Analysis of Factors Affecting to Waste Behavior of Public in Hanoi

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INTRODUCTION

In the context of Vietnam and other developing countries where infrastructural progress has not yet catching up with the accelerated urbanization rate, there should be more efforts at waste separation and recycling from the public. This study discussed factors affecting waste separation behavior in Hanoi.

METHODOLOGY

The hypothesized model (Figure 1) is tested by adopting a quantitative survey targeted Hanoi city. In term of individual influencing factors, the hypotheses are based on the "Needs-Opportunities-Abilities" Model of Consumer Behavior by Vlek et al., 1998. Two new societal elements that are introduced in this model are "Sense of Community" and "Trust in Authority", which reflect the community structure and demographical changes in different areas of Hanoi.
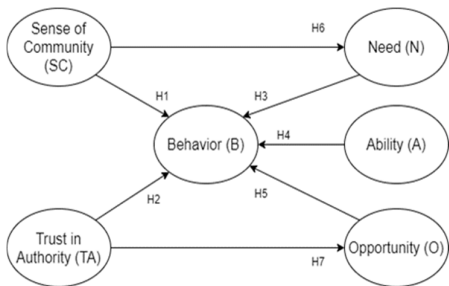

Figure 1 Hypothesized model of factors influencing waste separation

Hypothesis 1 (H1) SC has effect on waste separation behavior.

Hypothesis 2 (H2) TA factor effects people's behavior.

Hypothesis 3 (H3) Need has effect on behavior.

Hypothesis 4 (H4) Ability effects people's behavior.

Hypothesis 5 (H5) Opportunity has effect on behavior.

Hypothesis 6 (H6) SC predicts need. Need mediates the effect of SC and behavior.

Hypothesis 7 (H7) TA predicts opportunity. Opportunity mediates the effect of TA and behavior.

Survey was carried out from October 2nd, 2020 to October 16th, 2020, for 20-year-old or older citizens registered on Macromill Inc. Multiple choice method and Likert rating scales were used for the questionnaire design. The final questionnaire included 12 questions that asked about respondents' waste disposal practice, opinion regarding waste management, and their demographic information. In total, 778 samples were collected.

RESULTS AND DISCUSSION

Socio-demographic characteristics

In general, the number of male respondent and female respondent were approximately equal. People in their 20s, 30s and 40s took up 32.8%, 26% and 26.7% respectively. The elder demography shared a smaller portion of the survey population compare to younger one (less than 20% for people over 50). Education level was rather high with 77% respondents at University level.

Regarding the period of stay in the current house, 42.9% of respondent has stayed more than 15 years. On the contrary, newcomer of less than 5 years also shares a rather large portion of 32.1%. For house type, the

majority is living in detached house as oppose to apartment complex. Lastly, the rate of house ownership is high, at 83.7% compare to 16.3% living in rental house.

Model testing

Table 1 Response composition

Questions	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
SC1. I feel connected to the community in my neighborhood.	3%	14%	63%	20%
SC2. I often participate in public events and community activities in my neighborhood.	4%	23%	54%	18%
SC3. I plan to stay in my current neighborhood for a long time.	3%	15%	58%	24%
TA1. I feel connected to the community leaders in my neighborhood.	5%	36%	46%	13%
TA2. I trust that the local authority is capable of facilitating waste collection.	3%	11%	69%	17%
TA3. I trust that the local authority is capable of treating separated waste.	3%	14%	66%	17%
N1. I am unsatisfied with the current waste collection system in my neighborhood.	3%	20%	57%	20%
N2. I want separated waste to be treated accordingly.	2%	2%	51%	44%
N3. I want to see improvement in the neighborhood environment (cleaner street).	2%	22%	59%	17%
A1. I know the difference between organic waste, recyclables and others.	1%	7%	66%	27%
A2. I have the time to separate organic waste and recyclables every day.	2%	21%	61%	15%
A3. I have the space to store separated waste in the house.	3%	27%	57%	12%
O1. I am more willing to separate waste if there is money incentive.	1%	4%	69%	25%
O2. I am more willing to separate waste if I do not have to travel far for disposal.	1%	8%	68%	23%
O3. I am more willing to separate waste if there is frequent collection.	2%	14%	66%	18%
B1. I often separate recyclables.	2%	1%	49%	47%
B2. I often separate organic waste.	1%	18%	61%	20%

Demographical characteristics and housing situation of the respondents have strong influence on "Sense of Community" and "Trust in Authority". On the contrary, these demographical factors do not directly affect "Behavior". Instead, the relationship between "Behavior" and the 5 factors from the hypothesized model was significant.

CONCLUSION

This survey aimed to test the hypothesized model of factors affecting waste separation behavior and data analysis showed notable result, demonstrating how waste separation is influenced by sense of community, trust in authority, need, opportunity and ability in the same context.

ACKNOWLEDGEMENT

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