Evaluate the Drivers of Change in Consumer's Intention and Behaviour after the Implementation of the Single-use Plastic Ban in Hong Kong

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INTRODUCTION

Single-use plastics (SUPs) - Disposable plastic items not designed for reuse (Kasznik & Łapniewska, 2023)

- SUPs pose significant environmental threats, causing issues such as marine litter, **microplastic pollution**, and greenhouse gas emissions, with 12 million tons leaking into oceans annually
- Hong Kong faces challenges in waste management, with only 12.3% of waste plastics recovered in 2022 (Ng, 2024)

The government implemented a phased SUP ban starting April 2024 under the "Waste Blueprint for Hong Kong 2035"

Phase 1 (April 22, 2024): Bans sale and distribution of SUP tableware e.g. cutlery and regulations of other SUP Products → **Adaptation Period**: six-month grace period for inspections → **Phase 2 (Tentative 2025)**: ban more items like SUP cups and lids for takeaway

LITERATURE REVIEW

SUP Intervention:

Align with the circular economy by joining **material-based alternatives**, **stakeholder-coordinated systems**, and **consumption strategies** to reduce, reuse, and recycle single-use plastics effectively

Hong Kong Waste Management:

Challenges: High population density, landfills full by 2030s, low recycling rate

Fragmented initiatives e.g, GREEN@COMMUNITY, EcoPark → **hinder circular economy and policy synergy**

Case Studies:

Queensland, Australia: Phased SUP bans (2018-2023); stakeholder partnerships.
England, UK: 2023 SUP ban; circular economy plan.

- Lessons: HK needs inter-collaboration (Queensland), set measurable targets (UK)

Theoretical framework:

Theory of Planned Behaviour (TPB) to understand the factors behind intention and behaviour

- Attitude, Subjective norms, Perceived behavioural control

→ **Examines how the SUP ban influences behaviors in reuse and recycle**

RESEARCH OBJECTIVE, SIGNIFICANCE & QUESTIONS

	Objective	Question	Significance
1	Analyze changes in consumer **intention** and **behavior** post-SUP ban	What factors drive changes in consumer intentions to adopt other long-term sustainable practices, such as reusing and recycling after the first phase of the SUP ban?	Provide insights into how **mandatory bans** and **interventions** influence consumer behaviour
2	Identify **key factors** and **obstacles** involved in driving sustainable behavioural changes	How do driver factors of change in consumer intentions influence behaviours to adopt other long-term sustainable practices?	Explore the psychological and social factors that drive sustainable actions
3	Provide collaborative and educational **strategy recommendations** for the second phase	What collaborative and educational measures can the government, business sector and other stakeholders implement in the second phase of the policy's execution?	Strengthen policy execution by fostering **synergy** among all stakeholders

METHODOLOGY

Sampling Method:

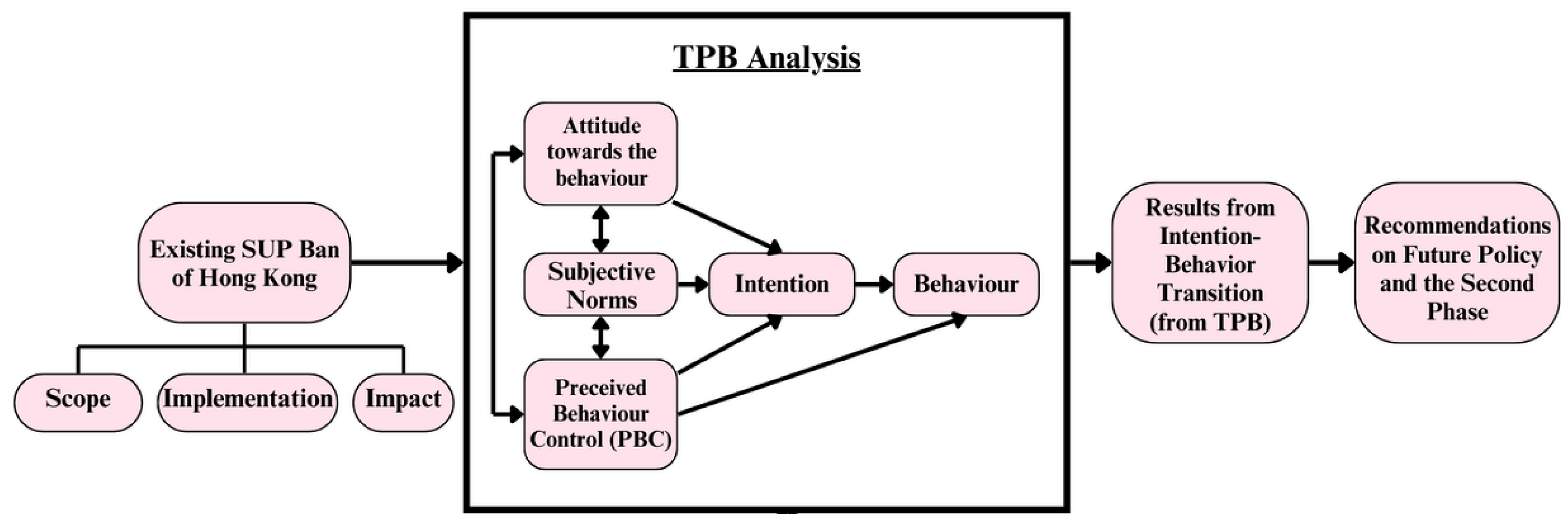
Questionnaire

- Convenience and snowball sampling
- Sample size: 158
- 5-point Likert scale
- **Quantify TPB constructs** (Attitude, Subjective norms, PBC, Intention, and Behaviour)

Semi-structured interview

- Participants: 2 **NGOs** & 2 **District council members**
- Factorize the **intention-behavior gaps** and provide recommendations

Conceptual Framework for Evaluating and Enhancing Plastic-Free Policies in Hong Kong



Method of analysis: #

- **Correlation analysis** to test the relationship among TPB variables and behavioral intentions
- **Multiple linear regression analysis** to link intentions to sustainable behaviors
- **ANOVA** to compare mean scores of TPB variables across various demographic groups

Calculation by Python

RESULTS & DISCUSSION

Correlation Analysis

- All TPB constructs intercorrelate (r = 0.218–0.455), with attitudes and norms more closely linked than PBC

	Attitude	Subjective Norms	PBC	Intention	Behaviour
Attitude	1.000				
Subjective Norms	0.444	1.000			
PBC	0.218	0.455	1.000		
Intention	0.590	0.425	0.257	1.000	
Behaviour	0.448	0.351	0.207	0.713	1.000

Regression Models

Adj. R^2 = 0.374

Intention to behaviours = 1.0929 + 0.4969* attitude + 0.1794* subjective norm + 0.0654* PBC

Adj. R^2 = 0.502

Adopting pro-environmental behaviours = −0.1359 + 0.8800 * intention + 0.0284 * PBC

ANOVA

- Middle-aged (45–64) show higher willingness to pay than retirees (≥65), and public-housing residents report stronger pro-3R attitudes and payment willingness than private-housing residents

Factors Driving Changes in Consumer Intentions

Positive Attitudes

- High willingness to reuse/recycle after Phase 1 ban
- Reinforced by microplastic awareness and perceived necessity of SUP regulation

Social Norms

- Family and friends' behaviors boost individual intention

Perceived Behavioural Control

- Uneven recycling infrastructure and convenience issues
- Habitual "grab-and-go" lifestyle overrides intentions

Economic Incentives

- Ban alone drives passive compliance, not active motivation
- Waste-charging plans or small rewards crucial for lasting behavior change

How These Factors Influence Sustainable Behavior

- **Intention is key**: Intentions predict 50.2% of actual reuse/recycling behavior (β=0.88, p<.001), whereas PBC shows no significant direct effect
- External gaps: **Habitual convenience-seeking** and **situational barriers** (inadequate infrastructure) explain the remaining 49.8%

RECOMMENDATIONS FOR PHASE 2

Government Leadership and Policy Integration

- Introduce MSW charges alongside Phase 2 to reinforce a "user pays" mindset
- Expand and upgrade recycling facilities—add GREEN@COMMUNITY stations, smart-reward bins, three-colour sorting, and clear material labels—to make pro-environmental actions convenient and reliable

Business Sector Involvement and Innovation

- Collaborate with food operators to launch reusable-tableware loyalty schemes (e.g., stamp-for-free-drink), and establish a government-backed rental
- Provide subsidies or tax incentives to offset cleaning, logistics, and equipment costs

Community Engagement and Environmental Education

- Integrate 3R principles into school STEM activities (e.g., coding eco-tracker apps, 3D-printed recycling tools)
- Run community outreach—workshops, street stalls, and point-based reward schemes—to reinforce knowledge with hands-on experience and immediate feedback