

Consumption Complacency: How Recycling Keeps Taiwanese Consumers from Reducing their Single-Use Plastic Consumption

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Introduction

While concerns over environmental degradation rise and governments are seeking new ways to minimize pollution, single-use plastics continue to dominate consumer and industry spaces globally. There are high levels of pollution through all stages of the plastic process, from its initial production using fossil fuels to its end-of-life cycle in landfills or as microplastics in the ocean or soil (*The Toxic Impacts of Plastic across Its Lifecycle*, 2022). Thus, the increased consumption of single-use plastics has had a devastating impact on wildlife and humans alike. Due to the rise of single-use plastics in daily life, 330 million tonnes of plastic are produced within a single year (Ritchie & Roser, 2018). If the level of plastic production isn't reduced and usage continues to rise, then the damage on marine ecosystems alone could be irreversible.

For an island nation like Taiwan, marine pollution poses a serious threat to the careers of thousands in the fishing and tourism industries. Although the ingestion of microplastics has yet to be proven as harmful for humans, it is definitively contributing to the deaths of marine life (Chatterjee & Sharma, 2019). Taiwan has limited space available for landfills, and has historically incinerated most of its trash, thus contributing to air pollution. With these factors in mind, it is detrimental for Taiwan to produce high amounts of waste, especially non recyclable waste. Due to the rise in convenience culture from convenience stores, night markets, and specialty drink shops, Taiwan consumes a high amount of single-use plastic, many of which are very difficult to recycle (Naderi Kalali et al., 2023). While some initiatives by the Taiwanese government have intended to reduce the amount of single-use plastic used by consumers, there has been very limited success over the years. As Taiwan hopes to enact a ban on 4 types of single-use plastics by 2030, it is important to determine the weak points of these government policies and devise solutions for more effective legislation (Tamponi, 2023).

Researchers have analyzed the various recycling methodologies in Taiwan that aim to minimize pollution and waste production, encompassing individual, industrial, and governmental levels.

However, there is a gap in the literature on how Taiwan's recycling system has contributed to the increase of single-use plastics by developing a culture that values recycling instead of reduction. In addition, there is limited research taking a critical approach as to how Taiwanese citizens contribute to a cycle of unsustainable waste production through their consumer habits, even while recycling regularly. Scholarly research generally agrees that Taiwan has developed an efficient recycling system that is respected by citizens and industry alike; however, I intend to argue that this recycling system undermines plastic reduction by sending a message to Taiwanese consumers that consumption does not need to slow down. It is critical to understand why support for environmental protection coexists with unsustainable consumerist behavior when developing environmental policies.

Questions and Hypotheses

Question: To what extent does recycling infrastructure in Taiwan contribute to complacency with using single-use plastics? There is an overabundance of single-use plastics in daily life as a Taiwanese consumer, even while Taiwan has a reputation as an environmentally conscious society, so what could account for this discrepancy (Rossi, 2019)? My thesis will argue that Taiwanese consumers' reliance on the recycling system to dispose of their single-use plastics fails to resolve the foundational issue of overconsumption. Based on this lens, recycling should not be treated as the first solution against pollution, but instead as a last resort. Additionally, this reasoning emphasizes the role of unsustainable consumerism as a large contributing factor to the rising production of single-use plastics and their negative effect on the environment. Taiwanese society has a number of single-use plastics that exist within a specific cultural framework that is difficult to separate from daily life. Through their use in convenience stores, snack stands, night markets, and bubble tea shops, single use plastics are an inevitability of Taiwanese life. The Ministry of Environment must take these factors into consideration when developing plastic reduction policies, but have yet to effectively limit plastic consumption. Looking into the complex relationship between recycling attitudes, consumer habits, and government policies can explain why single-use plastics have continued to remain a large part of life.

Evidence and Methods

Question	Hypothesis	Evidence	Method
To what extent does recycling infrastructure in Taiwan contribute to complacency with using single-use plastics?	Although Taiwanese people have overwhelming positive perceptions of environmental protection and steadfastly recycle, they consume high amounts of single-use plastics as part of a cycle of unsustainable consumption habits, undermining efforts to reduce plastic consumption.	Comparison of existing data on Taiwanese plastic usage and surveys on public opinion surrounding plastic. Analysis of existing plastic usage data coupled with Taiwanese recycling policies to determine what the relationship is.	Review of reports on single-use plastic consumption and pollution from EPAT; Review of existing survey data of Taiwanese opinions on plastic, recycling, and consumption from organizations such as GreenPeace and RETHINK; Review of existing consumer reports in Taiwan; Analysis of available Taiwanese governmental policies

In order to fully address my question, I am using available data showing single-use plastic usage in Taiwan over the span of a decade (Ministry of Environment, R.O.C., 2023). This information will provide a clear understanding of how high the rate of plastic consumption is currently in Taiwan. I am researching historical consumer trends in Taiwan as seen during its rapid industrialization in the 1990s, in addition to modern consumer analyses from Focus Economics (McGregor, 1999; Focus Economics, 2022). My thesis requires some form of consumer data analysis in order to better conceptualize the relationship between plastic consumption and Taiwanese attitudes. Additionally, I am using a variety of surveys to extrapolate Taiwanese sentiments towards plastic usage and its environmental impact, such as a 2020 survey conducted by Greenpeace Taiwan, a 2018 survey of undergraduate Taiwanese students, and a survey from RETHINK Taiwan (Greenpeace Taiwan, 2020; Liang et al., 2018; RETHINK, 2018).

Furthermore, I am incorporating data from Taiwanese policies and directives that involve environmental legislation, specifically limitations to single-use plastics and general recycling policies as found on the Taiwan Ministry of Environment website (Ministry of Environment, R.O.C., 2022). I will utilize the online Chinese and English versions of several Taiwanese environmental policies from the government website. By looking at national policies related to

recycling methodology and plastic consumption, I will analyze how the shortcomings of these policies are tied to consumer behavior. For a global perspective on single-use plastic consumption, I am taking datasets from the OECD that reflect international plastic production, recycling, and pollution trends (OECD, 2022).

Background

In 1998, the Taiwanese government revised part of the Waste Disposal Act a few months after establishing the Environmental Protection Administration of Taiwan (EPAT). This would mark the beginning of Taiwan's journey from "Garbage Island" in the early 1990s, to a recycling paradise with some of the highest recycling rates in the world (Rossi, 2019). When Taiwan greatly improved its economic standing in the 1970s, the newfound financial success of Taiwan resulted in much higher levels of consumption. By 1990, 18,800 tons of solid waste were being cleaned up a day, with a high percentage of it being thrown into landfills or incinerated (Ngo, 2020). The situation was so severe that public health was at risk, leading to several organizations coming out to protest the high levels of waste, most notably Homemaker's United (Liao, 2001).

In order to appease citizens and improve the established waste management system, the Taiwanese government began implementing new strategies to introduce industry responsibility and recycling to alleviate waste production. Originally, industries were responsible for recycling the waste they produced, but the 1998 amendment to the Waste Disposal Act instead required industries to pay recycling fees to the EPAT who would then find third party recycling companies to deal with industry waste (Waste Disposal Act, 2017). This new process ensured industry waste was recycled or disposed of in a manner that abides by government regulations. In addition, the Resource Recycling Act was developed in 2002, providing detailed guidelines for regulating industrial recycling standards, limiting certain unrecyclable materials, developing recycling infrastructure, and formulating future policies (Resource Recycling Act, 2009).

However, during this period of newly developed environmental legislation, the plastic production industry in Taiwan soared. One of the largest plastic producers in the world, Formosa Plastic Corporation continued to increase its revenue during this time, building factories around Taiwan and the world (Business Faculties, 2018). This time was not without controversy, with

several cases of illegal waste dumping and links to serious health issues (United States Environmental Protection Agency, 2009). As of 2023, Formosa Plastics Corporation has a revenue of \$8.4 billion USD, and plastic production remains as the third largest industry in Taiwan (Forbes, 2023; Workman, 2023). Even while there has been a movement to increase the quantity of recycled waste and hold industries accountable for any waste they produce, the Taiwanese government has failed to limit inherently pollutant industries, such as plastic companies who create products that are nearly impossible to be recycled.

Scholarly Engagements

Single-use plastics have taken over the world, even though its origins are less than a hundred years old. The most common plastic in the world, polyethylene, was originally accidentally created in 1933, and over the decades plastic became a staple of everyday life for its durability, flexibility and cheapness (United Nations Environment Programme, 2018). Polyethylene can turn into a wide variety of products, such as plastic bags, water bottles, cutlery, and straws. Besides polyethylene, these products share one important characteristic in common; they are intended to be immediately thrown away after one usage. The quick life cycle of these plastics inundates landfills and the environment as a whole with synthetic particles, which will take several hundred years to break down (Whiting, 2018). Although recycling is promoted by industry as a “cure” for plastic pollution, the OECD has found that only 9% of plastic is recycled globally, with 49% going into landfills, 19% incinerated, and 22% left as litter (OECD, 2022; Wilkins, 2018). With the high rate at which plastics are produced, consumed, and discarded, it is near impossible to effectively combat plastic pollution without directly limiting its initial production (Walker & Fequet, 2023).

Taiwanese consumerism has been on the rise as society embraces the goods of international corporations and strongly holds onto convenience in commercial spaces. As early as the 1980s, Taiwan established itself as an economic power within Asia, commonly referred to as one of the four “Little Tigers of Asia” (McGregor, 1999). This shift in economic standing has propelled Taiwanese society

towards higher rates of consumption that contradict historically positive attitudes towards environmental sustainability (Olivier & Fulco, 2021). In 1980, the convenience store known as 7-Eleven came on the scene in Taipei, Taiwan. Known for its well-stocked shelves and instant gratification, 7-Eleven rose in popularity, with a total of 6,631 7-Eleven locations existing as of 2023 (Chang & Chen, 2012; Overseas Community Affairs Council, R.O.C., 2023). Due to its convenience, cost-effectiveness, and durability, single-use plastics are a staple at 7-Eleven and other Taiwanese convenience stores, with 9,748.37 metric tonnes of single-use plastics consumed at 7-Elevens in 2022 (President Chain Store Corporation, 2022). It is clear, with both the large number of locations in Taiwan, as well as the thousands of metric tonnes worth of single-use plastic used, that most 7-Eleven customers are willing to regularly purchase products with plastic packaging regardless of their stance on environmental issues. The laissez-faire attitude of single-use plastics in convenience stores also translates to more culturally significant places in Taiwan, namely traditional farmers markets and night markets. Even the terminology used in Taiwan to refer to single-use plastics reflects its position in society. Although the official term [一次性塑膠產品] directly translates to “single use plastic goods”, the more common term is [免洗], or “no need to clean”.

Researchers typically assess Taiwan as having a robust recycling program due to its higher recycling rates and government policies, but recent scholars acknowledge how current consumer habits contradict recycling efforts (Greenpeace, 2020; Kuo, 2010). Policies focused on limiting plastic production and proper recycling infrastructure have been assessed internationally for their shortcomings and successes, with general agreement that ineffective policies are hindering

sustainable development (Kaza et al., 2018; OECD, 2022). Lee emphasizes the importance of global trends in plastic recycling as a guideline for domestic policies in Taiwan (Lee, 2019). Plastic usage and recycling policies in Taiwan continue to evolve over the years, implementing a variety of industry and consumer-focused policies influenced by established cultural attitudes and global shifts in environmental awareness. This work aims to examine how current recycling policies fail to effectively prevent or minimize the use of single-use plastics in Taiwan (Herberz et al., 2020). Tsai also assesses policy effectiveness during the Covid-19 pandemic and finds that existing plastic reduction policies are not only failing to decrease plastic usage, but actually facilitating its rise through inconsistent enforcement (Tsai, 2022). However, it is also important to question the importance of recycling within the cycle of consumption. When the famous phrase “reduce, reuse, recycle” is used to promote more sustainable practices, recycling is always last. This phrase is intentionally dividing the three terms into importance, with reduction being most critical. If recycling is expanded but there isn’t a reduction in consumption, then inevitably recycling will not be able to compete (Sun & Trudel, 2017).

Proposed Chapter Outline

Introduction

Chapter 1: History of Single-Use Plastics in Taiwan. This chapter discusses the popularization of single-use plastics in Taiwan, their relationship to Taiwanese consumers, their dangers to marine life, and the difficulties behind recycling these plastics. The main purpose of this section is to introduce how single-use plastics have come into mainstream usage in Taiwan and their benefits for consumers. It will contrast this commercialization of single-use plastics with the environmental consequences, namely on marine life.

Chapter 2: Taiwanese Recycling Attitudes Contrasted with Unsustainable Consumer Behavior. This chapter will delve into the historical environmental awareness of Taiwanese citizens, along with grassroots movements promoting greater environmental sustainability in Taiwan. Survey data and consumer reports will be utilized here to show current contradictions in consumer behavior, and the overall contribution consumers make towards plastic pollution. This data will then be juxtaposed with recycling statistics and surveys discussing the willingness to recycle in Taiwan.

Chapter 3: Implications of Taiwanese Consumerism on Plastic Reduction Policies

This chapter will analyze various recent policies implemented by the EPAT to reduce plastic production and consumption. I will connect the issues within these policies, as determined by various scholars, to the aforementioned consumption habits within Taiwan, in hopes of developing possible solutions for this inconsistent behavior.

Conclusion

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