

## ***A Stakeholder Analysis of Manila's Kolek Kilo Kita Waste Management Program***

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### **ABSTRACT**

*Despite the Philippines ranking among the top contributors to plastic waste, little emphasis is given to the recycling programs of manufacturing companies in the country. The purpose of this paper is to determine the expected roles of stakeholders and the values that are exchanged in the Kolek Kilo Kita para sa Walastik na Maynila program by using a combination of role theory and stakeholder theory. The researchers believe there is a need to emphasize the importance of permeable role boundaries to ensure stability in a recycling program to combat the increase of plastic waste in our oceans and landfills. As this study uses a qualitative method, specifically an embedded single-case study design, the researchers interviewed at least one representative from each stakeholder entity involved—Unilever Philippines, Manila City government, Republic Cement, and the project participants. The researchers found a general alignment of expected and actual roles among the stakeholders, though participants displayed a limited understanding of Republic Cement's role in processing the collected plastics. The analysis also revealed stakeholders are satisfied and motivated to continue engagement in the program due to perceived value exchanges—Unilever Philippines achieves corporate sustainability aims, the city government fulfills obligations to citizens, Republic Cement secures materials for manufacturing, and residents gain free products.*

**Keywords:** Reverse logistics, role theory, recycling initiatives, stakeholder theory, values exchange, waste management

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### **INTRODUCTION**

Several manufacturing companies have expressed their concern and active participation in mitigating the harmful effects of single-use plastic waste in the Philippines. They have begun engaging in community-based recycling and repurposing programs as part of their reverse logistics activities in partnership with organizations concerned with sustainability and recycling advocacies (Philippine Alliance for Recycling and Materials Sustainability, n.d.). However, despite these efforts, a beach clean-up by Greenpeace Philippines and the Manila City government found these same manufacturing companies in their brand audits as the top manufacturers whose plastics are scattered in the city's surrounding waters (Greenpeace

Philippines, 2018). Therefore, it is evident that despite these efforts, the problem of single-use plastic solutions in the Philippines has yet to be improved if not fully solved.

Furthermore, the recentness of these recycling programs in the country still leaves it unclear how large manufacturers work with other stakeholders to successfully conduct their recycling program and why stakeholders participate in the first place. Because of these, the researchers aim to answer the following questions: (1) What are the roles of the stakeholders in a company's recycling program? (2) How are the expectations and relationships between all stakeholders in the company's recycling program met? (3) Why do stakeholders participate in a company's recycling program? (4) What are the management implications for each stakeholder in conducting the recycling programs?

This study intends to explore the phenomena and its different participants to understand the activities and stakeholders involved in the chain, specifically Unilever Philippines and sachets. This research study intends to produce the following outputs: (1) Determine the stakeholders and their roles in *Kolek Kilo Kita para sa Walastik na Maynila* [Collect, Weigh, Earn for a Plastic-Free Manila]. Understanding how each stakeholder participates by playing certain roles (e.g., coordinating collection, providing incentives, contributing recyclable materials) will enable us to map out and analyze those roles; (2) Identify the expectations and perceptions between stakeholders in *Kolek Kilo Kita para sa Walastik na Maynila*. Analyzing the participation and engagement of stakeholders will shed light on the relational dynamics between partners, as well as the alignment or mismatches in expectations; (3) Determine the management implications of firms practicing in *Kolek Kilo Kita para sa Walastik na Maynila*. By evaluating the roles, relationships, and motivations of stakeholders participating in the program, the study can reveal critical management implications for improving participation, partnerships, and outcomes; and (4) Provide recommendations to strengthen the relationships between all stakeholders and their initiatives in the program. Insights gained on stakeholder participation and interactions can inform practical recommendations to deepen alignments, overcome relational gaps, and sustain collaborations between program partners.

This paper begins by reviewing relevant literature on role theory and stakeholder theory as useful lenses for analysis. The context of plastic waste and recycling programs in the Philippines is also discussed. Next, the methodology explains the embedded case study approach and qualitative methods used. The *Kolek Kilo Kita* program is then introduced, followed by presenting the key stakeholder cases. The cross-case analysis examines the alignment of expected versus actual roles and value exchanges between partners. Finally, key findings, management implications, and conclusions are discussed.

## LITERATURE REVIEW

### *Manila's Plastic Waste Management*

Plastic waste, particularly from single-use sachets and packaging, poses a critical environmental challenge for the Philippines and its capital, Manila. The country is among the top contributors to ocean plastic pollution, stemming from mismanaged waste and inadequate recycling (Jambeck et al., 2015). Manila's proliferation of plastic-packaged consumer goods and deficiencies in disposal infrastructure make it a central hotspot for plastic leakage into

waterways and oceans.

Rapid economic growth and the rise of consumerism in the Philippines have dramatically increased plastic waste generation over the past two decades (Global Alliance for Incinerator Alternatives, 2019). Much of this growth has been driven by fast-moving consumer goods companies switching to plastic sachets as an affordable packaging format for lower-income segments (Singh et al., 2009). Sachets offer single-serve, low-cost product quantities but produce non-recyclable multilayered packets that are difficult to collect and recover. A waste characterization study across 20 Philippine cities found sachets made up over half of the residual waste (Sustainable & Affordable Initiatives, 2020).

Manila, as the Philippines' densest and most populous city, exemplifies the waste challenge. It generates over 8,800 tons of solid waste daily, which is expected to rise to 13,500 by 2025 (Silapan, 2019). Plastic comprises 20 percent of the waste stream (Bernardo, 2020). Manila's informal settlements and crowded waterways exacerbate the leakage of these materials into the environment. A recent clean-up of Manila Bay by the city government and Greenpeace Philippines found Nestle, Unilever, and Procter & Gamble branding to rank highest in residual plastic pollution (Greenpeace Philippines, 2018). Manila's waste management system is overwhelmed and under-resourced. Less than 10 percent of generated waste gets recycled, with the majority directed to landfills (Silapan, 2019). Open dumping along shorelines and waterways is also prevalent. The city lacks centralized waste collection, relying instead on an informal sector of itinerant waste pickers and junk shop dealers (Medina, 2007). This creates gaps in waste capture, recovery, and traceability. Furthermore, awareness and infrastructure for segregating and recycling plastic waste remains limited.

These conditions have sparked growing concern over plastic pollution and a push for interventions. The 2019 Global Green Economy Index ranked the Philippines among the lowest countries worldwide for waste management and recycling (Dual Citizen LLC, 2019). In response, groups like GAIA (2019) and Greenpeace Philippines (2018) have conducted brand audits and public campaigns targeting top plastic waste producers like Nestle and Unilever. Government strategies also seek to improve solid waste programs under the Ecological Solid Waste Management Act of 2000 (Dela Cruz, 2018).

Multi-stakeholder initiatives to recover and recycle soft plastics have emerged as one response. Procter & Gamble has spearheaded a used sachet return program, partnering with supermarkets, recyclers, and local governments (Coca, 2019). Nestle and Unilever have supported collection drives by providing product incentives to communities in collaboration with cities like San Fernando, Valenzuela, and Manila (Unilever, 2018; De Leon, 2019). Cement kilns like Republic Cement and Taiheiyo Cement partner to co-process soft plastics as alternative fuel sources in their manufacturing process (GAIA, 2019).

While demonstrating initial progress, these initiatives face limitations in scale and sustainability. Participation beyond pilot communities remains sparse, and collecting sufficient plastic volume is challenging compared to profitable metals or PET (polyethylene terephthalate) recycling. Questions persist around traceability and the environmental impact of recycling pathways for soft plastics like cement co-processing. Furthermore, technical and economic barriers impede the transition from sachets to reusable or recyclable packaging formats.

The proliferation of plastic waste, especially non-recyclable sachets, combined with inadequate waste management infrastructure, has created an urgent pollution crisis for Manila. Multi-stakeholder recycling collaborations represent an interim response to recover post-consumer soft plastics. However, fundamental changes in product packaging, distribution systems, and waste infrastructure are essential for a sustainable circular economy. This massive challenge requires research insights to inform policies and innovation across sectors, communities, and the corporate supply chain.

### ***The Kolek Kilo Kita Program***

The *Kolek Kilo Kita para sa Walastik na Maynila* [Collection of Kilos for a Plastic-Free Manila] program was launched in January 2019 as a collaboration between Unilever Philippines, the Manila City government, Republic Cement, and local community participants (Santos, 2019). The free recycling initiative aimed to collect post-consumer plastic waste like sachets and packaging from households in Manila and divert it from landfills. Unilever provided incentive products to encourage participation. The city government handled collection logistics to transport the waste to Republic Cement's facility. There, the plastics were co-processed into cement. By March 2020, the program had recovered over 123,510 kilograms of plastic across more than 80 *barangays* (City Government of Manila, 2020). However, operations were temporarily halted in March 2020 due to COVID-19 restrictions (Lopez, 2020).

### ***Role Theory***

Role theory suggests that individuals must play their roles to maintain stability and social order. Roles, as defined by Miles (2012), are "behaviors (and) characteristics of a person in a specific context" (p. 226). Role theory, according to Biddle (1929), has five major propositions: (1) Roles are formed by patterned behaviors that an individual performs; (2) Roles also include positions and involve a shared common identity; (3) Playing one's role also entails expectations from others and maybe carried and maintained over time as they are incorporated in larger social systems; (4) However, roles are taught to individuals who may find joy or sorrow in performing them; and (5) When roles are served well by each individual, processes and organizations are expected to be stable and efficient.

Lynch (2007) expounded that roles may be simultaneously performed as they tend to overlap. The approach highlights role permeability, the degree to which an individual can perform a role while worrying or thinking about another. Miles (2012) explains that this approach allows people to "move, change, and combine the border and boundaries of their simultaneous roles" (p. 227). Those with permeable work role boundaries are described as having more opportunities and resources, such as access and time to attend to other roles. When conflict is present, role permeability allows people to improve the situation by transitioning to another role when necessary (Ashforth, Kreiner, & Fugate, 2000). On the other hand, role ambiguity occurs when roles are lacking in clarity. Van Sell et al. (1981) identify "lower productivity, tension, dissatisfaction, and psychological withdrawal from the workgroup" (p. 66) as its consequences.

Role theory provides a useful framework for examining sustainability collaborations involving multiple stakeholders, as it analyzes patterned behaviors and the roles played by different actors. For example, Lynch (2007) demonstrated applying role theory to assess the interactions between business, government, and civil society partners engaged in environmental

initiatives. This research showed the value of mapping actor roles, expectations, and alignments to explain outcomes. Xiao et al. (2017) applied role theory concepts like role ambiguity and role distance to study household waste separation behaviors. Their analysis in Xiamen City showed unclear recycling duties and social distancing from environmental stewardship decreased participation.

Similarly, role theory elucidates behaviors and relational dynamics between stakeholders in recycling initiatives. Xiao et al. (2017) found role ambiguity regarding waste separation responsibilities and lack of identity with environmentalist roles limited citizen engagement in Xiamen's recycling pilots. This demonstrates role theory's value for diagnosing issues in waste management programs.

### ***Stakeholder Theory***

Stakeholder theory has been used to address critical business issues as it offers various concepts, models, and phenomena from distinct disciplines (Harrison, Freeman, & Sá de Abreu, 2015). It has also been used to explain the relationship between stakeholders and sustainability, value maximization, and environmental marketing (Hörish, Freeman, & Schaltegger, 2014; Wallace, 2003; Polonsky, 1995). Freudenreich et al. (2019) conducted a study on value creation for sustainability among businesses and stated that stakeholders exchange different value types for an overarching joint purpose. It is also mentioned that "if value creation is not mutually beneficial for all parties, a business world loses its business partners and resources as well as its legitimacy" (p. 100, Freudenreich et al., 2019) and concludes that value should be created with and for different stakeholders. He also states that "stakeholders are both recipients and co-creators of value" (p. 100, Freudenreich et al., 2019). These values exchanged between the stakeholders look at the business model as a portfolio instead of a single outcome.

Stakeholder theory offers a lens for assessing relational dynamics in recycling collaborations and identifying social factors affecting participation. For example, studies on efficiency and knowledge gaps in Philippine waste programs (Pagunsan & Shimada, 2012; Tatlonghari & Jamias, 2010) reveal issues aligned with stakeholder concepts like unmet expectations and motivations. Their findings demonstrate stakeholder analysis allows complementary insights to technical evaluations regarding the alignment of responsibilities, transparency, public engagement, and, ultimately, performance.

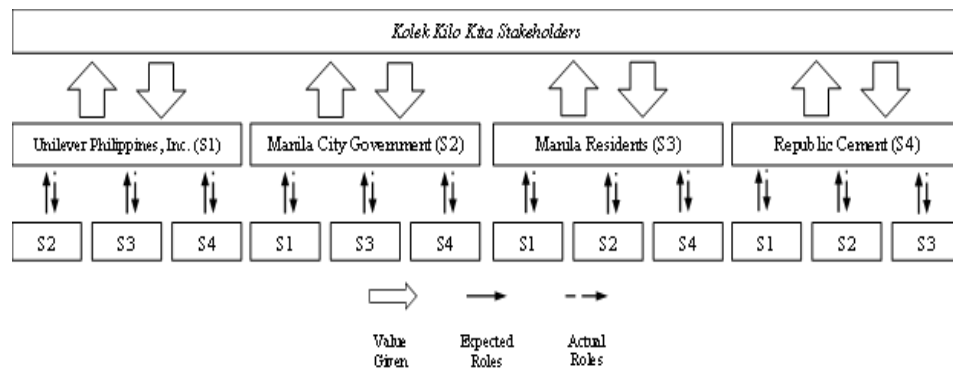
To emphasize, the study of Pagunsan and Shimada (2012) on efficiency in Philippine waste programs reinforces using stakeholder analysis to uncover issues driving poor performance. Their findings aligned with assessing relational gaps between partners. Meanwhile, Tatlonghari and Jamias (2010) revealed knowledge and behavior gaps in Philippine waste practices. This resonates with stakeholder theory on meeting user motivations. Together, the technical and social analyses offer complementary insights.

## METHODOLOGY

### *Framework of the Study*

The study combined and related the reviewed literature on stakeholder and role theories to study stakeholders' value creation and roles involved in a common purpose. Role theory provides the foundation for examining stakeholders' expected responsibilities versus actual behaviors in the *Kolek Kilo Kita* program. Identifying alignments and gaps between perceived roles enables answering research questions around stakeholder dynamics (RQ2). Meanwhile, stakeholder theory grounds the exploration of partners' motivations to participate through concepts of exchanged values (RQ3). Together, the frameworks fulfill objectives to map roles (RQ1), analyze relational expectations (RQ2), uncover reasons for involvement (RQ3), and ultimately inform coordination recommendations (RQ4) between Unilever, the city, cement firm, and public stakeholders engaged in the recycling initiative.

Figure 1: Framework of the Study



Source: Authors' own illustration

The framework's bottom half reflects the various stakeholders of a collective purpose and their respective roles. According to Biddle (1979), roles are formed by patterned behaviors by which an individual performs, explaining that playing one's role entails expectations from others. This means that the stakeholder role, based on the expectations of the other stakeholders involved, must be aligned with the former's understanding of their role. Figure 1 illustrates the research model of the study. In this case, the joint purpose is *Kolek Kilo Kita*, while the stakeholders are Unilever, Manila residents, the Manila City government, and Republic Cement. They were studied in the context of *Kolek Kilo Kita* and served as the study's subjects.

## RESEARCH DESIGN

This paper utilized the case study research method as it explored how each stakeholder is meeting the expectations for them and how this affects the implementation of the program. It also used the case study research method because it delved into a phenomenon in real life,

wherein the researchers cannot control the events. As this descriptive research focuses on recycling initiatives involving several stakeholders, the study also utilized a single embedded case study research design.

An embedded single-case study design was selected as it enables conducting an in-depth analysis of the *Kolek Kilo Kita* recycling program within its real-world context. Examining multiple units of analysis (Unilever, city, cement firm, public) within its initiative exemplifies an embedded case. The design is optimal for our descriptive objectives to gain insights on motivations, alignment, and exchanges between partners collaborating on the ground. Unlike experimental isolation, embeddedness retains environmental connections (Scholz & Tietje, 2002). By choosing a single case for intensive focus, the approach allows for discovering nuances between stakeholders, revealing barriers, tensions, and expectations around roles, responsibilities, and values associated with participation and performance.

A qualitative research method was used to develop an in-depth understanding of a phenomenon from various sources, including people, organizations, and institutions (Cooper & Schindler, 2014). They also performed semi-structured interviews to obtain a degree of freedom and to enable certain responses in particular areas where the researchers require greater depth (Horton, Macve, & Struyven, 2004). The interviews used the guide questions in the study's framework. The semi-structured questions were formulated to answer the research questions based on the literature review about stakeholder theory and reverse logistics activities. Follow-up questions were also asked to clarify and build upon responses.

The study also mainly relied on primary information, specifically interviews for its data, to identify the effect of each stakeholder on the other members of Unilever's recycling efforts and determine whether or not the expectations of one another are being met. The researchers conducted separate interviews, either through electronic mail or video call, with Unilever's identified stakeholders, that is, Republic Cement and the Manila City government. Table 1 presents the study's respondents. The representatives are the direct leads for *Kolek Kilo Kita para sa Walastik na Maynila* in their respective organizations. Before data gathering, the researchers compiled relevant information about all the target respondents and conducted extensive preliminary research about their organizations. The researchers gathered data for nine months, from December 2019 to August 2020.

As seen in Table 1, interviews targeted representatives directly leading Unilever's recycling initiative, the city government coordinating logistics, the cement firm processing collected plastics, and citizens supplying materials. As key players in the value chain, their firsthand experiences offer relevant insights on roles, alignment, and motivations for involvement. The company spearheading the program provides perspective on intentions and perceived responsibilities. The city gives a formal administrative viewpoint regarding regulations and public services. The manufacturing partner conveys the downstream recycling pathway, and citizens reveal on-the-ground participation, shedding light on awareness, needs, barriers, and benefits that shape engagement. Selecting pivotal stakeholders offers a 360-degree understanding of dynamics within the multi-partner collaboration.

TABLE 1. RESEARCH RESPONDENTS

Stakeholder	Representative	Explanation
Unilever Philippines, Inc.	Lavin Gonzaga (Community Relations & Sustainability Manager) Rondell Torres (Sustainable Business Senior Manager)	Unilever Philippines, Inc. leads <i>Kolek Kilo Kita para sa Walastik na Maynila</i> . They also manufacture products in sachet format and have been identified as one of the top brands in Greenpeace's brand audit (Wisner, Tan, & Leong, 2013; Greenpeace Philippines, 2018).
Manila City government	Joanne Mae Norcio (Operations Division Assistant Chief)	Manila City leads the waste collection program and diverts the waste to Republic Cement. They disseminate information regarding the program and allot one trip around the <i>barangays</i> [a small territorial and administrative district forming the most local level of government in the Philippines] every month to collect waste (J. Norcio, personal communication, 2020 July 19).
Manila residents	Sigfred Hernane ( <i>Barangay</i> 128 Captain)	The Manila residents are the program's main participants. They collect soft plastics and cut them into small pieces to incentivize products (S. Hernane, personal communication, 2020 August 17).
Republic Cement	Angela Edralin (Environmental Performance and Community Relations Director)	Republic Cement receives the plastics collected from Manila City's northern half and co-processes them into cement in their depot in Malabon (A. Edralin, personal communication, 2020 August 06).

Source: Authors' own

A total of four semi-structured interviews were conducted from December 2019 to August 2020, one with each stakeholder group: Unilever Philippines (two representatives), Manila City government (one representative), cement company (one representative), and community participants (one *barangay* captain). The interviews lasted approximately 60-90 minutes, beginning with broad questions about the interviewees and their organization's role in the recycling initiative before probing perspectives on responsibilities, interactions, motivations, and challenges.

Specific questions mapped concepts of role theory (e.g., actual tasks vs. perceived duties) and stakeholder theory (e.g., values given and received). Follow-up questions clarified responses and obtained illustrative descriptions or examples. Detailed notes were taken during the audio-recorded discussions. Supplemental data from organizational reports and waste flow records were gathered to substantiate the interviews.

This study was conducted following ethical research standards. The research underwent review by De La Salle University's ethics committee to ensure it met ethical obligations for human subjects research. Principles of respect for persons, beneficence, and justice were upheld. Informed consent was obtained from all interview participants. They were briefed on the study's purpose and how their insights would be utilized. The interviewees gave consent to publish their names, roles, and organizational affiliations. Participation was voluntary, and



respondents could withdraw at any time. Recordings and transcripts were securely stored to protect confidentiality. Confidentiality was maintained by secure data storage and de-identified reporting of responses. The analysis presents aggregated findings. However, individual responses were properly quoted when needed. The ethical review process, in addition to the research design and participant protections, fulfilled the study's ethical requirements in line with institutional and professional guidelines. With these measures, the study upheld ethical principles of respect for persons, beneficence, and justice.

## OVERVIEW OF THE CASES

### *Unilever Philippines*

Unilever Philippines initiated the *Kolek Kilo Kita* program in partnership with the Manila City government, citizens, and Republic Cement (Santos, 2019). Launched in 2019, this free recycling initiative encourages Manila residents to collect and exchange sachet plastic waste for Unilever product rewards (Santos, 2019). Unilever leads communications campaigns and provides logistic support. After collecting over 123,510 kilograms in the first year, the program aims to expand across more *barangays* in Manila (City Government of Manila, 2020). This aligns with Unilever's global goal to help collect more plastic waste than its products produce (Unilever, 2021).

Unilever's vision across its offices worldwide has always been centered around creating a positive social impact and reducing its environmental footprint. To uphold these values, Unilever's sustainable business and communications team continuously develops programs to raise awareness of proper waste segregation, each building on the success of previous projects to broaden their reach. After stabilizing during the coronavirus pandemic, Lavin Gonzaga and Rondell Torres aim to scale up their program by expanding to 300 to 400 *barangays* in Manila.

Throughout the years, the success of their sustainability projects has initiated more conversations within the company about how Unilever Philippines can reduce its environmental footprint. Lavin and Rondell often share their insights from these projects to discuss how they can redesign their packaging and increase investments for partners with greener technology. Therefore, on a larger scale, their model for sustainability projects aims to serve as the foundation for similar programs of other companies and local governments in the Philippines.

### *Manila City Government*

The Manila City government plays a central role in *Kolek Kilo Kita* by coordinating plastic waste collection logistics. The city government taps into its *barangay* network to promote the program and endorse participation, as espoused by Joanne Mae Norcio. Staff and vehicles are allocated to transport collected plastics from households to Republic Cement's facility. The city also conducts training on proper waste segregation and management practices. By engaging citizens and providing collection infrastructure, the government helps Unilever scale the recycling model across more *barangays*.

There are several implications for Manila City's participation in the project. First, because of

the information, education, and communication (IEC) programs being done for the project, *Manileños* [an inhabitant of Manila] are more aware of environmental concerns, especially in relation to soft plastics. Additionally, through the program, participants understand that they play an active role in addressing the plastic disposal issue in the Philippines. Second, the local government's management in dealing with waste segregation has greatly improved. The *Kolek Kilo Kita* program is the pilot project of the mayor's *May Pera sa Basura* [There is Money in Garbage] agenda. Therefore, the project paves the way for future projects of the same nature. Third, the program provides newfound value for residual plastics. Initially, soft plastic wastes have no value, and junk shops even refuse to accept them. However, because of the project, the city can provide its residents with another way to recycle household products. Finally, the project greatly contributes to Manila's overall environmental state, with over 123,510 kilograms of plastic waste diverting from waterways and landfills.

Joanna Mae Norcio mentioned that they are generally very happy with the program. She mentioned that *Kolek Kilo Kita* has become the bread and butter of their presentations with other cities and has gained the interest of other local governments, exclaiming, "How were you able to partner with Unilever?" and other praises. However, despite this, Joanna mentions that no program is perfect. At one point, there was a misunderstanding between Republic Cement. She believes that the plant manager at the time was changed, and when Manila City arrived with the deliveries, Republic Cement did not accept it. Because of this, the trucks used for the waste had to wait for a few hours instead of going about their intended tasks for the day.

### ***Manila Residents***

Citizens participate by collecting, cleaning, drying, and cutting plastic waste like sachets and packages from their homes. They turn in the waste during scheduled collections in their *barangay*. In exchange, residents receive consumer products from Unilever as an incentive for each kilo of plastic recovered (S. Hernane, personal communication, 2020 August 17). This provides household necessities like shampoo and detergent for free. Participants also contribute to long-term environmental benefits from reduced marine plastic pollution.

According to Sigfred Hernane, *Kolek Kilo Kita* has brought many advantages to Manila City's residents. He identified three benefits: "Less waste, less expenses (for personal care products), and being able to help (with the cause)." Through the program, waste is being managed and lessened in the city. It also allows the city of Manila to meet participants' expectations in implementing Republic Act 9003 or the Ecological Solid Waste Management Act of 2000.

Through the incentivized products, participants can also save on their expenses for their personal care products. For example, as Unilever offers PhP10-worth of products per kilo of soft plastics, Sigfred mentioned that *Kolek Kilo Kita* participants now spend less on shampoo, soap, or toothpaste. Above all, the program also allows them to contribute to the local government's efforts in diverting waste.

Sigfred also affirms that they have a good relationship with Unilever as they frequently coordinate with Lavin, especially when encountering problems in the program. To improve, he suggested that Unilever Philippines increase its truck capacity to accommodate more kilos of plastics when transporting them to the recycling facility. While COVID-19 has postponed the

program's operations, Sigfred expressed his interest and support for *Kolek Kilo Kita*. He said, "Our *barangay* will always be here to support it. If Unilever and the city of Manila continue the program, our *barangay* will participate and cooperate in diverting the wastes away."

### ***Republic Cement***

Republic Cement receives the accumulated plastic waste collected from *barangays*. At their facility, the plastics are co-processed as an alternative fuel and raw materials in cement production (A. Edralin, personal communication, 2020 August 06). This repurposes waste that would otherwise end up in landfills or the ocean. Republic Cement's participation enables a circular value chain to recover and recycle soft plastics at scale across the city.

Through *Kolek Kilo Kita*, Republic Cement can uphold its mission of producing greener cement. By co-processing plastic wastes, the firm can manufacture cement with no produced ash and fewer gas emissions as compared to manufacturing cement with coal. A longtime partner of Unilever Philippines, the cement manufacturing firm is also able to strengthen its relationship with them through the program. It can now help the firm manage not only the company's manufacturing waste but also its post-consumer waste.

When asked about the company's challenges, Republic Cement believes that one of the challenges the project may face in the future is sustaining the participants' interest. Compared to *Kolek Kilo Kita*'s incentives, the value consumers get from junk shops for collecting and exchanging PET bottles is significantly higher. "Considering the volume you have to collect, one kilo of (soft) plastics is huge compared to one kilo of hard plastics," she added. However, a more serious threat is the dropping demand for cement due to the COVID-19 outbreak. Because many construction projects across the country are suspended, the demand for cement and other building materials is significantly low. If there is no demand, Republic Cement may need to stop its operations.

Presenting profiles of each major partner in Unilever's recycling initiative provides crucial context about their roles, interactions, and priorities. This foundation sets the stage for cross-case analysis that fulfills the study's key objectives—mapping stakeholders' roles and responsibilities (RO1), evaluating alignment of expectations (RO2), uncovering motivations for participation (RO3), and ultimately informing coordination recommendations between actors in the waste recovery value chain (RO4). By first detailing the behaviors, duties, challenges, and motivations of participants on the ground, the assessment of gaps, motivations, and improvements is better grounded.

### ***Cross-Case Analysis of Expected vs. Actual Roles***

A cross-case analysis was conducted to compare the actual roles of each stakeholder, that is, Unilever Philippines, Manila local government unit (LGU), Manila residents (community participants), and Republic Cement, against the expectations of other stakeholders. This reveals areas of alignment and misalignment between how a stakeholder views their own role versus how others perceive it. The analysis sought to unravel the complex stakeholder dynamics enabling and constraining a multi-partner recycling initiative like *Kolek Kilo Kita*. Evaluating the expectations, motivations, and alignments between program partners provides crucial insights for strengthening sustainability collaborations.

As an initiator of *Kolek Kilo Kita*, Unilever Philippines fulfills a championing role. The company is relied upon to spearhead engagement, provide incentives, and troubleshoot problems. Interviews with Unilever representatives like Lavin Gonzaga confirm it has delivered on these responsibilities by leading communications campaigns, supplying rewards, and collaborating closely with partners. For instance, when coordination issues arose with Republic Cement, Unilever called a joint meeting to realign roles and get the program back on track. The other stakeholders unanimously agree Unilever has acted according to its defined duties. This alignment reinforces Unilever's effectiveness as a champion and coordinator, consistent with the literature on the importance of an anchor partner in multi-stakeholder initiatives (Clarke & MacDonald, 2019).

Citizen participants, as the source of recycled material, also carry out their expected role of collecting and supplying plastic waste. The volume accumulated and exchanged for Unilever incentives reflects ongoing community participation. As highlighted in studies on incentive-based recycling, participants cited benefits like free products, savings on necessities, and the environmental impact as motivations for involvement (Agamuthu et al., 2009). For citizens supplying the raw materials, the priorities are straightforward—they turn in waste in exchange for personal benefits.

However, gaps emerge amongst the other stakeholders. The Manila City government meets expectations around coordinating logistics and promotions through their barangay networks. But interview with the assistant operations chief indicate the city has fallen short on monitoring and enforcing source segregation protocols (Joanne Mae Norcio, personal communication, 2020 July 19). The literature on municipal solid waste management highlights that the roles and responsibilities between agencies are often unclear (Zurbrugg et al., 2012). Bridging this policy-practice divide requires tighter internal coordination between city departments and accountability mechanisms to translate waste management policies into ground-level action.

Additionally, participants displayed a limited understanding of Republic Cement's role in processing the collected plastics. Uncertainty around what happens to the waste once handed over reveals Republic Cement has not been involved in direct community outreach. While the waste-to-fuel process helps Republic Cement achieve its sustainability aims, a lack of transparency can undermine public trust (Pauliuk, 2018). Greater communication by Republic Cement on how plastics are converted into cement can build awareness and social legitimacy.

### ***Values Exchange***

In terms of value exchanges, analysis illuminates stakeholder motivations. Unilever Philippines obtains the plastic volume needed to meet its sustainability goals and strengthens its waste solution partnerships with the city government and Republic Cement (Torres, 2020). The literature demonstrates such corporate-led initiatives allow companies to exercise environmental responsibility while benefitting from recovered materials (Govindan & Soleimani, 2017; Govindan, Soleimani, & Kannan, 2015). In exchange, Unilever provides the city with a pioneering waste management program and citizens with basic products. The company thus supports municipality obligations and contributions to local livelihoods, reflecting the shared value creation that reinforces multi-stakeholder partnerships (Freudenreich et al., 2019; Porter & Kramer, 2011).

Citizens also fulfill their environmental duty and receive personal benefits through participation. By supplying waste to be recycled, they assist the city in maintaining cleanliness and order in the barangays and help Republic Cement secure material for manufacturing. Even with minimal communication, these value exchanges around waste reduction encourage continued involvement from each stakeholder.

Overall, while Unilever Philippines aligns closely with expectations as an impactful anchor partner, gaps in coordination and transparency for the city government and Republic Cement signify areas for improvement. Targeted solutions like oversight mechanisms, civic engagement in planning, and demonstrating the waste-to-resource supply chain can strengthen the alignment. More broadly, illuminating motivations and nurturing shared value creation helps explicate the complex dynamics sustaining cross-sector partnerships for the circular economy.

Based on the analysis, three central propositions emerge regarding multi-stakeholder recycling programs. The evidence from examining *Kolek Kilo Kita* supports these propositions, linking role alignment to stability, value exchanges to participation, and serving stakeholder needs to sustainability. Properly calibrating roles and expectations (Proposition 1) facilitates cooperation critical for consistent materials supply, transparency, and adaptation vital to recycling program stability over time. Understanding and nurturing forms of value between partners (Proposition 2) provides ongoing incentives that can counter fluctuating external variables threatening participation. While balancing stakeholder motivations (Proposition 3) is increasingly recognized for sustainability, findings revealed the importance of systems resilience against unforeseen events. However, limitations around adapting to external disruptions point to opportunities to expand these theoretical frameworks.

Proposition 1: Aligning stakeholder roles and expectations enables program stability.

Proposition 2: Shared value creation reinforces continued stakeholder participation.

Proposition 3: Meeting diverse stakeholder interests and motivations contributes to Programme sustainability.

## DISCUSSION

### *Management Implications*

The analysis reveals several management implications based on the alignment or mismatch between stakeholders' expected and actual roles in *Kolek Kilo Kita*. Unilever Philippines has strongly fulfilled its perceived role as program leader and coordinator based on partners' expectations. They should continue practices like close collaboration with all stakeholders, timely communication, providing incentives, and handling logistics that have supported this success. Unilever's flexibility to pivot and address issues also maintains stability. However, an overreliance on one stakeholder poses risks if they were to disengage. So, Unilever should continue building capacities and leadership across partners.

For the Manila City government, gaps in meeting expectations around upholding waste segregation point to internal coordination issues between city agencies and frontline staff. Clearer oversight processes could entail weekly reporting on contamination rates from barangay leaders to the city's environment department. Ongoing training in program protocols and performance management for city workers could enhance adherence to standards. Training should also feature site visits to model facilities to demonstrate best practices, and staff performance incentives could link bonuses to neighborhood audit scores on proper source separation. Stronger accountability mechanisms are also needed to align ground-level execution with city policies.

However, tight budgets could constrain rolling out intensive reporting tools or bonuses. Staff capacity limitations may hamper the processing of added paperwork. Resistance to oversight could stall compliance. Upfront costs in developing new training and facilitating site visits could pose financial and logistical barriers. Implementation would require buoying internal buy-in and external support. Starting small and then scaling approaches that prove effective could help overcome challenges.

Republic Cement also faces a mismatch between community perceptions and their actual role in processing the collected plastics. Greater involvement in public outreach and education by Republic Cement personnel could help build awareness and trust in the recycling process. Communication should visually demonstrate how the waste is handled and converted into cement at their facility. Similarly, the unclear understanding of Republic Cement's role among residents highlights the broader need for grassroots communication by all stakeholders on the full waste-to-resource supply chain. While performing key activities matters most, explaining the connections between partners is still valuable.

Finally, the analysis shows flexibility and adapting roles are important when strict expectations are not fulfilled. While this worked for *Kolek Kilo Kita*, formal agreements could add structure as programs scale. Proactively planning for external disruptions also builds resilience where incentives may shift. Shoring up coordination and transparency weaknesses while allowing flexible execution can help optimize and sustain multi-stakeholder plastic waste programs.

### ***Strengthening Stakeholder Relationships***

To align stakeholders and sustain partnerships over the long term, *Kolek Kilo Kita* should institute regular forums for collaborative planning and problem-solving. These two-way dialogues allow all partners—Unilever, the city, communities, and Republic Cement—to give open feedback, discuss issues early, and jointly decide on solutions. This fosters shared ownership rather than relying only on one stakeholder like Unilever to mediate conflicts. Developing formal agreements can also codify stakeholder roles and expectations. However, building in review cycles and flexibility enables adaptation when needed rather than prescriptive rules.

Ongoing training and capacity building for each stakeholder would address identified needs.

For the city government, further skills development on proper waste segregation protocols and oversight mechanisms can enhance implementation. For citizens, wider education on the full waste-to-resource supply chain increases buy-in and sustainability. Republic Cement must also conduct greater public outreach clarifying how collected plastics get recycled into cement. Targeted communications filling knowledge gaps will empower stakeholders and align efforts.

Transparency practices are essential to nurture trust and shared metrics for success. Open data platforms can track plastic volumes recovered and impact metrics. Facility visits would allow communities to see firsthand how their waste is converted at Republic Cement. Documentation of the process through videos and reports can be widely disseminated. Progress benchmarks motivate continuous improvement across stakeholders.

Widening channels for bottom-up insights and co-design will produce policies and services better suited to community realities. Engaging local leaders and convening citizen advisory councils gives ground-level perspectives on partnership-building. Planning must also take a resilient systems approach to prepare for disruptions like COVID-19. Analysis of future scenarios and contingent responses will strengthen adaptiveness. Ultimately, participatory monitoring, evaluation, and learning processes enable stakeholders to continuously analyze program data, identify collaborative solutions, and scale up successes.

## CONCLUSION

The role theory explains stability results from fulfilled roles but not motivations. Stakeholder theory shows value creation enables participation. Under normal conditions, performing expected roles and exchanging values brings stability and sustainability (see Table 2).

The first proposition, that role alignment enables stability, was evidenced initially. Despite misalignments, *Kolek Kilo Kita* operated steadily until the pandemic disruption. Unilever's flexible role boundaries allowing quick issue resolution were key for stability. Findings suggest fulfilling tasks matter more than pre-defined roles. However, one permeable stakeholder is needed to ensure all activities are completed. The second proposition, that exchange values reinforce participation, was supported. As the literature described, stakeholders became co-creators of value, increasing motivations. However, the framework may not have captured all relevant values. For the third proposition on sustainability, findings align with the stakeholder theory that serving interests sustain programs. Yet, pandemic impacts revealed sustainability depends on a broader context, not just internal motivations. This highlights static theory limitations when applied to dynamic, volatile initiatives.

TABLE 2. VALIDITY OF PROPOSITIONS

Proposition	Evidence
Proposition 1: Aligning stakeholder roles and expectations enables program stability	This was evidenced by Unilever Philippines' ability to swiftly resolve coordination issues through their flexible boundaries, mediating between the city and Republic Cement. Their adaptive actions minimize disruptions-maintained stability despite misalignments between other partners (e.g., unclear waste processing expectations).

Proposition 2: Shared value creation reinforces continued stakeholder participation	The city government’s receipt of pioneering waste solutions from Unilever and Republic Cement’s access to feedstock for greener cement manufacturing motivated sustained involvement in the recycling initiative.
Proposition 3: Meeting diverse stakeholder interests and motivations contributes to program sustainability	Fulfilling the varied motivations of stakeholders was exhibited for a time in <i>Kolek Kilo Kita</i> —Unilever met corporate responsibility goals, Republic Cement attained feedstock for greener production, the city administered public services, and citizens gained free products. This balance of interests contributed to sustained participation and operations in the years prior to COVID-19. However, the pandemic illustrated the ability of unforeseen, externally-driven events to rapidly disrupt systems, even when internal stakeholder needs are met. This highlighted limitations in relying solely on interest alignment for resilience.

Source: Authors’ own compilation

The propositions reveal areas for recycling collaborations to target—fostering role flexibility, nurturing value exchanges, and balancing stakeholder interests. However, findings additionally highlight building resilience to unforeseen events. These concepts could shape both research inquiries exploring dynamics within sustainability partnerships as well as practical diagnoses guiding improved coordination or adaptation.

Methodologically, analyses might utilize or develop frameworks assessing initiative resilience factors like redundancy, rapid feedback channels, and decentralization, and applied recommendations may suggest incorporating slack resources, scenario planning processes, and modular designs. While precise future directions require further investigation, this case provides an empirical basis for advancing models capturing complex multi-stakeholder dynamics and pathways for systems to weather turbulence.

Furthermore, recommendations should provide tailored solutions, not just general advice. Republic Cement’s knowledge gaps require targeted outreach and transparency. As espoused by Joanne Mae Norcio, the city government should implement oversight and training for better compliance. Framing *Kolek Kilo Kita* as a resilient system can build adaptability.

Rather than distinct propositions, analysis indicates an integrated framework encompassing permeability, flexibility, and adaptive capacity is needed. This more accurately reflects complex multi-stakeholder dynamics. Proactively planning for potential disruptions would also bolster resilience, according to Sigfred Hernane. Examining Manila’s *Kolek Kilo Kita* provides practical insights for improving partnerships, alignment, and resilience. But theoretically, this case reveals opportunities to expand frameworks to better fit multifaceted collaborations. Incorporating systems thinking and participatory perspectives could enrich future analysis of social initiatives. The quest continues for models adequately capturing how diverse partners can align roles, motivations, and collective adaptability to drive progress.



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