

RGC Ref. No.: <u>UGC/FDS24/H02/15</u> (please insert ref. above)
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**RESEARCH GRANTS COUNCIL  
COMPETITIVE RESEARCH FUNDING SCHEMES FOR  
THE LOCAL SELF-FINANCING DEGREE SECTOR**

**FACULTY DEVELOPMENT SCHEME (FDS)**

**Completion Report**

*(for completed projects only)*

<p><b><u>Submission Deadlines:</u></b></p> <ol style="list-style-type: none"> <li>1. Auditor's report with unspent balance, if any: within <b>six</b> months of the approved project completion date.</li> <li>2. Completion report: within <b>12</b> months of the approved project completion date.</li> </ol>
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**Part A: The Project and Investigator(s)**

**1. Project Title**

Determinants of Public Support for Waste Management Policy in Hong Kong

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**2. Investigator(s) And Academic Department(s) / Unit(s) Involved**

Research Team	Name / Post	Unit / Department / Institution
Principal Investigator	WAN Kar-ho / Senior Lecturer	PolyU SPEED
Co-Investigator(s)	SHEN Qiping / Chair Professor	Department of Building and Real Estate / PolyU
Others	CHOI Wai-fan / Research Assistant	PolyU SPEED

**3. Project Duration**

	Original	Revised	Date of RGC / Institution Approval <i>(must be quoted)</i>
Project Start Date	01 Jan 2016	N.A.	N.A.
Project Completion Date	31 Dec 2017	N.A.	N.A.
Duration ( <i>in month</i> )	24 months	N.A.	N.A.
Deadline for Submission of Completion Report	31 December 2018	N.A.	N.A.

**Part B: The Final Report****5. Project Objectives**

## 5.1 Objectives as per original application

1. To develop a theoretical framework to explain public support for waste management policies
2. To examine the influence of key determinants on policy support for waste management
3. To draw policy implications in formulating waste management policies

## 5.2 Revised objectives

Date of approval from the RGC: N. A.

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Reasons for the change: N. A.

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1. N. A.

2. N. A.

3. N. A.

## 5.3 Realisation of the objectives

*(Maximum 1 page; please state how and to what extent the project objectives have been achieved; give reasons for under-achievements and outline attempts to overcome problems, if any)*

In view of research objectives as per original application, all objectives have been achieved. Throughout the research period, we conducted literature review, a telephone survey, and a series of quantitative analysis. Through literature searching, we identified key determinants and used findings for conceptual model development (Objective 1). Briefly, there are three groups of constructs identified as determinants influencing the level of policy support. They are: individuals' socio-demographic background, psychological attributes, and political factors. Quantitative surveys including a telephone interview in Hong Kong and a series of quantitative analysis were conducted for examining the influence of identified factors on policy support for waste management (Objective 2). Regarding the last objective drawing policy implication for waste management policy, policy suggestions and theoretical insights relevant to findings and discussions have been made accordingly throughout published peer-reviewed journal articles (Objective 3).

## 5.4 Summary of objectives addressed to date

<b>Objectives</b> <i>(as per 5.1/5.2 above)</i>	<b>Addressed</b> <i>(please tick)</i>	<b>Percentage Achieved</b> <i>(please estimate)</i>
1. To develop a theoretical framework to explain public support for waste management	✓	100%
2. To examine the influence of key determinants on policy support for waste management	✓	100%
3. To draw policy implications for formulating waste management policies	✓	100%

## 6. Research Outcome

### 6.1 Major findings and research outcome

*(Maximum 1 page; please make reference to Part C where necessary)*

This project aims at investigating key determinants influencing public support for waste management policy. The team has conducted a systematic literature review with a focus on reviewing political factors of influencing the level of policy support (Paper 3 of Part C). Five political factors were identified, namely, trust, fairness, policy preference, participatory process, and political affiliation. We have synthesized these factors and developed a new conceptual model which focuses on the political dimension of policy support. The political construct, along with individuals' socio-demographic background and psychological factors form a framework guiding the principle analysis of policy support. Findings of the literature review provided foundation for further investigation in later stage of this project.

We have analyzed the impact of psychological factors on recycling intention (a form of showing policy support) in Paper 1 of Part C. The paper modified the Theory of Planned Theory (TPB) by adding two additional predictors – awareness of consequence and moral norm, to explain recycling intention. Of which, attitude of TPB was argued as experiential attitude while awareness of consequence represented instrumental attitude. The empirical results showed that, experiential attitude became non-significant after two additional factors were included. Individuals were more influenced by instrumental attitude and moral norm than experiential attitude. Another task of the paper was to examine the interaction effect of attitude and subjective norm. Our findings indicated that recycling intention can be significantly influenced by two interaction terms (subjective norm and experiential attitude; subjective norm and instrumental attitude).

Another major finding of this project is the political side of influence on policy support (Paper 5 of Part C). To examine the influence of psychological and political factors on policy support and compare the effect between the two constructs, a conceptual model integrating factors of the constructs was developed. Only two psychological factors – attitude and perceived benefits showed significant associations with the level of policy support while a majority of political factors including policy effectiveness, fairness, policy preference, and participatory process were strong predictors of policy support. Notably, the explanatory power of the conceptual model remarkably increased after political factors were added to the model, implying that policy features and political environment together forms another important dimension for understanding the concept policy support. The importance of political side in influencing policy support was confirmed. Past literature has devoted much effort on psychological dimension of policy support. As proved in this project, the practice may risk unbalanced assessment of the phenomenon and cause failure in conceptual understanding.

The team also examined the socio-demographic impact on the level of policy support (Paper 4 of Part C). Consistent with previous studies, gender, age, and education level of respondents influenced the level of policy support in Hong Kong. Respondents also showed a varying level of support across policy tools. For example, economic incentive measures such as waste charging received lower support while facilitation tools like investment in recycling infrastructure was mostly welcomed. The differential public support for waste management policy was suggested as a result of incoherent waste management framework, that is, the government has approached each policy in isolation while ignored the fact that each policy category should be interrelated. For instance, adequate recycling facilities should be provided if waste charging scheme was rolled out.

## 6.2 Potential for further development of the research and the proposed course of action (*Maximum half a page*)

For comparative purpose and model advancement, all findings of this project can be validated in other contexts with varying cultures and institutional practices. Also, this project is a cross-sectional study which limits the conclusions to a particular point of time. However, showing support to waste management policy involves the change of attitudes and behaviors of targeted individuals. Attention should be given to the possibility of conducting a longitudinal study in the future. By doing so, researchers can detect changes over time and suggest causal relationships more easily. Further, the proposed model for explaining public support is a static one. Interactions among factors may alter the established directions. In other words, the outcomes may significantly different even with the same factors but different interactive processes. Thus, transforming the model to a dynamic and interactive one would be the next step of research.

## 7. Layman's Summary

(*Describe in layman's language the nature, significance and value of the research project, in no more than 200 words*)

Cooperation and support of the community is a key for successfully implementing waste management policy, recycling measures in particular. This research aims to explore and understand factors influencing the level of public support for waste management policy. From literature searching, a survey interview, and a series of quantitative analysis, the team found that subjective norm plays a critical role in motivating recycling behaviors by positively reinforcing the relationship between attitudes and recycling behaviors. On the other hand, along with often-mentioned factors such as individuals' socio-demographic background and psychological variables, political factors (e.g. fairness and policy effectiveness) were found to be a salient determinant influencing the level of policy support. Empirical data also revealed that the political attributes take over from psychological variables as the major consideration of showing support to waste management policy. Given the few studies on policy support for waste management programs and the urgency of successful implementation of waste management policy in Hong Kong, the project timely addresses the issue by investigating key determinants of and their influence on policy support. The findings and policy suggestions could help decision-makers gain public recognition in policy formulation and implementation.

**Part C: Research Output****8. Peer-Reviewed Journal Publication(s) Arising Directly From This Research Project**

(Please attach a copy of the publication and/or the letter of acceptance if not yet submitted in the previous progress report(s). All listed publications must acknowledge RGC's funding support by quoting the specific grant reference.)

The Latest Status of Publications				Author(s) (denote the corresponding author with an asterisk*)	Title and Journal / Book (with the volume, pages and other necessary publishing details specified)	Submitted to RGC (indicate the year ending of the relevant progress report)	Attached to this Report (Yes or No)	Acknowledged the Support of RGC (Yes or No)	Accessible from the institutional repository (Yes or No)
Year of Publication	Year of Acceptance (For paper accepted but not yet published)	Under Review	Under Preparation (optional)						
2017				Calvin Wan*, Geoffrey Qiping Shen, Stella Choi	Experiential and instrumental attitude: Interaction effect of attitude and subjective norm on recycling intention. <i>Journal of Environmental Psychology</i> , 50, 69-79.	2017	Yes	Yes	Yes
2017				Calvin Wan*, Geoffrey Qiping Shen, Stella Choi	An indirect pro-environmental behavior: Public support for waste management policy. <i>Waste Management</i> , 69, 1-2.	-	Yes	Yes	Yes
2017				Calvin Wan*, Geoffrey Qiping Shen, Stella Choi	A review on political factors influencing public support for urban environmental policy. <i>Environmental Science &amp; Policy</i> , 75, 70-80.	2017	Yes	Yes	Yes

2018				Calvin Wan*, Geoffrey Qiping Shen, Stella Choi	Differential public support for waste management policy: The case of Hong Kong. <i>Journal of Cleaner Production</i> , 175, 477-488.	-	Yes	Yes	Yes
2018				Calvin Wan*, Geoffrey Qiping Shen, Stella Choi	Understanding public support for recycling policy: To unveil the political side of influence and implications. <i>Environmental Science &amp; Policy</i> , 82, 30-43.	2017	Yes	Yes	Yes

### 9. Recognized International Conference(s) In Which Paper(s) Related To This Research Project Was / Were Delivered

(Please attach a copy of each conference abstract)

Month / Year / Place	Title	Conference Name	Submitted to RGC (indicate the year ending of the relevant progress report)	Attached to this Report (Yes or No)	Acknowledged the Support of RGC (Yes or No)	Accessible from the institutional repository (Yes or No)
06/2017/ Kyoto, Japan	Towards an effective environmental policy: A conceptual model of public support and implications	International Conference on Information and Social Science	2017	Yes	N.A. <sup>1</sup>	No

<sup>1</sup> The findings of this project were presented in the format of an oral presentation in this conference. No paper was published. Therefore only the title of the presentation and author names were included in the conference programme. There was no appropriate space to acknowledge the support of RGC.

**10. Whether Research Experience And New Knowledge Has Been Transferred / Has Contributed To Teaching And Learning**

*(Please elaborate)*

Since the PI has been teaching subjects on research methodology, public policy and environmental psychology, the research experience and findings would contribute to the teaching and learning. Students would be provided with more solid examples in research design and implementation, and more latest findings in the area of environmental policy.

**11. Student(s) Trained**

*(Please attach a copy of the title page of the thesis)*

<b>Name</b>	<b>Degree Registered for</b>	<b>Date of Registration</b>	<b>Date of Thesis Submission / Graduation</b>
N. A.	N. A.	N. A.	N. A.

**12. Other Impact**

*(e.g. award of patents or prizes, collaboration with other research institutions, technology transfer, teaching enhancement, etc.)*

N. A.

**13. Public Access Of Completion Report**

*(Please specify the information, if any, that cannot be provided for public access and give the reasons.)*

<b>Information that Cannot Be Provided for Public Access</b>	<b>Reasons</b>
N. A.	N. A.



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**FACULTY DEVELOPMENT SCHEME (FDS)**

**Completion Report - Attachment**

*(for completed projects only)*

**RGC Ref. No.:** UGC/FDS24/H02/15

**Principal Investigator:** Dr. WAN Kar-ho

**Project Title:** Determinants of Public Support for Waste Management Policy in Hong Kong

**Statistics on Research Outputs**

	Peer-reviewed Journal Publications	Conference Papers	Scholarly Books, Monographs and Chapters	Patents Awarded	Other Research Outputs (Please specify)
No. of outputs arising directly from this research project [or conference]	5	1	0	0	0