationships between latent constructs (Hair et al., 2021). PLS-SEM permits the examination of both direct and indirect effects, providing a comprehensive comprehension of the relationships between variables within the research context.

The findings of this research will contribute to the existing body of knowledge by providing empirical evidence on the determinants of intention and behavior in Thailand regarding responsible consumption through waste reduction. It will increase our comprehension of how attitudes, subjective norms, perceived behavioral control, and knowledge about waste management influence the intentions and behaviors of Thai individuals toward waste reduction. Understanding the factors that influence the intentions and behaviors of individuals in this context is essential for policymakers, environmental organizations, and other stakeholders in formulating effective strategies to promote responsible consumption and waste reduction. Identifying the main determinants for promoting responsible consumption and waste reduction among Thai citizens enables the development of policy initiatives and interventions. In addition, this study will shed light on how Thailand can advance in its pursuit of SDG 12 and contribute to the attainment of SDG12 and a more sustainable future for Thailand.

Literature review

Attitude, subjective norms, perceived behavioral control, knowledge, intention, and behavior are the key constructs investigated in this literature review. This review seeks to provide a solid foundation for understanding the determinants of responsible consumption and waste reduction behavior in Thailand by examining the findings from previous studies.

Attitude:

Attitude influences the intentions and actions of individuals toward responsible consumption and waste reduction. (Tarkiainen & Sundqvist, 2005) Previous research has consistently demonstrated that positive attitudes toward waste reduction are associated with an increased likelihood of engaging in responsible consumption behaviors. Environmental awareness and concern are significant motivators for positive attitudes toward waste reduction (Chen, 2017). Individuals with a strong sense of environmental responsibility are likelier to adopt favorable attitudes and engage in waste reduction behaviors (Chen & Tung, 2014). Moreover, economic factors, such as the perceived cost-effectiveness of waste reduction behaviors, have been found to influence the attitudes of individuals toward waste reduction (Evans, 2011).

Subjective Norms:

Subjective norms, which refer to an individual's perception of social expectations and influences, have been identified as crucial predictors of responsible consumption and waste reduction behaviors. Social norms have a significant influence on the intentions and behaviors of individuals in a variety of contexts (Fritzsche et al., 2018). Social norms can be influential in waste reduction through peer pressure, social approbation, and the influence of significant others (Tarkiainen & Sundqvist, 2005). Individuals are more likely to consume responsibly if they perceive that significant others, such as family and acquaintances, support and engage in waste reduction practices (Chen, 2017).

Perceived Behavioral Control:

Perceived behavioral control refers to individuals' confidence in their ability to engage in waste-reduction behaviors. According to numerous studies, individuals' intentions and actions are positively influenced by their perceptions of self-efficacy, competence, and ease of conducting waste reduction behaviors (Bamberg et al., 2007). Individuals' perceived behavioral control is influenced by access to recycling facilities, knowledge of waste management

practices, and personal skills and resources (Evans, 2011). Cultural factors and societal support for waste-reduction initiatives influence individuals' perceptions of control over their waste-reduction behaviors (Chen, 2014).

Knowledge:

The inclusion of knowledge on studying the intention of sustainable waste management behavior in elementary school student under the framework of the Theory of Planned Behavior was conducted by Gusti (2016). An analysis based on the data collected in Indonesia was done by Structural Equation Modeling (SEM) and the results of this study revealed that the knowledge about sustainable waste management had a significant impact on attitudes towards sustainable waste management. In addition, knowledge and attitudes towards sustainable waste management significantly affected the intention and behavior of sustainable waste management. These findings regarding the significance of waste management knowledge in the theory of planned behavior in different samples were also presented in Wang et al. (2020) and Obuobi et al. (2022) who conducted the studies in China and Ghana respectively.

Intention and Behavior:

A vital mediator between attitudes, subjective norms, perceived behavioral control, and actual waste reduction behaviors is intention. According to previous research (Bamberg et al., 2007), there is a positive association between intentions and actions. Individuals with deeper intentions to engage in behaviors that reduce waste are likelier to put those intentions into practice. Individuals' intentions are influenced by attitudes, subjective norms, and perceived behavioral control, shaping their responsible consumption behaviors (Ajzen, 1991).

Determinants of Responsible Consumption and Waste Reduction in Thailand:

A few studies have investigated the determinants of responsible consumption and waste reduction in Thailand. Environmental concern, awareness, and knowledge have positively impacted waste reduction attitudes and intentions (Sugathan, 2019). In addition, subjective norms, such as social support and the influence of significant others, have been identified as essential factors influencing waste reduction behaviors among Thai individuals (Vantamay, 2018). In Thailand, perceived behavioral control factors like personal skills and access to waste management infrastructure influenced people's waste reduction behaviors (Tsuzuki & Sinsupan, 2020).

The Role of Sustainable Development Goal 12:

Sustainable Development Goal 12 (SDG12), which focuses on responsible consumption and production, is essential for attaining sustainability goals and reducing waste. In Thailand, SDG12 is a framework for devising strategies and initiatives to reduce waste generation and promote responsible consumption practices (Mishra et al., 2022). The results of this study contribute to the larger goal of attaining SDG12 by shedding light on the determinants of responsible consumption in the Thai context.

The preceding literatures provides a detailed analysis of the determinants of intention and behavior regarding waste reduction and responsible consumption. According to this review, individuals' responsible consumption behaviors are determined by attitude, subjective norms, perceived behavioral control, intention, and knowledge. Previous research has shed light on the factors influencing global and Thai waste reduction practices. This information can assist policymakers, environmental organizations, and interested parties develop effective strategies to promote responsible consumption and waste reduction. By achieving SDG12 and fostering sustainable waste management practices, Thailand can contribute to a more sustainable future.

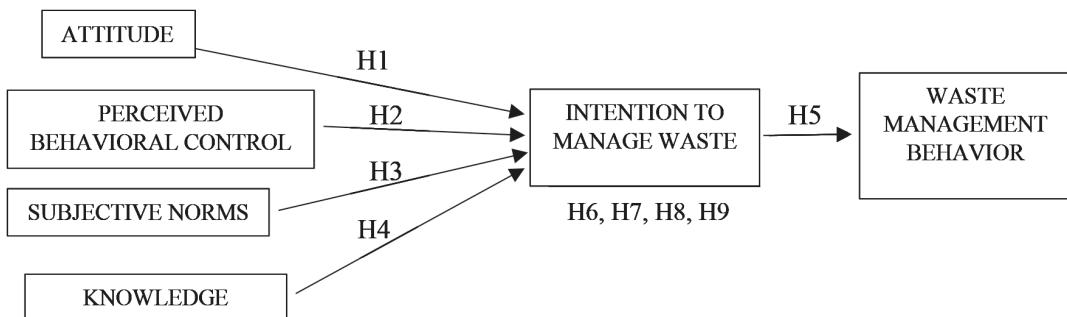


Figure 1: Illustrates the Research Framework that Summarize all the Hypotheses Under this Study.

Based on the research framework, there are nine hypotheses to be investigated in this study.

H1: Attitude has a positive significant effect on intention to manage waste

H2: Perceived behavioral control has a positive significant effect on intention to manage waste

H3: Subjective norms has a positive significant effect on intention to manage waste

H4: Knowledge on waste management has a positive significant effect on intention to manage waste

H5: Intention to manage waste has a positive significant effect on waste management behavior

H6: Intention to manage waste has a positive significant mediating association with the link between Attitude and waste management behavior.

H7: Intention to manage waste has a positive significant mediating association with the link between Perceived behavioral control and waste management behavior.

H8: Intention to manage waste has a positive significant mediating association with the link between Subjective norms and waste management behavior.

H9: Intention to manage waste has a positive significant mediating association with the link between Knowledge on waste management and waste management behavior.

Data and Methodology

In order to conduct the empirical investigation on the research framework, the primary data were obtained from a questionnaire survey distributed to household respondents who were in Thailand. The target population for this study comprised households residing in urban and suburban areas of Thailand, reflecting diverse socio-economic backgrounds. A convenient sampling method was employed and the sample size of 200 participants was determined using a power analysis to ensure the study had sufficient statistical power to detect meaningful effects, with a confidence level of 95% and an expected effect size based on previous studies in similar contexts. 200 surveys had been given out during the period of May 2023 and 174 completed and correctly filled surveys have been returned. Table 1 shows the respondent profile.

Table 1: Respondent Profile

Characteristic	Percentage
Gender	
Male	34.48
Female	65.51
Others	0.00
Age (Years)	
Less than 30 years	8.05
30 - less than 40 years	17.24
40 - less than 50 years	59.77
50 or higher	14.94
Educational level	
Lower than Bachelor degree	2.30
Bachelor degree or equivalent	35.63
Master degree	57.47
Higher than Master degree	4.60

To assess each variable under the scope of this study, scales for each variable that have been validated based on the previous literatures were applied to ensure the reliability and validity of the results. The five-point Likert scales range from 'strongly disagree' (1) to 'strongly agree' (5). The TPB measures were adopted according to the guidelines for TPB by Ajzen (2013). According to Pakpour et al. (2014), these items were employed by many previous literatures. The waste management measures included four aspects which were waste prevention, waste reduction, recycling, and reuse.

Waste management behavior was measured by 5 items; I bring my own shopping bag to buy from grocery stores or supermarkets, I bring my own water bottle when going out, I bring food box when going to buy takeaway food at the restaurant, I don't have any leftovers when having a meal, and I sort recycled wastes at home (paper, plastic, ...).

Waste management intention was measured by 3 items; I am willing to pay more to reduce the greenhouse effect (for example, paying more for clean energy), I intend to buy the products that has the environmental friendly banner, and I will recommend my friends and family members to sort recycled wastes.

Attitude towards waste management was measured by 4 items; Solving the environmental problem is the problem for government, not me (reverse item), Waste management is complicated and difficult to do (reverse item), Sorting recycled waste at home need more space so it is inconvenient to do (reverse item), and Waste problem is getting more severe and it will affect our environment and our health.

Perceived behavioral control was measured by 4 items; Although I sort recycled wastes, the waste collectors will mix it all up eventually (reverse item), Sorting recycled waste is useless (reverse item), If everyone of us reduce waste and sort recycled waste, it can solve the nation's waste problem, and Sorting recycled waste can reduce the problem of greenhouse effect.

Subjective norms was measured by 3 items; I feel that waste management is also my own responsibility, I feel that my surrounding people (family members, friends, and colleagues) expect me to sort recycled waste, and If I see that my surrounding people sort recycled waste, I will also do it.

Knowledge about waste management was measured by 3 questions that ask the respondents to select the correct answer; What is 3R waste management (A. Reduce, Reuse, Recycle or B. Rethink, Reduce, Reuse), What is the 'zero waste' concept (A. Manage waste to zero, or B. Prevent having waste from the beginning, or C. Reusing the waste), and How many years it takes for plastic natural decomposition (A. 20-50 years, or B. 50-100 years, or C. 100-450 years).

The Cronbach's alpha of each measure is provided in Table 2. The reliability of each measure is at satisfactory level since the alpha and rho C are greater than 0.7 (Hair et al., 2021).

Table 2: Cronbach's Alpha of Each Measure.

VARIABLE	Cronbach's alpha	rhoC	AVE
ATTITUDE	0.791	0.731	0.529
CONTROL	0.711	0.746	0.553
NORM	0.787	0.763	0.623
KNOWLEDGE	0.719	0.731	0.561
INTENTION	0.806	0.770	0.631
BEHAVIOR	0.839	0.750	0.585

Since the square root value of AVEs on the diagonal is higher than the Pearson correlation coefficient in the same lines, the discriminant validity is satisfied (Hair et al., 2021). In addition, the results of validity test through confirmatory factor analysis (CFA) indicate acceptable model fit. As illustrated in Table 2, the construct reliability (CR) is satisfied since each of the variables' average variance extracted (AVEs) is at satisfactory level. The value of factor loadings that belong to each measure within each variable are greater than 0.70.

Hypotheses testing

The hypotheses in this model were tested by employing the R version 4.3.1 (2023-06-16 ucrt) -- “Beagle Scouts” and seminr package. Table 3 shows the path coefficients in the model.

Table 3: Path Coefficients

	INTENTION	BEHAVIOR
R ²	0.374	0.171
Adj R ²	0.343	0.161
ATTITUDE	0.074	-
CONTROL	0.201*	-
NORM	0.441**	-
KNOWLEDGE	0.008	-
INTENTION	-	0.413**

According to Table 3, the association between perceived behavioral control and intention is positive and significant (beta = 0.201, p < 0.05). Subjective norms has significant positive impact on intention (beta = 0.441, p < 0.01). Although attitude and knowledge are insignificant. Intention has a positive strong significant impact on behavior (beta = 0.413, p < 0.01). In general, hypothesis 2, 3, and 5 are supported but hypothesis 1 and 4 are not supported.

Table 4: Bootstrapped Structural Paths in the Model.

		Original Est.	Bootstrap Mean	Bootstrap SD	2.5% CI	97.5% CI
ATTITUDE INTENTION	->	0.074	0.119	0.124	-0.125	0.355
CONTROLINTENTION	->	0.201*	0.226	0.102	0.022	0.418
NORM INTENTION	->	0.441*	0.420	0.124	0.163	0.645
KNOWLEDGE INTENTION	->	0.008	0.042	0.116	-0.159	0.270
INTENTION BEHAVIOR	->	0.413**	0.454	0.106	0.305	0.600

Table 4 shows the Bootstrapped Structural Paths in the model. To investigate hypothesis 6-9, further analysis on the mediating effects of intention on each path was conducted by bootstrapping method in R for $n = 1000$ (Tingley et al., 2014; Lee et al., 2021). and the results revealed four mediation effects. First, intention fully mediate the path from attitude to behavior since attitude significantly impact intention (beta = 0.509, $p < 0.05$) but attitude and behavior show insignificant association. An analysis of mediation effect based on Tingley et al. (2014) and Lee et al. (2021) estimated that the mediation effect of intention on the association between attitude and behavior is $0.509*0.413 = 0.210$. Second, intention fully mediate the path from knowledge to behavior since knowledge significantly impact intention (beta = 0.364, $p < 0.05$) but knowledge and behavior show insignificant association. The mediation effect of intention on the association between knowledge and behavior is $0.364*0.413 = 0.150$. Third, intention partially mediate the path from perceived behavioral control to behavior since perceived behavioral control significantly impact intention (beta = 0.743, $p < 0.05$) and perceived behavioral control significantly impact behavior but in a smaller size (beta = 0.083, $p < 0.05$). The mediation effect of intention on the association between perceived behavioral control and waste management behavior is $0.743*0.413 = 0.307$. And finally, intention partially mediate the path from subjective norms to behavior since subjective norms significantly impact intention (beta = 0.788, $p < 0.005$) and subjective norms significantly impact behavior but in a smaller size (beta = 0.182, $p < 0.05$). The mediation effect of intention on the association between subjective norms and waste management behavior is $0.788*0.413 = 0.325$.

Table 5: Bootstrapped Total Paths.

		Original Est.	Bootstrap Mean	Bootstrap SD	2.5% CI	97.5% CI
ATTITUDE BEHAVIOR	->	0.031	0.054	0.058	-0.058	0.165
CONTROL BEHAVIOR	->	0.083*	0.103	0.055	0.005	0.213
NORM BEHAVIOR	->	0.182*	0.190	0.072	0.067	0.316
KNOWLEDGE BEHAVIOR	->	0.003	0.018	0.053	-0.080	0.118

Bootstrapped Model

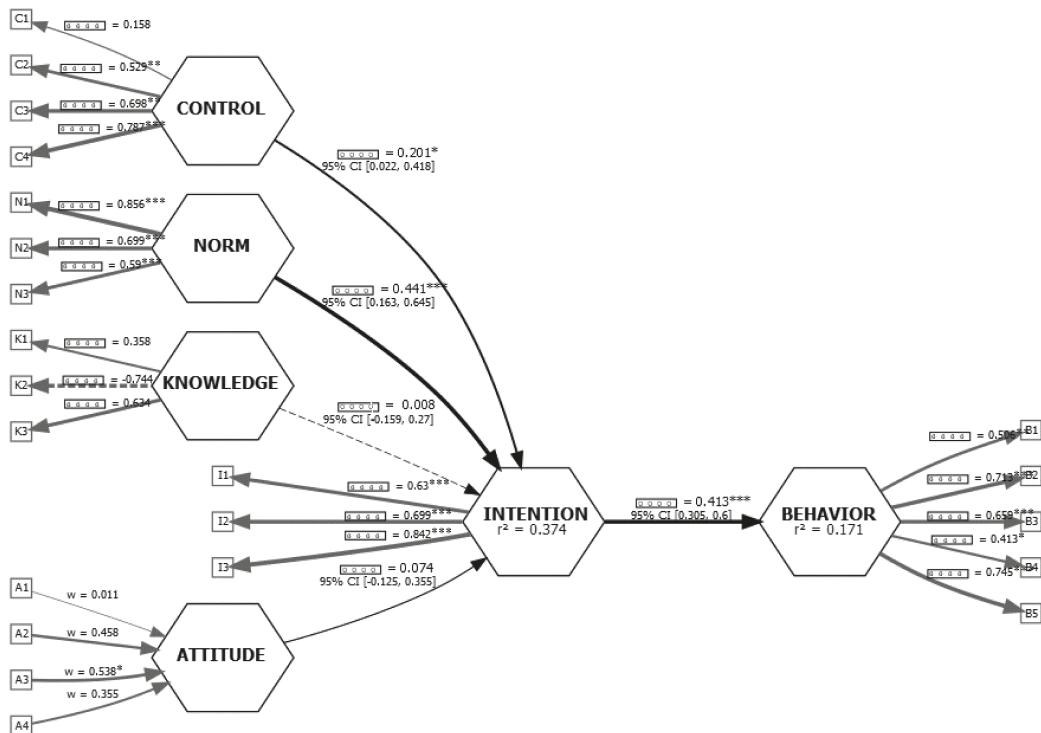


Figure 2: Bootstrapped Model

Figure 2 summarizes the results in the bootstrapped model. It shows that perceived behavioral control and subjective norms have positive significant impact on waste management intention. However, knowledge about waste management and attitude towards waste management have insignificant impact on waste management intention. And finally, waste management intention positively influenced waste management behavior.

In line with previous research by Wang et al. (2020) and Obuobi et al. (2022), which also employed the Theory of Planned Behavior (TPB) to study waste management behaviors, these findings reveal the pivotal role of subjective norms and perceived behavioral control in shaping waste management intentions and behaviors among Thai households. Similar to studies conducted in China and Ghana, our results suggest that social influences and self-efficacy are key drivers in engaging individuals in waste reduction activities.

However, unlike the findings of Chen and Tung (2014), who identified attitudes as a significant predictor of behavioral intentions toward environmentally responsible behaviors, this study did not find a strong direct impact of attitudes on waste management intentions. This discrepancy could be attributed to cultural differences in how environmental attitudes are formed and acted upon in Thailand. Additionally, whereas Gusti (2016) and Mishra et al. (2022) highlighted the importance of knowledge as a direct influencer on intention, our findings indicate that while knowledge is a critical factor, it primarily influences behavior indirectly through intention.

These alignments and disparities emphasize the need for tailored policy interventions that account for cultural nuances and specific socio-economic contexts within Thailand, reflecting the variable impact of these factors as opposed to a uniform model of behavior. Such insights are crucial for developing effective strategies that address not only behavioral intentions but also the socio-cultural frameworks that underpin these intentions.

Conclusion

In this study, the association among attitude towards waste management, perceived behavioral control on waste management, social norm on waste management, knowledge about waste management, intention to reduce waste generation, and behavior on reduce waste generation were investigated. The scope of this study was on households who were living in Thailand. The concept of reduce waste generation under this study was taken from one of the targets under Sustainable Development Goal 12 (SDG12), responsible consumption and production. It included four elements which were prevention, reduction, recycling, and reuse. The results revealed that the perceived behavioral control on waste management and social norm on waste management played an important role on intention

to reduce waste generation and this intention further improve behavior on reduce waste generation. However, attitude towards waste management and knowledge on reduce waste generation did not have a significant role on intention. In addition, intention acted as a significant mediator between influential factors and behavior on reduce waste generation. The study contributes theoretically by adding empirical evidence to support the theory of planned behavior especially in the context of reduce waste generation by households. In addition, it contributes practically by suggesting the policy makers how they can enhance behavior of household on reduce waste generation to achieve the responsible consumption and production target in the SDG12, in specific, to motivate household behavior on waste management by emphasizing on campaigns that will increase the perceived behavioral control and subjective norms in this context.

Limitations in this study are as follows. First, since the scope of the study is on the households located in Thailand, the surveys were collected only from the specific group of people therefore the results from analysis could only reflect the type of households under the scope of this study. Second, the study applies quantitative method but there was no study on qualitative aspect therefore, the results from analysis provide the evidence in term of which factors have significant impact on the behavior to reduce waste generation but not the knowledge about the explanation why the factors are significant, or why some factors are not significant, or whether there is any other possible factor that should be included in the model. And third, the partial least squared is a statistical method that assumes linear relationship so the results from this study do not capture the possibility that the factors in the model may have any non-linear relationship.

Although the scope of the study focused on the practice of households in Thailand, the results from this study could be applied to other countries with similar characteristics for example, the developing countries that are also affected by the waste problems.

In general, the results from this study were aligned with other previous literatures that investigated this topic in other geographical locations across different countries. In specific, the results showed that perceived behavioral control and subjective norms were positively significant to households' intention and behavior on reduce waste generation. Further, intention also played significant mediating role on the relationship from attitude,

perceived behavioral control, subjective norms, and knowledge to behavior. In another word, when households have higher belief that their actions matters (perceived behavioral control), they will tend to perform more reduce waste generation. In addition, their behavior on reduce waste generation can also be motivated by their friends, colleagues, and family members (social norm). However, the evidence from this study showed that the intention was not significantly enhanced by the attitude and knowledge on reduce waste generation. Although intention served as full mediator between these two factors and reduce waste generation behavior. As a result, it could be the area for further study on what policy makers could do to promote households' intention and behavior on waste management.

While the findings align with previous studies that have examined waste management behavior, this study makes a significant contribution by situating its research within the specific cultural and socio-economic context of Thailand. Unlike many studies conducted in Western or different Asian contexts, which often emphasize different environmental or economic motivators, this research investigated into how perceived behavioral control and subjective norms uniquely influence Thai households. The insights gained highlight the critical role of social influences in Thai culture, particularly the significance of community and familial expectations in driving responsible consumption behaviors. Furthermore, the study highlights the potential for culturally tailored policy interventions, which could lead to more effective strategies in enhancing responsible consumption practices in line with Sustainable Development Goal 12. This context-specific analysis provides actionable insights for policymakers and contributes to a growing body of international research by adding depth and regional specificity.

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