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Moving towards a greener future with ZUS Coffee

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Abstract
Sustainability remains a central topic of discussion today, gaining increase visibility across different sectors including those in the food and beverages sector. This study seeks to analyse ZUS Coffee, a tech-driven coffee chain based in Malaysia, and its efforts to integrate sustainable practices into its business operations. Data for analysis was collected from a combination of primary research, on ZUS Coffee's operations and insights gathered from customer and company surveys, as well as secondary research, leveraging industry best practices from reputable online sources. It was discovered that on top of past and current initiatives, more could be done to address ZUS Coffee's largest waste contributor, spend coffee grounds, as well as other direct wastes such as milk cartons and cardboard boxes. Moreover, the absence of a standard sustainability reporting framework also limits the extent of ZUS Coffee's ability to define its direction and vision in the long term. The findings within this study aims to supplement ZUS Coffee with the industry's best practices to better address sustainability concerns unique to them.
Keywords: *spent coffee grounds (SCGs), packaging wastes, polyethylene terephthalate (PET), food waste, Global Reporting Initiative (GRI)*

1. INTRODUCTION

Sustainability has been a vital ethos that shapes corporate decisions. Companies have increasingly prioritized eco-conscious practices that meet both environmental and consumer demands while undertaking a commitment to become eco-friendly (Forbes Expert Panel, 2023). Similarly, Malaysia together with other 192 world leaders adopted the 2030 Agenda for Sustainable Development. This is a global commitment towards a more sustainable, resilient, and inclusive development, with 17 Sustainable Development Goals (SDGs) and 169 targets (Ministry of Economy, 2021).

To enhance and sustain the competitive edge of companies in Malaysia, Bursa Malaysia has mandated public limited and large non-listed companies to publish a sustainability report (Tan, 2024). As such, businesses are committing to ESG in response to the evolving landscape, propelled by a convergence of factors including raising awareness from consumers and employees, evolving financing requirements and trends, and heightening scrutiny and demands on the supply chain.

1.1 Company Background

Since launching in 2019, ZUS Coffee has been on a mission to deliver specialty coffee as a daily necessity for all to enjoy. With the best quality ingredients, high-level coffee brewing technology, and an innovative business model, ZUS Coffee is revolutionizing coffee consumption by making specialty coffee accessible and affordable for everyone, always. Moreover, ZUS Coffee is committed to making a meaningful impact on the community and the environment. Its initiatives are focused on uplifting those in need, promoting

education, and fostering a sense of belonging. By engaging in community events, educational programs, and humanitarian support, ZUS Coffee strives to create opportunities for growth and connection. ZUS Coffee's sustainable practices aim to protect our planet, reflecting its dedication to responsibility and positive change. Through local partnerships and environmental conservation efforts, ZUS Coffee's dedication is driven by a passion for building stronger and more united communities (ZUS Coffee, n.d.-a).

1.2 Business Problem

Amid growing demands for sustainability from key stakeholders including government entities, investors, and consumers, the challenge lies in how ZUS Coffee can navigate this new space. The question that the team aims to address is: "How can ZUS Coffee effectively integrate sustainability into its business to achieve the greatest impact while aligning with the expectations of consumers and investors within Malaysia's F&B industry?"

In this case study, the team will (1) assess current sustainability practices in the F&B industry, (2) recommend a sustainability reporting standard, and lastly, (3) propose a sustainability strategy fitting for the company. By benchmarking ZUS Coffee against its direct and/or indirect competitors within the F&B industry, this study entails a competition scan in terms of sustainability efforts[1]. Reporting standards practiced by global and Malaysian companies would be evaluated before producing recommendations on the relevant and essential materiality topics. Our analysis aims to provide a comprehensive overview of the sustainability efforts that ZUS Coffee could practice, along with a proposed overreaching strategy for adoption over the next 5-10 years. Additionally, both primary and secondary research are conducted to gain a comprehensive understanding of the ESG landscape within the industry in Malaysia.

2. ESG LANDSCAPE WITHIN THE F&B INDUSTRY

2.1 Case Study

2.1.1 Starbucks

Starbucks, a well-known coffee house and roastery, entered the Malaysian market in December 1998 and opened its first store in Kuala Lumpur. Starbucks has displayed well-implemented global environmental efforts with Malaysian branches on-boarded with these initiatives. In Starbucks Global Impact Report (2024), Starbucks details its initiatives that have contributed to the various stakeholders, including its partners, customers, and farmers. The team has highlighted a few notable practices that would be relevant considering ZUS Coffee's current position in the Malaysian landscape.

Environmental Initiatives.

Grounds for Your Garden

Since 1995, Starbucks has been offering the "Grounds for Your Garden" program in participating stores, subject to local regulations. Through this program, Starbucks collects spent SCGs and repackages them into the original bags used for shipping the beans in the store itself, thereby enhancing operational efficiency (Starbucks Stories, 2015). Coffee grounds are rich in nitrogen-rich protein, oils, and micronutrients, which can act as an alternative compost or fertilizer to enrich plant soil. However, these SCGs can be recycled for other purposes such as fabric dye, exfoliant, insect repellent, and much more. Starbucks has released YouTube videos to demonstrate how customers can obtain SCGs from stores and the ways that customers can repurpose them (Leasca, 2024).

Plastic Initiatives.

Starbucks is also committed to eliminating the use of plastic straws and has successfully phased out the use of plastic straws in all its stores around the globe by late 2021. It has since transitioned to polyhydroxyalkanoate (PHA) straws which are derived from canola oil, making them completely plastic-free and biodegradable. PHA

[1] Sustainability in this context refers to sustainability targets, reporting standards, and initiatives.

straws are equally durable as plastic straws, and they do not get soggy in both hot and cold beverages. In addition to offering a more sustainable straw, Starbucks in Malaysia also imposes a charge of RM1 for customers requesting a straw. Starbucks is adopting 'strawless lids' as part of its ongoing commitment to sustainability, encouraging customers to engage in this eco-friendly initiative to further reduce the need and demand for straws (mystarbucks, 2024).

Bring Your Own Cup.

The "Bring Your Own Cup" program offers financial incentives and promotions to incentivize customers in participating regions to bring their cups or mugs when making a purchase. In Malaysian outlets, customers can enjoy a RM2 discount on every purchase when they bring their own Starbucks reusable cups and on special occasions, customers may receive a 50% discount on any handcrafted beverages with the same initiative (Starbucks Malaysia, 2024). However, at the expense of sustainability, this new update has raised some concerns for Starbucks workers and baristas as there will be changes to the normal operating processes and procedures, impacting efficiency. Although Starbucks asserts that this new initiative has minimal impact on operational efficiency, it is noteworthy that currently only 1% of their orders are made using personal cups (Bratton, 2024).

Borrow A Cup.

Besides the 'Bring Your Own Cup' program, Starbucks has also launched and piloted its Borrow a Cup program in various regions, including Singapore and Taiwan (Starbucks Stories, 2022a; Starbucks Stories 2022b). Under this program, customers are not required to purchase a Starbucks cup or bring their own reusable cups. Instead, they can choose to borrow reusable cups when making purchases and return these cups at a later date.

Social Initiatives.

Starbucks Foundation – Global Initiative.

The Starbucks Foundation aims to strengthen communities globally by promoting resilience and prosperity, particularly in disaster areas. Through its Neighbourhood and Global Community Impact Grants, the Foundation encourages local Starbucks partners to nominate charities for grants. In times of disaster, the Foundation provides immediate relief and invests in long-term recovery and preparedness efforts. In FY23, it raised US$24 million in grants awarded (Starbucks Corporation, 2024).

Community Support – Global Initiative.

Starbucks plays an active role in supporting local communities through its 'Neighbourhood Grants Program', which is part of the broader social mission of the Starbucks Foundation. Since its launch in 2019, this initiative has provided over $15 million in grants to more than 400 grassroots and community-based non-profits across the U.S. and globally, focusing on addressing key community challenges, including racial inequality, youth engagement, and social justice issues (Starbucks Stories, 2020).

Diversity and Inclusion – Global Initiative.

Starbucks is deeply committed to fostering a diverse and inclusive workforce. In the U.S., the company set ambitious targets to increase the representation of Black, Indigenous, and People of Colour (BIPOC) across its corporate and retail positions by 2025. Specifically, it aims for 30% BIPOC representation in corporate roles and 40% in retail and manufacturing roles (Starbucks Corporation, 2024).

Furthermore, Starbucks provides mentorship opportunities to underrepresented groups, giving employees equal access to senior leaders and creating pathways to leadership roles within the company. All Starbucks leaders are required to undergo anti-bias training to ensure they are equipped to manage teams

inclusively and with cultural sensitivity. This training focuses on eliminating unconscious biases and promoting equity within the workplace.

Signing Stores – Malaysia.

Since 2016, Starbucks Malaysia have launched three Signing Stores, with the latest in Borneo, providing an inclusive environment for the Deaf and hard of hearing). The store promotes accessibility by employing Deaf baristas and staff, enhancing community engagement, and raising awareness about sign language. The Signing Store is designed to be inclusive, with spaces for community workshops and features artwork by Deaf artists. Notably, the third Signing Store showcases a mural by Deaf artist Madang Ding Anyi from Sarawak, highlighting the flora of Borneo and the region's coffee-growing culture (Starbucks Stories, 2023).

Connecting Communities – Malaysia.

Beginning in 2013, Starbucks Malaysia took up two projects to engage and contribute to local community groups. Starbucks' first destination was Kampung Lubuk Jaya, a rural village located in the outskirts of Kuala Selangor. The organization purchased a sizeable number of bananas directly from the village to be used in banana-based food products at local stores, such as muffins, biscotti, Danish pastries and pies. Proceeds from these banana-based items were then used to build a Community Computer Centre for the children of the village. The second project featured a partnership with Craft CT 01 Enterprise located in Pahang, the East Coast of Malaysia. Starbucks tapped on the local expertise, working with Mengkuang to produce handwoven items like tote bags and wallets. This helped to launch the organization's aspiration to start a local Mengkuang craft-based business (Asia Responsible Enterprise Awards, n.d.).

2.1.2 Luckin Coffee

Luckin Coffee, founded in China in 2017, is one of the fastest-growing coffee chains globally, known for its tech-driven approach and focus on delivery and convenience. It gained widespread popularity in China for offering high-quality coffee at competitive prices and leveraging its mobile application for orders and promotions (Chiang, 2023). While Luckin has established its market position in China, it plans to expand operations within Southeast Asian (SEA) markets from 4Q24 to 1Q25. In the first half of 2024, Luckin engaged with BJ Food, Starbucks' operator in Malaysia, to explore a joint venture for entering the Malaysian market (Pandaily, 2024).

Furthermore, the team's analysis of Luckin Coffee reveals limited transparency regarding their ESG efforts, particularly at the retail level. While most environmental initiatives focus on production processes within China, there is minimal emphasis on social responsibility or community-driven initiatives at the store level. The lack of initiatives on corporate social responsibility, such as employee well-being, community engagement, or diversity and inclusion. This imbalance can indicate a narrow focus on sustainability measures tied to their operations rather than a holistic approach to ESG. It may also reflect a strategic decision to address regulatory or cost-related pressures tied to environmental factors while overlooking the long-term reputational benefits and community impact that come from social initiatives.

Environmental Initiatives.

Sustainable Coffee Sourcing and Production.

Luckin Coffee has taken steps to ensure that its coffee sourcing aligns with sustainability principles. Most recently, its coffee roasting plant in Jiangsu, China began operations in April 2024, integrating environmentally friendly technologies like exhaust air cleaning and smoke elimination systems. With a total planned investment of $120 million and an annual roasting capacity of 30,000 tons, it is the largest coffee roasting plant in China to date. By harnessing intelligent manufacturing and automation, Luckin's new plant enhances productivity through technology and supports the modernization of China's coffee industry, setting a new standard for sustainable and high-quality development (Luckin Coffee, 2024).

In addition, Luckin Coffee operates a green coffee bean processing plant in Yunnan Province, which employs cutting-edge water treatment and energy-efficient drying technologies (Centurium Capital, 2024). The plant utilizes zero wastewater discharge technology and air-source heat pumps, significantly reducing environmental impact during the coffee bean processing phase. These facilities are part of Luckin Coffee's broader effort to enhance its control over the entire coffee production process while maintaining high environmental standards.

Operational Waste Management through Digitalisation.

Luckin Coffee's efforts to reduce waste are evident in its operations, in which it focuses on minimizing single-use plastics and promoting recyclable packaging. The company leverages digital ordering systems that reduce the need for paper receipts and contribute to less physical waste across its retail network. This cashier-less and app-driven ordering system, used in conjunction with smart stores such as delivery kitchens and pick-up stores, also help reduce energy consumption by optimizing delivery logistics and reducing the need for large physical retail spaces (Ferrer, 2020).

Carbon Management and Practices.

Luckin Coffee formed a Climate Change and Carbon Neutrality Subcommittee in April 2023 under the guidance of the co-chairman of the Sustainable Development Committee. This working group was created to oversee the company's greenhouse gas emissions data and carbon strategy, ensuring a more structured approach to carbon management (Luckin Coffee, 2023). In August 2023, Luckin Coffee completed its first company-wide carbon inventory verification, which covered emissions from its office areas, factories, and stores. This initiative laid the groundwork for setting future carbon reduction targets and included the calculation, exploration, and verification of the carbon footprint of select products.

Social Initiatives.

Employee Training.

Luckin Coffee developed 3 levels of training courses of different purposes and was able to achieve a 100% coverage ratio for all its offline and online training below as of June 2022 (Luckin Coffee, n.d.).

1. Mandatory Orientation Training – This is a mandatory training for new joiners and recruits that includes off-site camps and on-the-job training designed to help them adapt and integrate into the Luckin team culture. Employees will get to learn more about the company's corporate culture, day-to-day operations, as well as coffee culture
2. Professional Skill Building – This course offers a more specialised form of training for products, marketing, operations, and technology topics that can act as refreshers or value-adders. It also offers a Coffee Master Raiser program designed to stimulate employee's passion for coffee while enhancing their understanding about coffee.
3. Leadership Development – Luckin Coffee also provides training not only for its operational team, but also for its management team. Topics include competence plans and succession plans revolving around strategic thinking and planning conducted by external industry consultants.

Career Advancement.

Luckin utilises a unique "Y" shaped or dual-track career advancement progression for its employees. This unique dual-track system offers an inclusive career progression pathway, accommodating individuals with diverse goals and motivations. The first path, management promotional channel, is designed to suit individuals who would like to push for organizational changes and strategies in the future by being part starting of the lower level to higher-level management team. The second path, the professional promotional channel, is designed for individuals who would like to advance from primary, advanced, to senior positions based on the qualification criteria.

Additionally, Luckin Coffee also offers a transparent development path with an emphasis in efficiency, where employees can progress from "barista – deputy store manager – store manager" in just 6 months. This system has proved to be quite effective as 75% of Luckin's store managers were internally promoted.

2.2 Competition Landscape Assessment

To gain a holistic understanding, our team conducted 12 primary interviews and desktop researched 5 of ZUS Coffee's competitors, compiling them altogether in a map as shown in Appendix B1. Here, *Grab & Go* chains refer to coffee shops with operating models with minimal seats in place, allowing people to order and take the beverages conveniently on-the-go. Primary interviews are done through phone interviews, video-call interviews, and direct face-to-face interviews with most of the interviewees of manager profiles, while a small proportion are working baristas.

From the interviews, the team observed that competitors in general, emphasise on implementing initiatives to address Waste and Raw Materials issues, further elaborated in section 2.2.1 and section 2.2.2. However, they do have a mixed outlook about customers' view on sustainability. 5 interviewee profiles noted that integrating sustainability leaves either a good impression about their cafes on customers' mind or cites that sustainability is "*already the norm*" for cafes, in which one of them states that "*we think that customers feel good when they are using paper straws instead of plastic ones".*

Contrastingly, 3 competitors denote a more pessimistic outlook and expressed that there is "*generally a low interest in sustainability"* and another one stated that the café has not garnered any feedback about their views on sustainability. This corroborates our findings on how sustainability practices amongst the F&B industry in Malaysia still remains fragmented though progressive, with relatively lower levels of interests as compared to other countries such as Singapore. As the interviewee is employees, the answers given might be leaning towards the company's favour.

2.2.1 Waste

According to GRI Standards, the 'Waste' Pillar here is defined as any initiative related to minimizing waste-related impacts including minimising or diverting waste (Global Reporting Initiative, n.d.-a). 9 out of 12 competitors have started initiatives related to minimising waste in their retail value chain, first centred around collaborating with waste management partnerships for food-waste and spent coffee grounds recycling, or even adopting best practices such as minimising cakes and pastries displayed according to forecasted demand.

However, a pertinent challenge pointed out by a Café Owner was the lack of community, resources, and partnerships available for food-waste management in Malaysia, making him feel like he "*was doing it alone".* This corroborates how there were no initiatives observed that involved collaborating with other supply-chain partners yet. This further highlight how minimising waste for the F&B industry in Malaysia is still very individualistic and café-specific, hence setting up higher barriers for cafes to set up new waste initiatives.

One interesting initiative gleaned from this interview was from Blitz and Colony Café, at which they repurpose left-over cakes and pastries into bread butter puddings resold to customers. The interviewee highlights that this often sparks conversations with customers, asking about the unusual appearance of the bread-butter pudding. This allows opportunities for the barista to share their in-house food waste management system with customers, raising awareness on their sustainability efforts and increasing customer engagement.

2.2.2 Raw Materials

According to GRI Standards, the 'Raw Materials' Pillar is defined as managing raw material inputs related to packaging materials and its recycling efforts (Global Reporting Initiative, n.d.-a). All 12 competitors interviewed had initiatives to manage plastic waste, such as through using biodegradable straws, going strawless, and sipping from lids directly. This highlights that rethinking single-use plastic in packaging is the new norm for the F&B industry. Some competitors also have tried diverse and creative ways to recycle SCGs by repurposing them as agricultural inputs, furniture materials, dye colouring, and much more.

2.3 Key Insights from Customer Survey

An online survey is conducted to gain insights on people's perceptions towards sustainability in the F&B industry. The survey is targeted towards people in Southeast Asia, such as Singapore, Indonesia, and Malaysia who might or might not be familiar with ESG. Sampling methods such as convenience sampling through the team's connections and stratified sampling by posting on sustainability-related discussion forums are used to sample the population. In total, there are 197 respondents, but only 124 are considered due to validity and the completeness of the answers.

2.3.1 Sustainability in General

Respondents' View of Sustainability.

In terms of sustainability in the F&B industry, the top 3 things that comes to customers' minds are sustainable practices (33%), reusable materials (24%), and specific F&B brands (15%) (Appendix A1). These top 3 initiatives include bringing reusable lunchbox or container, imposing charges for single use plastic bag, minimizing single use plastic, ceasing the usage of straws. Various brands such as restaurants, café, and FMCG companies, both good and bad examples, are also mentioned. For instance, McDonald's decision to stop distributing straws in their outlets is an example of a positive sustainability initiative, based on one of the respondents.

70.8% of respondents indicated waste as the most pressing issue, which corroborates with the team's direct competitor interviews in pinpointing waste as a prevalent initiative. Among the 70.8%, 52 respondents mentioned food waste, plastic waste was acknowledged by 38 respondents, while a few others cited Styrofoam and paper cups. This number is not mutually exclusive as some respondents mentioned multiple types of waste. The cost of implementing sustainable practices comes second with a percentage of 15%. This is then followed by consumer behaviour or their reluctance to change their habits and adopt sustainability practices with a percentage of 8.3% (Appendix A2).

Misalignment between action and perception.

The team identified three customer profiles based on the survey results. The first group consists of *eco-conscious* customers who prioritize sustainable practices over other factors. The second group is more *neutral*, placing importance on sustainability but also factoring in menu options, convenience, and price. The third group is the *traditional group* which places less emphasis on sustainability and focuses more on other aspects when making dining decisions. Despite these differing profiles, the survey revealed that sustainability is not a 'deal-breaker' in purchasing decisions for most customers. However, there is growing interest in sustainability, with respondents expressing a preference for both businesses and individuals to adopt sustainable practices. This is supported by a strong correlation between openness to learning about sustainability and the desire to incorporate such practices into daily life, as seen in the responses from 124 participants (Appendix A3). These findings ratify the team's direct competitor interviews, highlighting the mixed perceptions in the ESG landscape.

2.3.2 Environment, Social, and Governance (ESG)

The survey result aligns well with ZUS Coffee's priority, placing environment first, followed by social and governance at second and third place, respectively (Appendix A4). Since Governance mainly deals with the internal management of the company, it may be less relevant to the eyes of customers. Therefore, the customer surveys focus on the two pillars of ESG, which are Environment and Social, whilst the team will tackle Governance recommendations in section 5 of the study

Environment (E).

Among the predefined selections, the top three environmental issues include waste, identified by 83 respondents; raw materials, noted by 79 respondents; and sustainable farming, recognized by 43 respondents

(Appendix A5). From a customers' standpoint, the most impactful environmental initiative that can be done by a coffee shop is to reduce waste. This makes up 46% with the most common answer of minimizing plastic waste. Subsequently, sustainable alternatives accounted for 20%, which involved switching to eco-friendly packaging options like paper cups (Appendix A6).

Social (S).

The survey indicates that the key social issues revolve around adequate training and education for employees, community support, and diversity (Appendix A7). This corresponds to customers most favour initiatives, community collaboration which received 28%.Then, ethical labour and fair hiring practices, each garnering 20% (Appendix A8). Pertaining to community impact, the top suggestions involve donating food to reduce food waste, organizing community clean-up efforts, and hosting a family day. Ethical labour includes work-life balance, the absence of child labour, fair compensation, and a non-toxic work environment. Fair hiring practices prioritize pre-work elements such as diversity, equality, inclusion, and ensuring there is no discrimination.

2.4 Main Takeaways from Competitor and Customer

From the team's analysis in section 2.2 and 2.3, the results suggest that tackling Waste and Raw Materials (e.g., plastic packaging) issues are most prevalent among competitors which simultaneously overlap with customers' emphasis on the importance. The results suggest that ESG practices within Malaysia, though growing, remain fragmented which poses challenges for businesses like ZUS Coffee to implement such ESG efforts.

Having grasped an overarching view of both competitors' and customers' perception of sustainability in the F&B industry, the next section explores ESG recommendations for ZUS Coffee, particularly zooming in on 'Waste' and 'Raw Materials' management.

3. ENVIRONMENTAL INITIATIVES

3.1 Overview of ZUS Coffee's Waste Profile

ZUS Coffee's value chain is illustrated in Appendix C1. In this context, *food loss* refers to food that is lost before reaching ZUS Coffee's warehouses, while *food waste* relates to waste generated after it reaches ZUS Coffee's warehouses. *Food waste* is further classified into two categories: edible-sourced food waste, such as leftover cakes, pastries, and spent coffee grounds, and non-edible-sourced food waste, including milk cartons, cardboard boxes and cups. This segregation will allow the team to better recommend a more targeted strategy that ZUS Coffee could adopt to develop an effective waste management solution.

3.2 End-to-End Recycling Process

ZUS Coffee can manage waste from its online and offline channels in two ways, as seen in Appendix C2. Externally, waste disposal – mainly PET cups – hinges on customers' involvement in the recycling process. ZUS Coffee's pilot project with Riiicycle in the Penang area is an example of the external value chain where customers can recycle 5 plastic cups at its collection points to get 10% off their purchase at ZUS Coffee (Riiicycle, n.d.). Similar initiatives could be considered in other areas with higher online purchases.

On the other hand, waste that is generated internally would first be segregated and prepared for collection, involving employees and/or customers in the process. All items designated for recycling will then be quantified by in-store employees before the collection. Afterward, ZUS Coffee's logistics will unload its supplies and in exchange, collect the items for recycling from the outlets before transporting them back to the warehouse on a regular basis. By overlapping the time of collection of the waste and supply delivery, ZUS Coffee would be able to minimize its operational cost. Recycling partners will be able to collect directly from the ZUS Coffee warehouse, whereby the collection operator from the recycling partners will be required to sign confirmation of receipt. These way recycled items could be easily tracked and managed.

This studywill primarily focus on managing internal waste, including packaging waste and SCGs, as these contribute significantly to the company's overall waste generation.

3.3 Packaging Waste

3.3.1 Packaging Waste at ZUS Coffee

Packaging waste in ZUS Coffee includes straws, PET cups, cup lids, cardboard boxes, cup holders, and milk cartons. The team did an on-the-ground observation through store visits at six Johor Bahru locations, which are KSL city mall, Larkin Jaya, Kebun Teh, Tampoi Susur, Mount Austin, and Aeon mall Tebrau city. Through the observation, the team noted that ZUS Coffee has not adopted a standardized recycling process which was reflected in the disposal of milk cartons to general waste bins. Moreover, recycling bins for PET cups were absent, and there was a lack of proper recycling or repurposing of cardboard boxes. This report will cover recyclable packaging waste such as cardboard boxes, milk cartons, and PET cups, which the company has not fully addressed.

3.3.2 Comparative Analysis of Recycling Practices by Country

Malaysia.

In 2019, Malaysia disposed of 1.4 million tonnes of plastics waste, of which only 24% (0.32 million tonnes) was recycled. Of the recycled plastic, 32% came from PET packaging, 30% was composed of PP materials, and the remainder made up of HDPE and LDPE plastics (KASA, 2021). In 2022, the overall recycling rate in Malaysia was only around 31%, which is significantly lower than Singapore and South Korea (ITA, 2022). In Singapore and South Korea, material-specific recycling data are readily available. Contrastingly, Malaysia lacks detailed information on the recycling of items such as carboard boxes and milk cartons due to stringent segregation and measurement practices. Despite the improvement of recycling rate with the expansion of recycling facilities and initiatives over the last 5 years to 2023, the total volume of plastic and general waste in Malaysia continues to rise, inhibiting the effectiveness of the recycling effort (TheStar, 2023).

Wales.

In June 2024, Wales is ranked second in the world in terms of its recycling efforts (Bryer, 2024). The significant surge in its success is credited to its waste strategy from 2010 "Towards Zero Waste" in which escalating recycling targets are set for local authorities in Wales, whereby financial penalties imposed if targets were missed (Amanor-Wilks, 2024). The effect trickles down to the daily lives of households as recycling collection services largely operates on a 'Kerbside sort' scheme where residents sort their waste and place their recyclable items into separate containers for different types of material, such as cardboard, paper, cans and tins, glass, plastic container, and food waste.

As outlined in its strategy, the Welsh Government's preferred kerbside-sort method is used by most local authorities (Cardiff Caerdydd, 2022). Each district varies in its logistical options but residential streets in Wales would commonly be lined with containers and sacks of separated materials (Aitken, 2024). Compared to generic recycling bins, this has by far been the most effective as the detailed sorting and cleaning prior to collection lowers costs, prevents contamination and ensures that 99.97% of collected items get recycled (Wastesavers, 2018). Similarly, businesses have been legally mandated to separate recyclable materials following the same categorising procedures as most households. Workplaces are recommended to implement a bin system where bins will be clearly labelled as to signpost the suitable recycling site for each item (SL Recycling, 2024).

Japan.

With a direction of circular economy and net-zero Greenhouse Gasses (GHG) emissions toward 2050, Japan established 3Rs (Reduce, Reuse, Recycle) + Renewable approach to ensure a widespread practice of the 3Rs and encourage replacement by renewable resources (MOE Japan, 2023). One of its strategies includes the

sophistication of recycling efforts by segregating recycling processes for different waste type. PET plastic waste, for instance, is handed to a list of government approved contractors with the capabilities to transform them into a range of recycled materials with cleaning process done at source by consumers (Noda, 2023; The Japan Containers and Packaging Recycling Association, n.d.). This focus on proper waste management that is prominent in Japan's context, where the scarcity of public garbage bins serves as both a security measure and indication of the cultural aversion for littering.

The 1995 sarin gas attacks prompted the decision to reduce the number of garbage bins nationwide, forcing residents to adopt a thorough waste disposal system where collection days vary based on types of waste and region (Richarz, 2019). For instance, PET and non-PET bottles, and cans would be collected every Wednesday. Despite the country's low overall recycling rate in 2022 with a percentage of 19.6%, Japan has a high plastic recycling rate at 87% (Klein, 2024a; Klein, 2024b).

South Korea.

In 2022, 86.8% of waste disposed in South Korea was recycled, with only 13.2% was sent to landfill, incarnated, or processed through alternative disposal methods (Yoo, 2022). These results are linked to waste management policies, including the Extended Producer Responsibility (EPR) policy for packaging. Additionally, the Volume-Based Waste Fee (VBWF) policy holds consumers accountable by requiring them to purchase designated trash bags for specific types of waste (Ro, 2021). The clear roles and responsibilities of stakeholders within the value chain, and efforts in prevention of excessive packaging through self-verification platform and consultation for proper packaging, allows operations to run efficiently and productively towards the nation's Circular Economy Society goal (Bünemann et al., 2020; KEC, 2024).

Furthermore, waste segregation and preparation for recycling are done at source. This means individuals are required to sort their waste into distinct categories and prepare them for recycling – including rinsing, drying, and flattening – before disposal to public recycling bins (ENKOR, 2024; Ro, 2021). As more people used public bins to evade fees under the VBWF system, trash cans were gradually removed from the streets (Da-hyun, 2024). Nevertheless, South Korea aims to tackle its plastic waste by reducing its production by 50% and recycling 70% of it by 2030 (Belcher, 2021).

3.3.3 EcoCycle Initiative

Following the recycling process outlined in section 3.2., this studywill provide a further explanation on the standard operational procedures (SOPs) for recycling the distinct type of packaging waste as well as the Key Performance Indicators (KPIs) that ZUS Coffee could achieve. The recycling process of packaging waste initiative will be referred to as "EcoCycle".

Standard Operating Procedures (SOPs).

Cardboard boxes.

Cardboard boxes are primarily generated from the boxes used to hold packs of milk cartons and from other store supplies including packed coffee grounds and certain food items. These are typically generic and acceptable at most recycling centres. Furthermore, the team has found that the most cost-effective method for cardboard box collection would be to reuse some of the larger boxes. This is because the volume of cardboard box waste from each store would not be too significant to warrant for cages that used in malls or supermarkets.

When recycling cardboard boxes, it is important to remove any adhesive tape prior to dismantling the box. The tape should be disposed of in the general bin, while the cardboard itself should be flattened and stacked before placing in open containers or bundled and later counted for collection (ZWM, n.d.). This saves space, keeps the boxes organized, and ensures they are easier to transport for collection. By grouping the flattened boxes, the risk of them getting mixed up with other materials is reduced and collection efficiency improves since recycling partners can handle compact, sorted materials more effectively. It should be noted that wet cardboard must be excluded from the stack as moisture makes it harder to recycle (Priory Direct, 2024).

Besides that, ZUS Coffee could potentially work with existing or new suppliers by providing them with the cardboard prepared for the manufacturing of cup holders.

Milk Cartons.

At ZUS Coffee, a variety of milk brands have been noted, including *Oatside* oatmilk, *FreeNow* coconut milk, and *UHT Yarra* farm milk. Most of the cartons from these brands utilize Tetra Pak packaging and are made from FSC-certified materials. In general, milk carton packages can easily be recycled in three simple steps. Firstly, fully emptying the milk carton and rinsing it.Secondly, flattening the package. Lastly, placing the whole package, including the cap into the recycling bin (Tetra Pak, n.d.). Official Tetra Pak packaging recycling partners in Malaysia include in SHA Paper Mill Sdn Bhd and SHA Hup Aik Sdn Bhd, both of which ZUS Coffee has previously collaborated with. Additionally, ZUS Coffee's employees would need to keep track of the quantity of milk cartons that are collected for recycling to analyze the trend and impact.

As the emptied milk cartons are currently discarded with other generic wastes by the baristas, ZUS Coffee could provide separate bags specifically for the collection of clean and flattened Tetra Pak packaging. A colour-coded bag could be placed at the barista station to allow for ease of collection and to avoid mix up with the generic waste.

PET Cups.

Based on observation at the Johor Bahru outlets, only one disposal bin is currently provided at each store, with all waste classified as general waste. In July 2024, its initiative with Riiicycle in Penang area resulted in 137 cups collected and recycled (ZUS Coffee, 2024). Considering that in Penang there are 41 ZUS Coffee outlets and the number of customers each day in each outlet is approximately 59, ZUS Coffee is still behind in its sustainability goal (ZUS Coffee, 2024). To improve waste management practices, ZUS Coffee could provide a separate bin for its PET cups and involved customers in the segregation process.

Customers would be encouraged to remove the cup lids and straws into the general waste bin, and liquid into the sink, while placing the emptied cup in the recycling bin. A printed guideline next to the waste bin could be displayed to ensure clarity of disposal. ZUS Coffee's employees would then be responsible for rinsing, drying, stacking the cups for collection on the stipulated day, while also documenting the quantity of cups. This initiative could first be piloted at ZUS Coffee's shophouse outlets as there are more space availability, less operational limitations on rinsing and drying of the PET cups for collections, and more customers staying back at the store, unlike that in ZUS Coffee's *grab & go* and *hybrid café* chains.

Performance Indicators.

Recycling Rate.

Aligning with Malaysia's target to achieve a 40% recycling rate of household waste by 2025 under the Twelfth Malaysia Plan 2021-2025 (EPU, 2021), ZUS Coffee can use this as a KPI benchmark, ensuring that at least 40% of packaging waste generated from each outlet are collected and recycled. Based on the team's estimation, ZUS Coffee can aim to recycle approximately 50 tonnes, 28 tonnes, and 120 tonnes of cardboard boxes, milk cartons, and PET cups, respectively in 2025 (ZUS Coffee, 2024). ZUS Coffee could gradually increase its target threshold to reach up to 70-80% of recycling rate as visioned by countries like Japan and South Korea over time.

Employee's Proficiency in Waste Handling.

One goal is to have at least 50% of ZUS Coffee staff across Malaysia are trained and well-versed in handling waste, following EcoCycle's phased scale-ups across ZUS Coffee outlets. ZUS Coffee can create a short anonymous survey to gather employees' feedback and address operational pain points to further refine the initiative. A low number of negative inputs from employees would be a great indicator for ZUS Coffee to gauge

the effectiveness and seamlessness of EcoCycle. Otherwise, it could be a decisive criterion for ZUS Coffee whether to proceed or discontinue EcoCycle moving forward.

Customer Sentiment.

As customers are involved in the segregation process of PET cups, ZUS Coffee should also evaluate customers' sentiment towards the initiative using metric, such as Customer Effort Score (CES). ZUS Coffee can gather such information by asking customers a short question in ZUS Coffee's mobile application after the payment process. A lower CES indicates that the segregation process does not require much effort, nor does it negatively affect the overall customer experience. While additional steps of segregating plastic waste could potentially be perceived as *burdens* for customers, such good habits can gradually influence them to be responsible for their own waste.

3.3.4 Workforce Development

The first step of the EcoCycle implementation is to set up the Green Team which will be discussed in detail in section 3.4.3 and get the current baseline of waste generated for each packaging type. SOPs will then be communicated to the internal management before securing recycling partners and selecting several ZUS Coffee branches to pilot the EcoCycle initiative. Next, in-store employees in those selected branches will undergo training on proper waste handling. Logistics Operators responsible for delivering inventory and collecting recyclable items will also be briefed on the recycling collection schedules. There are two potential training methods that are being considered: an online booklet offering a detailed, easily accessible recycling guideline including timelines, and a short video tutorial to provide clarity on the procedures.

Given the new operational changes, employees are expected to require a one-month period to adjust accordingly. Trials would be held twice, followed by feedback from employees, customers, and recycling partners, as well as revision to SOPs where necessary. The team suggests piloting the program beginning from the KL/Selangor region where it has the highest concentration of outlets – 248 out of 586 outlets – and serves as the location for ZUS Coffee's warehouse (ZUS Coffee, n.d.-b). ZUS Coffee can eventually communicate and implement EcoCycle to other branches and regions in the long run. As seen in Appendix C3, the image presents a detailed timeline for the implementation of the new procedure to be introduced at ZUS Coffee.

3.3.5 Recycling Implementation Schedule

ZUS Coffee can implement a staggered recycling schedule for each packaging waste recycler in a similar manner to the recycling systems established in Japan. Packaging waste will be collected on the same day of supply delivery and then brought to the warehouse. Partnering recyclers will then be able to collect waste in-bulk, even specifying the amount to be collected, on a weekly basis, scheduled for a specific day which has been agreed upon. This approach will enable ZUS Coffee to monitor both the total packaging waste generated and the amount recycled each week, while also providing partnering companies with the benefit of avoiding the hassle of collecting small quantities of waste on a daily basis. Appendix C4 illustrates a sample timeline that ZUS Coffee can follow and adjust accordingly depending on factors such as recycling partners' location and supply delivery timing to different regions. Assuming store collection happens on Monday, partner recyclers can start collecting the waste on the subsequent days from ZUS Coffee's warehouse. By doing so, ZUS Coffee can avoid overflowing its warehouse from the collected packaging waste as recycling partners would collect the waste on a regular basis.

As more packaging waste is collected and brought to the warehouse at KL/Selangor, ZUS Coffee can consider setting up a collection point at several ZUS Coffee outlets outside KL/Selangor and engage with recycling companies in other regions to mitigate overloading of warehouse in KL/Selangor, reducing the burden of recycling partners. To ensure more flexibility for ZUS Coffee and recycling partners, the internal disposal value chain can be extended further whereby recycling partners can collect directly at designated ZUS Coffee outlets and ZUS Coffee can provide service to deliver the items to be recycled immediately to recycling partners' facilities, as seen in Appendix C5.

3.3.6 Recycling with Impact – CAREton Project

ZUS Coffee can do more than just recycling packaging waste to minimize environmental impact. In fact, CAREton Project, a recycling awareness campaign co-organised by Tetra Pak Malaysia and Nestle Malaysia, has been recycling used beverage cartons into roof tiles and panel boards to be donated to NGO's and other community projects since 2012 (Tetra Pak Malaysia, 2020). Through this CAREton Project, individuals and businesses alike can donate and recycle their used beverage cartons by dropping them off at designated drop-off points scattered across Malaysia. These drop-off points generally tend to be businesses who have become CAREton Collection Partners and as such, have designated certain outlets/stores as drop-off locations such as Tzu Chi Malaysia, 99 SpeedMart, Pertumbuhan Amal Seri Sinar, and, etc. The used beverage cartons will first be transported from the drop-off points to KPT Recycle Sdn Bhd who will sort the cartons, and then to S.H.A. Hup-Aik where they will be processed and into roof tiles and polyAI panel boards. A major beneficiary of this campaign is Epic Homes, a nonprofit organization building homes for the Orang Asli community since 2010 (Epic Homes, 2024). To help supply the roof tiles needed to build the homes, it is estimated that approximately 67 kilograms of beverage cartons (2,100 milk cartons) are required to produce one roof tile and 46 roof tiles (88,000 milk cartons) to complete one Epic Home. Since the project's inception in 2012, a cumulative total of 4,700 tons of used beverage cartons have been converted into polyAI panel boards and roofing tiles to build 1,500 Epic Home (Tetra Pak Malaysia, 2020). By following the footsteps of CAREton Project, ZUS Coffee can not only look to minimize environmental footprint, but also support local communities at the same time.

3.4 Grounds to Grow Initiative

3.4.1 Large Environmental Costs of SCGs

SCGs, the residue obtained during the coffee brewing process, forms the largest source of edible-sourced food waste in ZUS Coffee's value chain, amounting to 615 Metric Tonnes of SCGs in the first half of 2024 alone (ZUS Coffee, 2024). This issue is commonly echoed across the coffee beverage industry, which is the most abundant waste generated, amounting to 60 Million Tonnes globally (Forcina et al., 2023). The effects of excessive SCGs in landfills further aggravate the dire climate change. After reaching landfills, this immense amount of SCGs usually takes at least three months before decomposition starts, releasing toxic compounds like acidic leachate, and damaging the surrounding soils (Kanniah, 2020). At this stage, SCGs release methane gas into the atmosphere, which has a greenhouse effect 28 times higher than carbon dioxide (bio-bean, n.d.). Given the high environmental costs associated with the improper disposal of SCGs and ZUS Coffee's large operational scale, ZUS Coffee can actively play a part in the *waste valorisation*.

3.4.2 The World Wildlife Fund Hotel Kitchen Asia Pacific Toolkit (WWF Toolkit)

Given the lack of standardisation in sustainability within the F&B industry in Malaysia, the team has adopted the WWF Hotel Kitchen Asia Pacific Toolkit (*referred to as the WWF Toolkit)* which provides best practices for minimising food waste for hotel kitchens in Asia Pacific and adopted by renowned hotels like The Westin Kuala Lumpur and Grand Hyatt Singapore (Pearson & McBride, 2017). The team has identified this to be the most comprehensive toolkit, applicable to eatery businesses, besides hotels, and have made relevant adjustments to tailor it for ZUS Coffee's operational needs.

3.4.3 Establishing the Green Team

The WWF Toolkit firstly prioritises establishing a *Green Team*, a set of internal employees and external stakeholders (e.g., donation partners) related to managing food waste. Secondly, establishing a *Standard Operating Procedure (SOP)* related to the separation and measurement of Food Waste across different ZUS Coffee Outlets will be essential to allow standardisation of efforts, setting of goals, and impact quantification (Pearson & McBride, 2017).

The Green Team serves to designate individuals with clear roles related to sustainability initiatives, while fostering motivation and a culture around sustainability in day-to-day operations. The team has adapted the WWF Toolkit recommendations and tailored them to ZUS Coffee's operations as follows, to establish the

Green Team. Each ZUS Coffee Outlet will have its own Green Team of Store Managers and Operations Lead. Furthermore, the Green Team will also consist of PR & Marketing Lead, and HR Leads, as shown in Appendix C6.

To foster a culture of sustainability, the WWF Toolkit recommends that motivation should come from the top of the organisation, for example, having daily positive reinforcements and acknowledgments from the leadership level or by Store Managers. The toolkit recommends having regular townhall meetings to share best practices between green teams of different stores (Pearson & McBride, 2017).

As a short-term push for motivation, ZUS Coffee can implement creative programs to kickstart a culture of sustainability. For example, ZUS Coffee can implement a *Leadership Board Challenge* to set a clear goal for each store's green team, thereby measuring and publishing each store's progress periodically to stir a spirit of competitiveness. The winning Green Team will be crowned as the '*Sustainability Champion'* and be rewarded incentives. This allows as a platform to not only share best practices amongst each Green Team's outlets, but also communicates ZUS Coffee's first step towards sustainability.

3.4.4 Key Benefits of SCGs

Based on the WWF Toolkit, the next best step for ZUS Coffee is to donate its SCGs. In this section, the team explores the key benefits of SCGs and recommend two ways of donating SCGs to community partners and customers.

Agricultural Uses.

Research has shown that SCGs are rich in nutrients like Potassium, Phosphorus, Magnesium and Calcium which can accelerate soil nutrients in agriculture to act as a substitute for conventional fertilizers, simultaneously accelerating plant growth, and even enhancing vegetables' nutritional content (Bomfim et al., 2022). However, key limitations of using SCGs exist due to coffee's acidic nature which has a toxic effect to the soil if used in excessive amounts. Certain workarounds are needed in order to best utilize SCGs. For example, the decreased number of earthworms in the soil due to the use of SCGs can be reversed by adding used cardboard boxes to the composting process (Liu & Price, 2011). Therefore, utilizing SCGs requires experimentation based on variables such as soil type, amount of SCGs used, and types of plant grown, in order to understand the most effective practices for their application.

Non-Agricultural Uses.

SCGs are often used in households as practical *life-hacks* such as placing SCGs in bowls or tea bags around the houses (e.g., refrigerators, cupboards, in shoes) to remove bad odour. Given the nutritional benefits for SCGs, many repurpose and treat SCGs using other household materials like coconut oil and olive oil as body coffee scrubs (Yee, n.d.). Competitors like Starbucks and DOME Café Malaysia have implemented initiatives to give away SCGs for free for customers. Across both outlets, SCGs are packaged in compostable or reused bags near the retail checkout areas and promoted as compost & fertilizer materials for customers to bring back home for their gardens, as shown in Appendix C7.

3.4.5 Implementation

A recommended implementation plan is to firstly host a pilot program by donating SCGs to key partners such as community stakeholders like Kebun Kebun Bangsar (KKB) and Green Steps Malaysia (GS Malaysia). Given the risks of utilising SCGs due to its toxicity as mentioned in 3.3.4, ZUS Coffee needs to experiment with how to best decompose SCGs and utilise them as a fertilizer, before donating it to customers. Working closely with KKB and GS Malaysia over the course of 3 months, would allow ample time for ZUS Coffee to gain feedback and understand the best practices of treating SCGs and maximising its agricultural use before making sound recommendations to customers. A flowchart to illustrate the overall implementation timeline is given in Appendix C8.

For the Pilot Program with KKB, the key milestone is to establish at least 25% of SCGs donated per retail store.Given the team's analysis that each retail outlet produces 26.5kg of SCGs, this amounts to an estimated 6.6kg per retail outlet per week and donating a total of 19.6kg of SCGs across the three ZUS Coffee outlets. Conducting such pick-ups at a smaller scale builds up a habitual routine and allows for a pilot test to figure out operational logistics before the program further. Within the timeframe of 3 months, another key milestone is to develop a close relationship with KKB to leverage their farming experience to understand the best recommended steps to use ZUS Coffee's SCGs.

Thereafter, ZUS Coffee is to pilot the donations of SCG in their outlets, gauging the customers' interests in taking home used SCGs at 1 to 3 retail outlets with the highest SCG volume and high customer footprint. This acts as an excellent test bed for baristas to understand and develop a SOP (e.g., a digital poster or brochure) for SCGs Donations. ZUS Coffee is recommended to internally discuss and align goals for these two programs after the pilot phases based on logistical constraints and customers' interests. Another key point is to align with Kebun Kebun Bangsar on potentially scaling up the donations and gauge its receptiveness moving forward. Lastly, ZUS Coffee can implement both programs at a larger scale once the SOP has been disseminated to the relevant participating ZUS Coffee retail outlets in the programs. ZUS Coffee can consider diversifying its farm partnership beyond Kebun Kebun Bangsar and ramp up its digital marketing efforts to raise awareness about its SCG Donation Scheme.

Further details regarding the implementation timeline and key milestones are elaborated in Appendix C9.

3.4.6 Partnerships

Kebun Kebun Bangsar (KKB)

After conducting multiple partner research, our team has identified 'Kebun Kebun Bangsar' to be a viable partner for ZUS Coffee's initial collaboration for partnership. Kebun Kebun Bangsar (KKB), an urban veggie farm located at Kuala Lumpur, welcomes volunteers to tend for their veggie gardens and regularly hosts community events, such as working remotely at the garden together for free. The farm aims to educate visitors on environmental consciousness and sells fresh produce farmed sustainably through its farmer markets. The team has contacted KKB the farm for queries, and they are receptive to SCGs donations of any amounts. However, it does not do pick-ups, necessitating ZUS Coffee to drop-off its SCGs at the designated donation bin at the farm.

Green Steps Malaysia (GS Malaysia)

Green Steps Malaysia designs zero-waste solutions, tailored for the community and corporate solutions, offering digital solutions such as calculating carbon dioxide emissions. The organisation has previously worked with Panasonic to implement the Food Waste to Wealth Program, designing a competition encouraging households to segregate types of waste and compost food waste (Panasonic, 2023). The organisation has established 6 Community and 2 Café Compost Rings, providing residents and Green Steps' café partners with an easy solution to divert SCGs, Tea Leaves, and Vegetable Peels away from landfills (Green Steps, n.d.). After contacting GS Malaysia, the organisation is open to working with ZUS Coffee and is keen to arrange a call to discuss about the logistics arrangement.

4. SOCIAL INITIATIVES

4.1 Social Issue in Malaysia

As waste is the most pressing sustainability issue identified earlier in section 2.2 Competition Landscape, the social initiative ideally ties back to waste management.

4.1.1 Food Insecurity

Food insecurity is a significant social challenge in Malaysia, with the country ranking 56th out of 125 countries in terms of hunger levels. Despite having a moderate level of hunger, the country is struggling to

maintain their food security. The Global Hunger Index (GHI) reveals an escalation of food insecurity, from 10.9 in 2014 to 12.5 in 2022. In Malaysia, one-third of the children are facing malnutrition while one-sixth of the children face either wasting[2], stunting[3], or both. The statistics show a multifaceted picture of hunger and nutritional deficiencies which disrupt the country's socio-economic landscape, such as inhibiting the country's progress to achieve zero hunger by 2030. 2024 reveals an escalation of food insecurity, from 10.9 in 2014 to 12.5 in 2022. In Malaysia, one-third of the children are facing malnutrition while one-sixth of the children face either wasting, stunting, or both. The statistics show a multifaceted picture of hunger and nutritional deficiencies which disrupt the country's socio-economic landscape, such as inhibiting the country's progress to achieve zero hunger by 2030.

Rising commodity prices over time has made it challenging for children in low-income families to obtain the necessary nutrients. For instance, in Kuala Lumpur, 52% of these children consume less than 3 meals per day (Sipalan, 2024). Moreover, the pandemic creates economic hardships for these families to obtain sufficient calories as they focus on mere survival. The high reliance of imported food and supply chain disruptions further exacerbated this issue (Urban Hijau, n.d.). To address inflation and food insecurity challenges, the government emphasised food security as a key issue in the revised budget 2023.

4.1.2 Food Waste

With lack of compulsory reporting, comprehensive management framework, and advanced technology to manage food waste, Malaysia has a high food waste in comparison to other ASEAN countries. In comparison to other Southeast Asia countries like Singapore and Thailand, Malaysia almost doubles the amount of waste. In 2023, Malaysia's food waste per capita reached 260kg (ITA, 2024), compared to 146kg for Thailand (The Nation, 2024), and 130kg for Singapore (NEA, 2024; Worldometer, n.d.). Due to data constraints, the most recent data for Indonesia is in 2021 with 184kg of food waste per capita (Natalia, 2024). In Malaysia, food waste contributes to 44.5% of the total waste, followed by plastic with a proportion of 19% (Graze Market, n.d.). Food waste is an alarming issue, comprising 55% of landfill waste, which contributes to 58% of methane emission from landfill. Of this 58%, 61% of methane emissions escape capture by technology and are released into the atmosphere. (Lauria, 2024). This issue is concerning as methane can trap 80 times more heat compared to carbon dioxide, accelerating global warming (Garthwaite, 2021).

The main issue that drives food waste in Malaysia is the inadequate recycling facilities and ineffective waste management systems (Azri et al., 2022). In terms of government regulations, Malaysia has implemented comprehensive food waste management framework such as Solid Waste and Public Cleansing Management Act (SWPCMA) 2007. However, it lacks uniformity across the country, especially in Sabah and Sarawak (Kamaruddin, 2022), and there are no solid strategies to tackle food waste. Cultural and social gatherings further exacerbate food waste due to overpreparation to accommodate guests. This problem is intensified due to the lack of initiative from the public. While 70% of the population is aware about food waste, there is a gap between awareness and action with only 50% taking action to minimize it (Hang, 2024). Compared to other Southeast Asia (SEA) countries, specifically Indonesia, awareness of the food waste issue is notably low, with only 38% of the population understanding this matter. Annually, Indonesia produces about 30 million tonnes of food waste, which is equivalent to MYR 96 trillion of food loss, mainly from the distribution and consumption stage (Widyanti & Chaniago, 2024).

In more developed countries like Singapore, less food waste per capita is observed due to landfill constraints. Moreover, strong government regulations in managing organic waste put Singapore ahead of the other SEA countries. To illustrate, in 2021, large enterprises are required to allocate space to segregate food waste in their design plan. In 2024, the Resources Sustainability Act was placed to treat food waste from

[2] a condition in which a child is too thin for his or her age due to significant weight loss or failure to gain weight

[3] a condition in which a child is too short for their age

industrial activities (NEA, 2020). Nonetheless, since the regulation was newly enforced, only 18% of food waste is recycled so far. Thailand, on the other hand, like Malaysia, has no enforced regulations. However, Thailand has biogas plants to convert food waste into energy (Wachpanich & Coca, 2022). Additionally, strong partnerships with NGOs, such as Scholars of Sustenance (Scholars of Sustenance, n.d.) create a greater impact on food waste management compared to Malaysia.

4.2 ZUS Coffee Past and Ongoing Social Initiatives

Based on the survey, the top 3 social initiatives are training for employees, supporting community, and diversity. ZUS Coffee has roughly touched all 3 points. To enhance employees' skills, ZUS Coffee provides on-the-job training for employees and implements a roadmap to guide employees' career progression. ZUS Coffee also displayed its inclusivity through its partnership with Audiolab where it supports hearing impaired employees. The coffee chain also integrates more Malaysian tradition into its innovative menu, like the Cham Latté to celebrate diversity of Malaysian culture.

In terms of community service, most of ZUS Coffee's initiatives focus on Gaza as it is a more pressing issue in today's time. These initiatives include collaboration with Malaysia Consultative Council of Islamic Organization (MAPIM) to donate RM100,000, collaboration with MyCare to aid for water tanks and mobile medical clinics, and more. For Malaysia, ZUS Coffee also provided halal certification education for the public, free coffee after Friday prayers, and sponsored welfare goods for underprivilege children and single mothers. Since the majority of ZUS Coffee's customers are Malaysian, it would be beneficial for the company to engage in more impactful community service initiatives that directly benefit the Malaysian community.

4.3 Potential Social Initiatives

Based on the WWF toolkit as elaborated in section 3.4.3, the organic food waste management effort will focus on the planning, handling, donation, and diversion in a sequence to reduce excess food. Weighing the alternatives, the earlier stages namely planning and handling, are preferred compared to the later stage as these are the anticipation stage. This means that the cost of production will be lower as the variable cost from producing too much quantity reduces. Donation and diversion, on the other hand, is a mitigation stage for when food has reached individual outlets. In planning, it is best to double check the inventory, such as ingredients, that is stored in central kitchens to prevent spoilage. To better gauge the quantity to be produced each week, weekly communication between central kitchen and outlet is essential. Second, handling emphasizes checking the accuracy of the items sent to the outlets to ensure that the delivered items are correct and match the expected quantity. In the event of overproduction, having a proper storage space for surplus food is a crucial step to assure that the food for donations is edible. If applicable, ZUS Coffee can repurpose surplus food into second prepped meals, depending on the resources available.

Third, donation highlights working with food recovery partners and ensuring that all staff are aligned in the process. For instance, having one donation lead per outlet acting as the communication hub between the outlet, central kitchen, and food recovery partners. Training all staff part off the operating procedures is crucial for smoother donation processes. Additionally, to limit liabilities, ensure compliances, and have clearer partnership agreements, ZUS Coffee should have a written agreement with the food recovery partners that covers the role of each party. To observe the trends and provide feedback to central kitchen for production quantity adjustment, the number of donated excess food should be monitored and analysed. Although the demand each week varies, performing a data-driven decision allows ZUS Coffee to forecast future demands more accurately. Ultimately, this will reduce the amount of excess or spoiled food. When donation is not possible, the last step is diversion. For instance, composting programs like feeding inedible surplus food to maggots. The objective is to reduce landfill disposal and lower waste bills from reduction of waste volume. Nonetheless, it is important to note that it can infect human tissue when it is in contact with human blood, although the chances of contact are low.

4.3.1 Sharing Abundance

With an average of more than 10% of excess food each day in the several stores, especially in Coffee Meets Pastry by ZUS Coffee, ZUS Coffee can consider working with Food Bank Malaysia (FBM) in two phases. For the first phase, FBM will collect nearly expired perishable and non-perishable food from selected ZUS Coffee locations in KL/Selangor with full ZUS F&B menu on a weekly basis. These F&B will be distributed to beneficiaries of their choice, such as refugees, low-income families, other welfare organizations, charities, and soup kitchen if applicable, free of charge. If the excess food quantity is low, ZUS Coffee can choose to deliver it to FBM's transit storage in Cyberjaya or discuss alternative arrangements with the foodbank.

The second phase focuses on opening a mini ZUS food bank pop-up in certain locations, around the neighbourhood or in more remote areas. This targets schools with underprivilege students, welfare organizations, and villages in rural areas. While the first approach is a continuous weekly action, the latter is a twice-a-year initiative. As going to rural areas might increase logistics cost, the mini-food bank is suggested to be a bi-annual initiative as a part of management employees' volunteering activities. The objective of this approach is not only to minimise excess food, but also to increase media exposure, especially when it is done in a more remote area. This publicity will focus more on the digital presence through news, social media, and ZUS Coffee's website. One concern when it comes to implementing this second phase, is the unpredictable quantity of excess food. Thus, instead of directly giving out the F&B, beneficiaries can play a simple mini game to control the F&B taken by each person. The game can be as simple as throwing balls to the labelled buckets where they can win F&B depending on where the ball lands on (Appendix D1). In the long run, FBM will have a pilot program to guide businesses to implement such a program.

4.3.2 Rescue Bites

For outlets not participating in food donation activities, especially outlets outside of KL/Selangor, outlets with drinks and partial food, and drinks only outlets, ZUS Coffee can broaden its customer base by selling nearly expired food and beverages by partnering up with local start-ups, namely ReMeal and Paperbox. ReMeal is a food ecommerce platform like GrabFood, which focuses on offering excess food at a special rate (ReMeal, n.d.-a). The app is available on mobile devices, along with a separate application called the ReMeal Seller app, specifically designed for businesses. Businesses in ReMeal have flexible commitment period with no minimum duration. In return, 20% of the sales revenue will go to ReMeal as commission fee for utilizing the platform. Although the app operates across Malaysia, in the meantime, its partners are only in bakeries and coffee shops in Kuala Lumpur and Sarawak, such as Celsius coffee, as it only launched in early 2024.

In terms of mechanics, ReMeal is quite intuitive, like other food e-commerce platforms. Sellers can list a mystery box with surprise excess food or individual items on their store in ReMeal (ReMeal, n.d.-b). By default, customers can browse for brand names or products through the app. Then, customers can purchase and pay directly from the ReMeal app. Lastly, customers can pick up the food in the chosen outlet when it is ready. Joining ReMeal can help ZUS Coffee recover sunk costs from the production of ZUS Coffee F&B by expanding its customer base, in addition to minimising the amount of food waste from excess food. However, ReMeal currently only offers self-pickup.

ZUS Coffee can enhance its visibility by partnering with another food excess app, such as PaperBox, which offers both self-pickup and delivery options (PaperBox, n.d.). Nevertheless, since PaperBox is in their early stages, their app is still under development. Currently, customers' orders are scheduled via a Google Form, which then the PaperBox team will manually process and reach out to customers for confirmation within three hours (PaperBox, n.d.). The Google Form consists of all listed vendors and the necessary customers information such as delivery, self-pickup, contact details, address, and payment confirmation, just like the ReMeal app with different visuals. In the event where there is no item stock left, PaperBox will contact customers for cancellation or reschedule their order to the following days. PaperBox also has no minimum commitment, only a low

commission fee of 10% of the total sales for their soft launch period. However, this will increase to 15-25% depending on the business size from February 2025 onwards after the app is ready.

Geographically, PaperBox covers more cities in Malaysia compared to ReMeal, and its delivery option makes it more convenient for customers. On the other hand, ReMeal has a fully established app, offering a better user interface and user experience which is more likely to be more enticing to customers. By having presence in both apps, ZUS Coffee can amplify its chance of selling its excess food. In return, not only that both start-ups get a commission fee, but also better credibility as ZUS Coffee is a well-established brand in Malaysia.

5. GOVERNANCE

5.1 Reporting Standard

The foundation of sustainability reporting is for a firm to pinpoint and prioritize its impacts on the "*economy, environment, and people",* thereby increasing a firm's transparency about their overall impacts to stakeholders. This signals credibility for companies and guide readers on using disclosed information to assess the firm's current policies and strategies (Global Reporting Initiative, n.d.-b).

5.1.1 GRI

Global Reporting Initiative (GRI) is an independent and international organization that helps businesses take responsibility for their sustainability-related impacts by providing a comprehensive guide of topics to disclose on. It is a widely popular sustainability reporting framework adopted by 68% of N100[4] companies globally and almost 100% of the N100[4] companies in Singapore and Taiwan (KPMG, 2022). The GRI is also a recommended reporting framework by Bursa Malaysia, as its requirements align closely with Bursa's own standards. Using GRI as a reporting framework not only increases comprehensiveness amongst readers, but it also acts as a great foundation before building on other existing disclosing standards.

GRI has three main standards: Universal, Sector, and Topic Standards. All companies are advised to follow the Universal Standards, which act as a guide with information on the purpose of GRI standards, the disclosing structures, and how the materiality topics are chosen and managed (Global Reporting Initiative, n.d.-b). Then, companies will select the most applicable Sector Standards according to the industries. The Sector Standards published by GRI are still incomplete, only covering 6 out of 40 industry sectors (Global Reporting Initiative, n.d.-c). As such, the most relevant Sector Standard to ZUS Coffee as of November 2024 will be for Agriculture, Aquaculture, and Fishing. After a Sector Standard is chosen, it is compulsory for companies to disclose all related information within those sector standards (Global Reporting Initiative, n.d.-b). To exemplify, *food security* topic falls under Agriculture, Aquaculture, and Fishing Sector Standards, which requires companies to disclose on the total weight of waste generated in metric tonnes by various waste types.

5.1.2 TCFD and ISSB

Task Force on Climate-Related Financial Disclosures also known as TCFD (CDSB & SASB, 2019) and the International Sustainability Standards (ISSB) are sustainability reporting frameworks that ZUS Coffee can look to implement in the medium- to long-term timeline horizon. Of the two, ISSB offers a more comprehensive reporting framework, building upon the required disclosures of TCFD while also introducing additional requirements for greater specificity (IFRS Foundation, 2024). Nonetheless, both TCFD and ISSB are reporting frameworks that focuses more on the climate-related financial risks of a company. This is different from GRI that focuses more on the materiality-risks of a company. For this very reason, TCFD and ISSB are frameworks that more suitable for investors and regulators who would like to see how sustainability factors affect the finances of a company.

Ultimately, a combination of GRI and TCFD/ISSB reporting will allow ZUS Coffee to be more comprehensive in its sustainability reporting and efforts as both materiality and financial impacts will be

addressed. This is especially more so the case for TCFD as it will be required by Bursa Malaysia for Main-Market listed issuers to conduct TCFD reporting from December 31, 2025, onwards (On, 2024).

5.2 Materiality Assessments

ZUS Coffee can map out GRI's materiality topics based on the scale of impacts to stakeholders, and the impacts that ZUS Coffee faces. According to GRI, conducting a materiality assessment is vital to firstly identify material issues affecting a firm's stakeholders. Material issues can be identified from different reporting frameworks such as GRI, SASB, and others according to the industry types. Thereafter, ZUS Coffee can consult both internal stakeholders such as employees and external stakeholders such as customers, suppliers, and investors through questionnaires or survey methods. ZUS Coffee can then incorporate results using quantitative and qualitative methods. Quantitative methods refer to ranking materiality issues in ranks of importance and validating these results with the management team for a *sense-check*; qualitative methods refer to alignment of results with top management's overall strategy.

Based on the team's analysis on customer surveys and competitor's interview, the team has mapped out a sample GRI Materiality Topics Assessment, as seen in Appendix E1. For a more comprehensive approach, ZUS Coffee can involve the other aforementioned stakeholders such as employees, suppliers, and management for a more holistic materiality matrix.

6. FEASIBILITY AND RISK-MITIGATION

6.1 Prioritization Matrix

As seen in Appendix F1, the figure shows the mapping of each initiative according to its impact and required effort, with a distinction between quick wins and major projects in order to better understand the implementation and prioritisation of the team proposed initiatives.

Under quick and easy wins, several initiatives stand out: Green Team ranks the best as it is a low-effort initiative with high potential impact. The Green Team will play a critical role in spearheading efforts and maintaining momentum. Next, Grounds to Grow aligns with existing operations and thus requires minimal additional effort while contributing to waste reduction and community engagement. As Phase 1 of Sharing Abundance involves partnering with Food Bank Malaysia, slightly more effort is required for coordination, though that does not undermine its practicality and ability to address food insecurity while reducing waste.

On the other hand, major projects demand more resources but offer significant long-term benefits. EcoCycle optimizes the recycling process and develops a proper training program and a scheduled system. While this initiative requires higher effort, it brings direct and significant environmental benefits in practicing sustainable waste management across all branches. Next, Rescue Bites involves partnering with organizations such as ReMeal or Paperbox to sell surplus food. As this opens new channels to sell food items and an opportunity to turn food waste into a revenue stream, the team foresees more details to be ironed out internally and with the partners. Lastly, Phase 2 of Sharing Abundance could be more complex to organise and less frequent, however, this initiative extends the impact of the food donation program to underserved communities.

6.2 Implementation Timeline

To elaborate on the detailed steps laid out in Appendix F2, the rollout of these initiatives is planned over the span of a full year, ideally in 2025, segmented into phases to ensure smooth execution and continuous refinement. While the team recognises that ZUS Coffee is still evaluating options and compiling ideas for further consideration, this Gantt chart offers a reference framework to visualize timelines, dependencies, and milestones, helping guide discussions and decision-making throughout the process.

To kick things off, the Green Team will be established at the start of Q1 to lay the foundation for sustainability efforts. After receiving initial feedback and making necessary revisions, the team will expand to include more employees. ZUS Coffee can roll out their preferred program, ideally amongst EcoCycle, Sharing Abundance Phase 1 and Grounds to Grow. These initiatives could be implemented simultaneously and would complement each other in building a comprehensive strategy for ZUS Coffee's ESG efforts.

Throughout the implementation journey, the team has broken down the key aspects into achievable steps to be followed. Moreover, the team has allocated time for pilot programs and trial runs to ensure partner engagement and the development of SOPs. As such, a crucial step for our initiatives would be the feedback loops that help ensure that adjustments are made before full implementation across all outlets. While not captured in Appendix E2, ZUS Coffee could also establish a governance framework as recommended in 5.1. In the long run, ZUS Coffee could consider exploring ways to reduce the amount of waste generated from its online purchases on top of the established incentives.

6.3 Budget Analysis

Our strategy is centred on cost-efficiency to promote frictionless adoption across ZUS Coffee branches. To achieve this, we've structured our recommendations around three guiding principles around financial feasibility: to implement them within the monthly budget of $10,000 Ringgit Malaysia, to minimize recurring costs, and to follow a phased expansion approach.

Firstly, the team intends to reuse existing materials and packaging wastes in the execution of our recommendations. Of which, only the collection of Milk Cartons and PET Cups could incur additional costs for the Environmental initiatives. Similarly, the setup of bi-annual pop-up booths under Sharing Abundance would require funding, though it is less frequent, and the precise implementation cost remains challenging to determine due to the numerous assumptions required.

In the same vein, variables such as transport costs and unequal sales volume across outlets introduce significant variability, making an exact estimation difficult. As such, our team focused on leveraging existing resources and reusing waste materials to minimize the costs produced. For example, ZUS Coffee can leverage on the current supply chains for the collation of waste materials in our EcoCycle idea, thus minimizing transport costs and keeping new expenditures to a minimum. Consequently, further detailed analysis and validation of assumptions are recommended for ZUS Coffee to achieve a more accurate cost projection.

Among the foreseeable factors within our scope to manage and influence, the team has detailed our initiatives to minimize recurring costs for financial flexibility. The collection of milk cartons and PET cups incurs low variable costs, as only biodegradable bin bags are needed. As such, ZUS Coffee can reallocate funds to other priorities as needed, freeing up cash for ad-hoc community events or to respond to urgent environmental challenges. A detailed breakdown of the initial investment and varying costs can be found in Appendix F3.

Finally, the initiatives proposed are intended to be implemented in phases, starting with outlets in the KL/Selangor region. Piloting initiatives within selected concentrated areas offer several benefits: it minimizes logistical complexity, keeps costs down, and allows for faster feedback loops. Once successful models are refined in this key area, they can be scaled across the rest of the country efficiently, ensuring consistency in implementation.

6.4 Long-Term Risks and Mitigation

To align ZUS Coffee's long-term direction and evaluate the impact of implementing the suggested initiatives, it is essential to consider potential risks and mitigations.

6.4.1 Physical Risk

Physical risks refer to environmental events like floods, droughts, or forest fires that can disrupt operations and impact financial performance. For example, Malaysia has experienced severe floods that not only damaged infrastructure but also disrupted supply chains, impacting productivity and delivery timelines for many businesses, especially SMEs (Bedi, 2022). Climate risks further threaten global coffee production, raising vulnerabilities to price uncertainty, bean quality and taste.Growing coffee demands precise environmental conditions, including specific temperatures, water availability, and soil quality. However, climate change has disrupted these requirements, with increasingly frequent heatwaves, excessive rainfall, and droughts—

especially in the Southern Hemisphere—damaging crops. This instability is straining coffee supplies at a time when global demand is steadily rising (Hoppe & Petroni, 2024).

To mitigate the physical risks involved in the proposed ESG strategies, ZUS Coffee could maintain internal practices such as managing food waste via 'The Green Team' and by adhering to existing SOPs. In times where supply chains could be disrupted, resources would be scarce, and it is important for ZUS Coffee to reduce wastage and maintain a positive image in their contributions to the ESG landscape. More emphasis could be placed on the Social and Governance pillars when physical risks occur, as ZUS Coffee could work towards social causes such as improving the livelihood of farmers most exposed to this risk, or by pressuring supply partners to do more disclosure reporting. These efforts will help maintain a sustainable supply chain and enable ZUS Coffee to contribute to mitigating upstream risks effectively while engaging in ethical coffee beans sourcing (Global Coffee Platform, n.d.).

ZUS Coffee can diversify sourcing regions to avoid over-reliance on specific areas vulnerable to climate risks. Implementing digital dashboards for supply chain visibility can improve resilience by identifying potential disruptions early (Alicke et al., 2022). Additionally, the company can build partnerships with suppliers that adopt unique agricultural practices less dependent on land and climate restrictions, reducing long-term risks from climate change.

6.4.2 Regulatory and Transition Risks

Governments worldwide are introducing stricter environmental policies, such as carbon taxes and cap-and-trade schemes, which could raise operating costs. Companies not prepared to meet these standards may face compliance penalties or increased costs, especially as Malaysia considers expanding environmental regulations (Terrascope, 2024). Diving more into transition risk, it emerges when business models and regulations become outdated. For example, a shift towards eco-friendly packaging might render plastic-based practices obsolete, increasing costs for companies that fail to adapt. The push for sustainable alternatives can make previous strategies less effective or relevant in the market (ClientEarth, 2018).

ZUS Coffee can stay ahead by investing in green technologies, such as energy-efficient equipment and biodegradable packaging. Partnering with environmental organisations to meet or exceed local and international standards will ensure smoother regulatory compliance. Most importantly, setting internal guidelines to align or even outpace national environmental standards would allow ZUS Coffee to be compliant and adapt smoothly with any regulatory updates (Rade, 2024).

6.4.3 Reputational Risk

In today's consumer-driven landscape, brand reputation plays a pivotal role in shaping business success. Companies that fail to meet environmental and social expectations often face backlash, including negative media coverage, consumer boycotts, and loss of trust, all of which can severely damage brand perception. Research indicates that even if a boycott does not directly impact sales, the reputational harm from negative publicity can trigger long-term consequences, such as diminished customer loyalty and declines in stock price (Bonini & Bové, 2014).

To minimize these reputational risks, ZUS Coffee can adopt several proactive measures. These include prioritizing transparency and communication and regularly sharing sustainability initiatives with customers through campaigns and social media.As consumers are increasingly favouring brands that authentically communicate their environmental efforts and ethical sourcing practices, publicising participation in local recycling programs, for instance, can enhance the company's environmental image. Stakeholder engagement is equally important. By collecting feedback from customers and involving them in sustainability-related discussions, ZUS Coffee can foster goodwill and refine its practices in line with consumer values, ultimately building stronger loyalty and trust (Whelan & Fink, 2016).

7. LIMITATIONS AND FURTHER RESEARCH

In this study, several limitations need to be considered for further research. ince the primary research from customer surveys relies on self-reported data, there is a potential of response bias due to subjective interpretations of the questions. The survey data collected might not be fully generalizable to the population as the data is through non-random sampling. Similarly, the interviews with ZUS Coffee's competitors are based on employees' best knowledge and willingness to share, it might not capture the full picture of the competitors' sustainability efforts.

Due to the limited data on ZUS Coffee's logistic operations, the proposed community partners noted that delivery arrangements require further discussion with the management team. Hence, this might impact the budget analysis and timeline. Lastly, the budget is based on estimated prices as of November 2024, which are subject to change in the future.

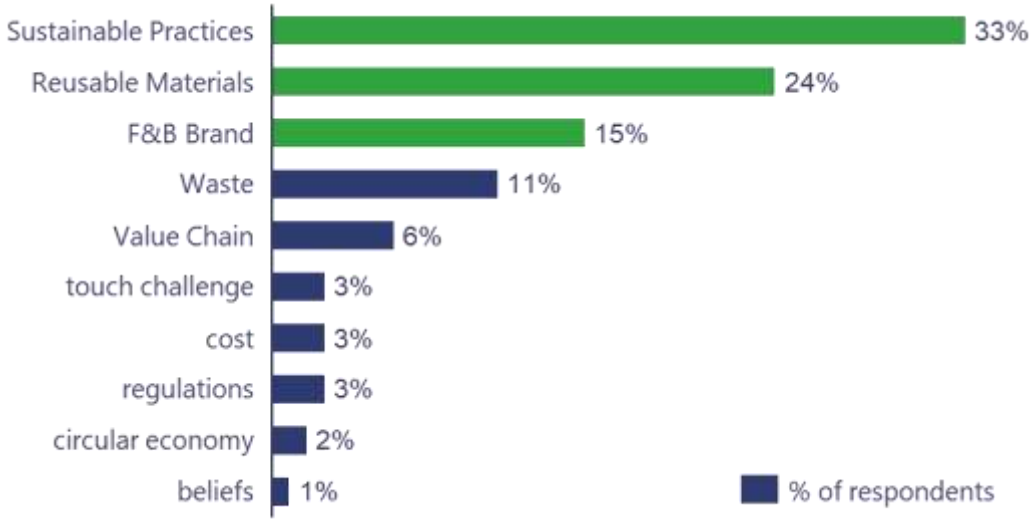
To improve this project, ZUS Coffee can liaise with the recommended community partners with specific details on quantity, frequency, and logistics. This clarity will help partners understand their roles and responsibilities in the partnership, fostering smoother coordination and more effective contributions. ZUS Coffee can also conduct a pilot project in several outlets to test the efficacy of the partnership before implementing it nation-wide.

8. Appendix

Appendix A: Consumer Survey Analysis

Appendix A1.

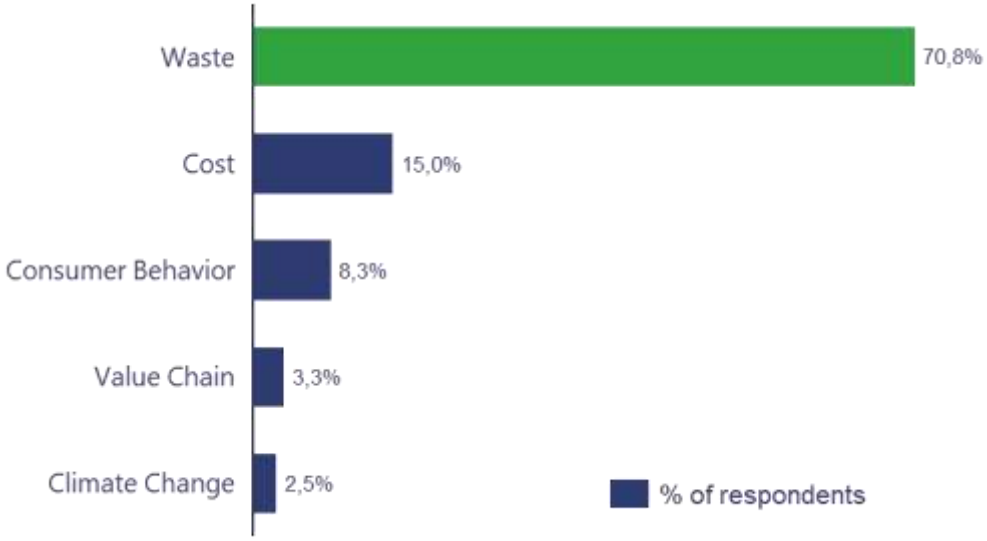
When it comes to sustainability within the F&B industry, what comes to your mind?



Note. Top initiatives from customers' open-ended questions are (1) Bring reusable lunch box or container, (2) Single use plastic or plastic waste, (3) Cease the usage of straws, (4) Impose charges for single use plastic bag, and (5) Various good and bad F&B brands in terms of sustainability (McDonald, Starbucks, etc.).

Appendix A2

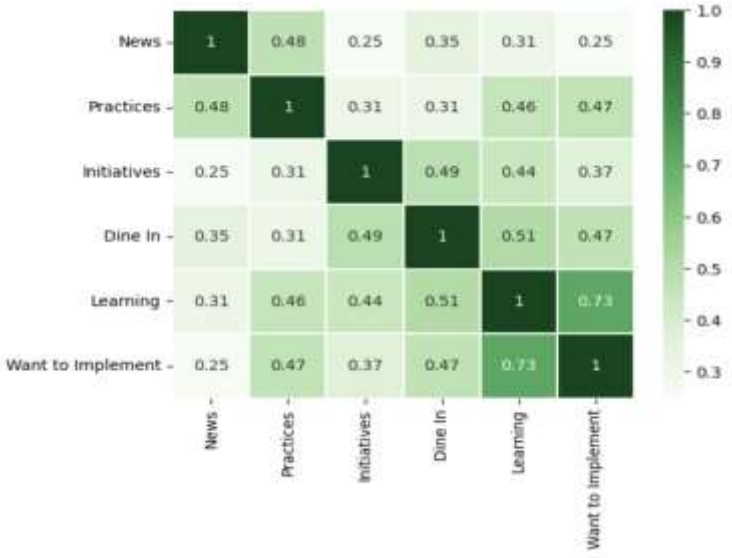
What do you think is the most pressing sustainability issue? [Open-ended]



Note. Out of the 85 respondents answering that waste is the most pressing issue, "food waste" was mentioned 52 times, while "plastic waste" was mentioned 38 times in their open-ended answers. Other pressing issues include the high costs related to implementing sustainability efforts, and the general consumer's behaviour and their sluggishness in adopting sustainability initiatives.

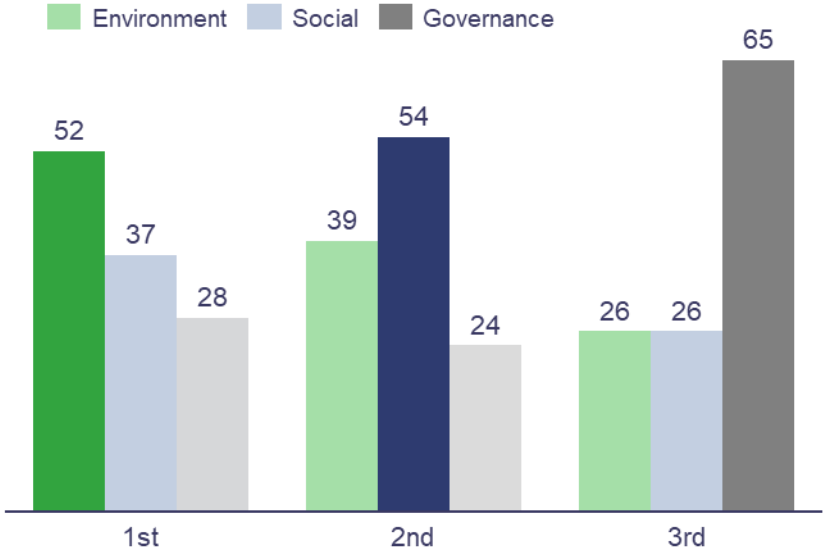
Appendix A3.

Select whether you disagree, are neutral, or agree to the following statements



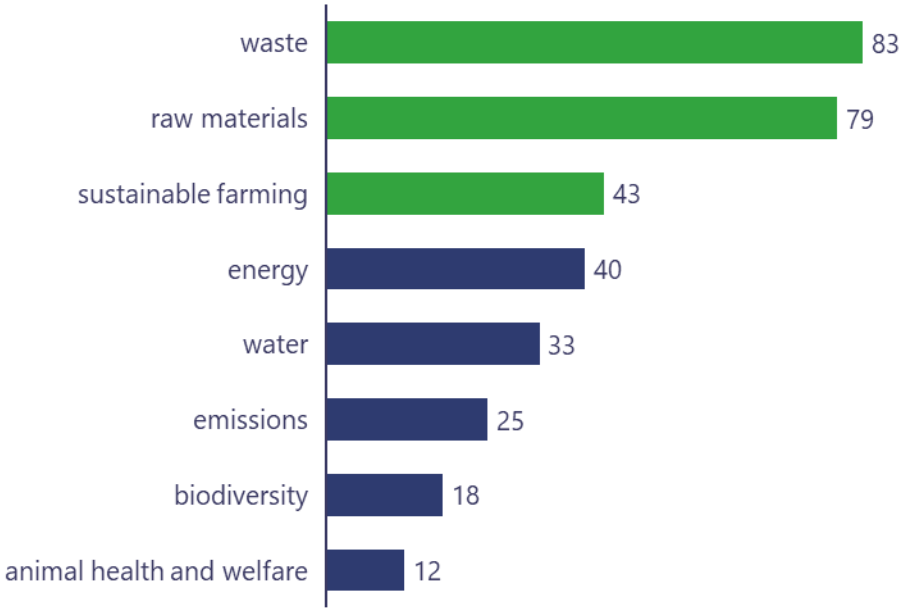
Note. A strong positive correlation (0.73) is observed between customers' willingness to implement sustainability and willingness to learn more about sustainability. Statements on label axes and their meaning: (1) News – I keep up with sustainability-related news, (2) Practices – I incorporate sustainability practices into my daily lives, (3) Initiatives – I think that F&Bs should implement sustainability initiatives, (4) Dine-In – Knowing that a restaurant/cafe practices sustainability makes me more likely to dine there, (5) Learning – I am open in learning more about how I can contribute to sustainability in my everyday choices, and (6) Want to Implement – I am open in learning more about how I can contribute to sustainability in my everyday choices.

Appendix A4.
Rank the importance of E, S, and G within "ESG"



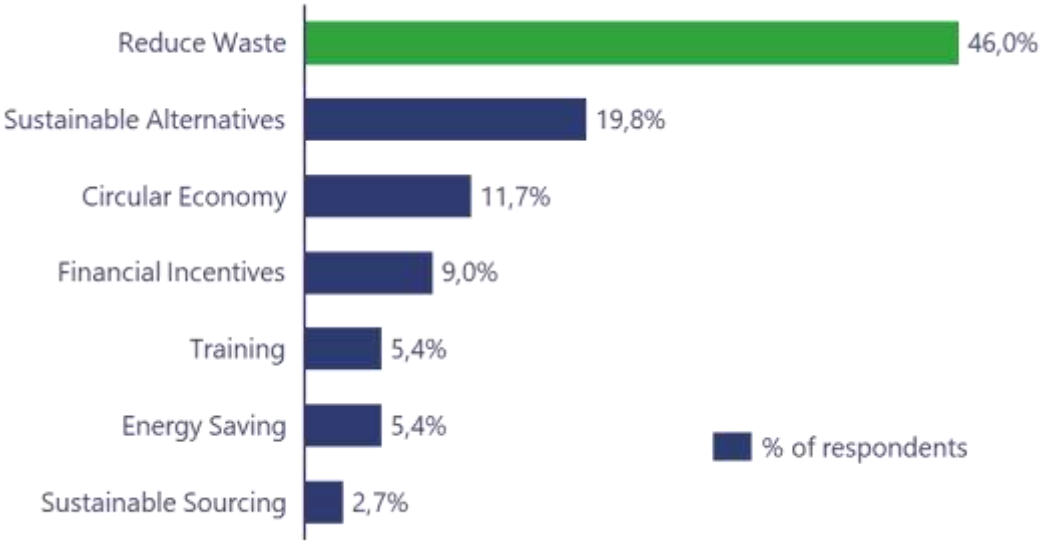
Note. Majority of respondents ranked Environment as the most important followed by Social and Governor.

Appendix A5.
Please select the top 3 most important environmental issues that cafe shop owners can tackle from below.



Note. Waste and raw materials are two main environmental issues prioritized by consumers. Following that, are sustainable farming and energy.

Appendix A6.
Imagine that you are a cafe shop owner, what one initiative do you think is most impactful to implement within 'Environmental'? Please describe the initiative and its goals.



Note. Majority of customers (46%) are keen to have more initiatives to reduce waste. Top initiatives suggested by customers include: (1) Minimize plastic waste, (2) Use biodegradable materials, and (3) Use alternative packaging (e.g. paper cups).

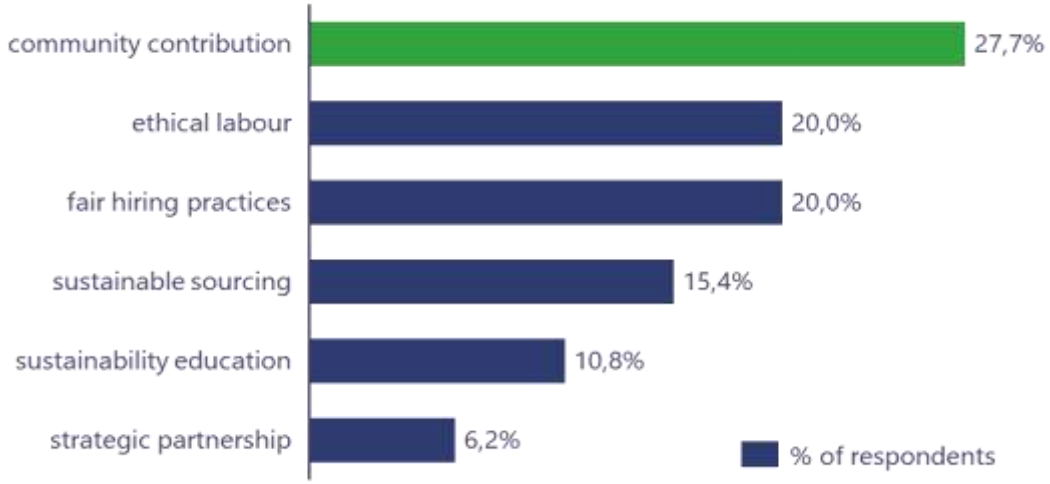
Appendix A7.

Please select the top 3 most important social issues that café shop owners can tackle from the following choices

Note. Employees training and supporting communities are two of the most important social issues. This is then followed by diversity, local procurement practices, and supplier assessment.

Appendix A8.

Imagine that you are a café owner, what one initiative do you think is most impactful to implement within 'Social'? Please describe the initiatives and its goals.



Note. Majority of customers (27.7%) emphasizes on community contribution efforts. When asked to create social efforts, the top suggested initiatives include: (1) Food donation to minimize food waste, (2) Cleaning up the community, (3) Fair working environment, (4) No child labour, and (5) Diversity, Equity, and Inclusion.

Appendix B: ZUS Coffee Landscape

Appendix B1

List of interviewed and research companies

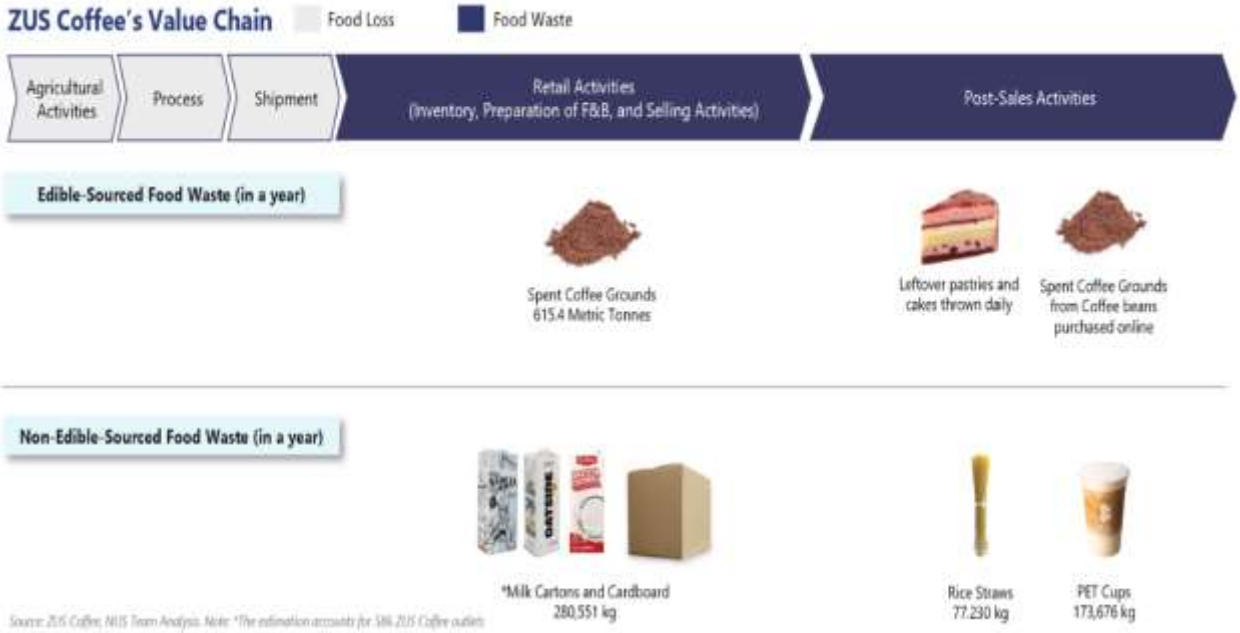
Appendix B2

ZUS Coffee's value chain

Appendix C: Environmental Initiatives References

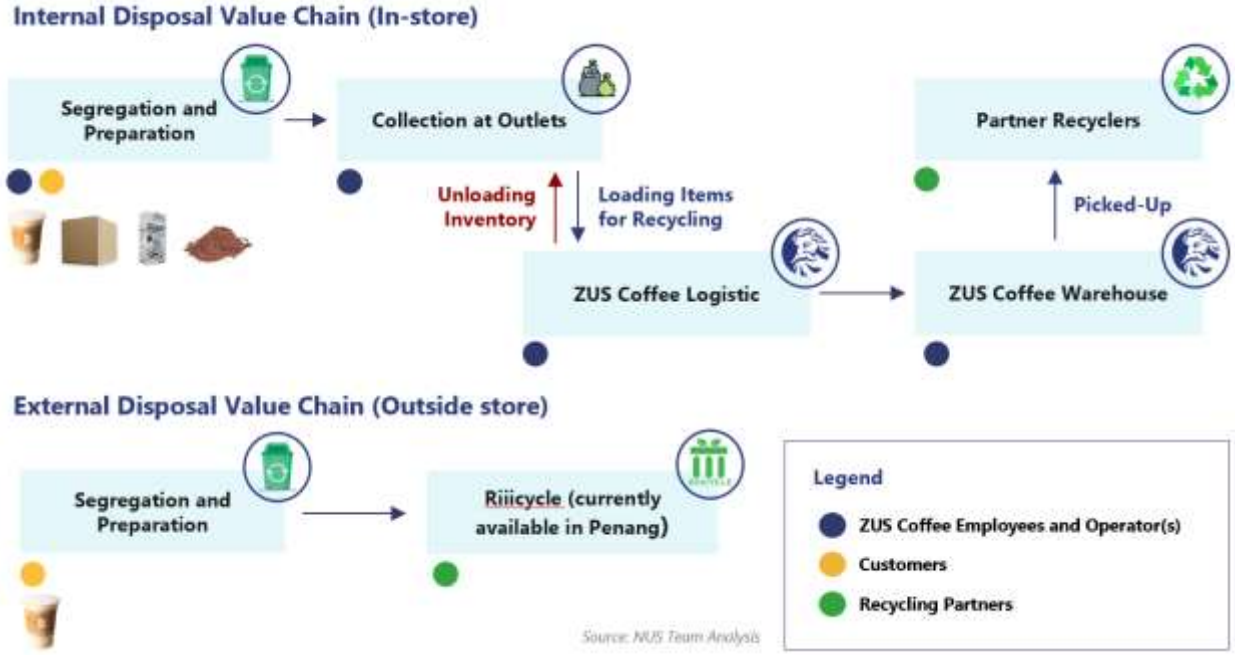
Appendix C1

ZUS Coffee's value chain



Appendix C2

Recycling workflow



Appendix C3

EcocCycle implementation timeline

Appendix C4

Sample recycling schedule

Packaging Waste	Collection from KL/Selangor Outlets						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Cardboard		Partner A		Partner D	Partner A		Partner D
Milk Cartons			Partner B & C			Partner B	
PET Cups				Partner D			

Collection by ZUS Coffee Logistic Collection by Recycling Partners

Appendix C5

Extended internal disposal value chain

Appendix C6

Green Team at ZUS Coffee

Appendix C7

Starbucks Grounds for Your Garden initiative

Appendix C8

SCGs partnership implementation timeline

Appendix C9

Grounds to Grow implementation timeline and key milestones

Phase	Description	Key Milestones
Pilot Program with KKB (3 Months)	• Develop a baseline by tracking initial SCGs Volume/Store • Establishing a weekly routine of picking up SCGs from 1-3 ZUS Coffee retail outlets nearby KKB & GS Malaysia by liaising with the logistics team & baristas	• Weekly routine and sustainable logistics pick-up and drop-off of SCGs for 1-3 ZUS Coffee retail outlets • Develop a Standard Operating Procedure for Logistics and Operations • At least 25% of SCGs donated per week per ZUS Coffee retail outlet • Close relationship with KKB & GS Malaysia and understanding best practices to use SCGs (e.g., handling of and using SCGs)
Pilot Program for SCG Donations (1 Month)	• Identify 1-3 retail outlets with the highest SCGs volume and high customer footprint • Repackaging SCGs into used coffee bean packages. Leave at retail store to be picked up	• Track SCGs donated per retail store in a weekly basis • Develop a Standard Operating Procedure to handle SCGs across ZUS Coffee retail outlets
Evaluation of Pilot Programs (2 Weeks)	• Internal discussion to understand the past performance of the two pilot programs & realignment of goals	• Identify number of ZUS Coffee Retail outlets donating to Community Partners • Implementation plan to scale SCG donations • Review and Standardize SOPs to be shared across participating ZUS Coffee Outlets
Scaling and Standardization of Program (Ongoing Basis)	• Aligning with internal stakeholders such as baristas and logistics for each retail outlet & external stakeholder (KKB) on SCGs donation • Scaling of SCG donation to customers	• Sharing of key SOPs to each participating outlet • Expand Community Partnerships • Launch Digital Marketing efforts directed to customers to increase publicity

Appendix D: Social Initiatives References

Appendix D1.

Games Recommendations

Games	
Spin and eat challenge, in which participants take food that the arrow points to (link) 	Glide the ball to the holes challenge, in which participants will get free food and beverages depending on the holes they can fill in 
Throw a pingpong ball to a bowl and take food or beverages based on where it lands on (link) 	Color matching challenge, a prize, either food or beverage for each color that matches the ones in the box 
Bottle flip challenge, in which participants can redeem food or beverages for every successful flips 	Blow the cup challenge, in which the further the blow, the more attractive the price is 

Appendix E

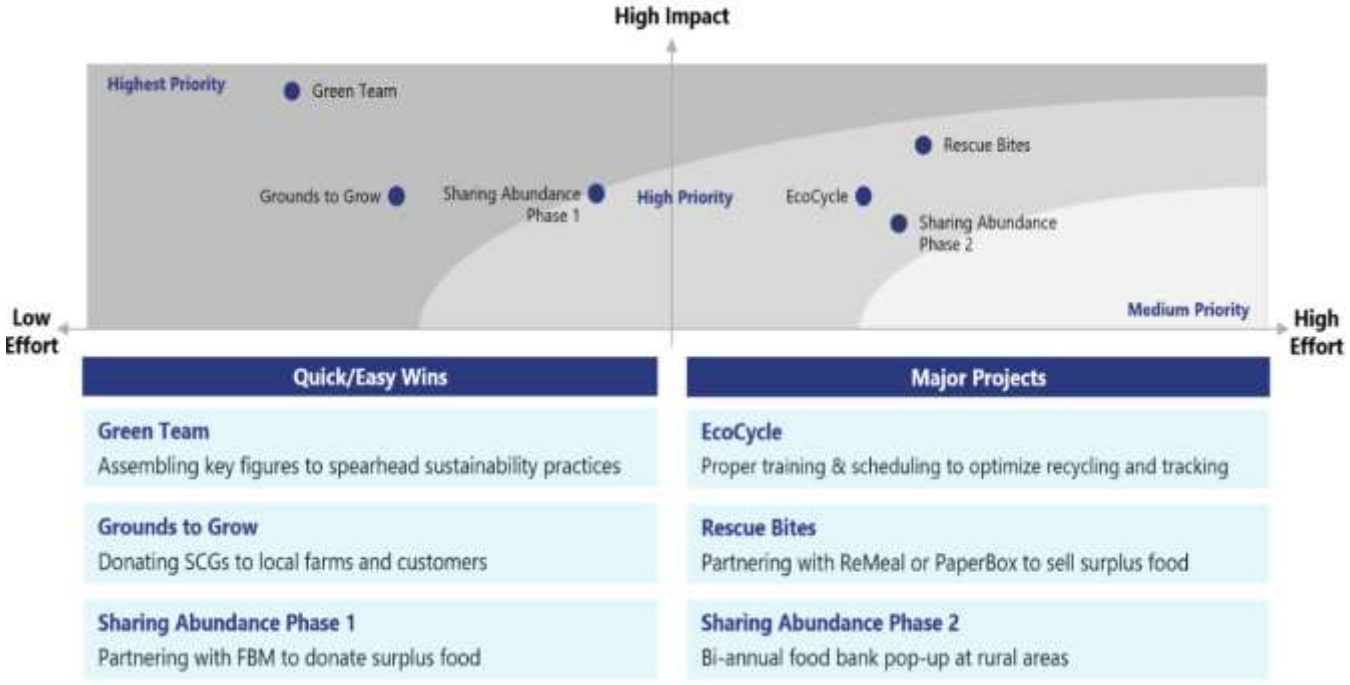
Appendix E1

Materiality matrix sample

Appendix F: Feasibility

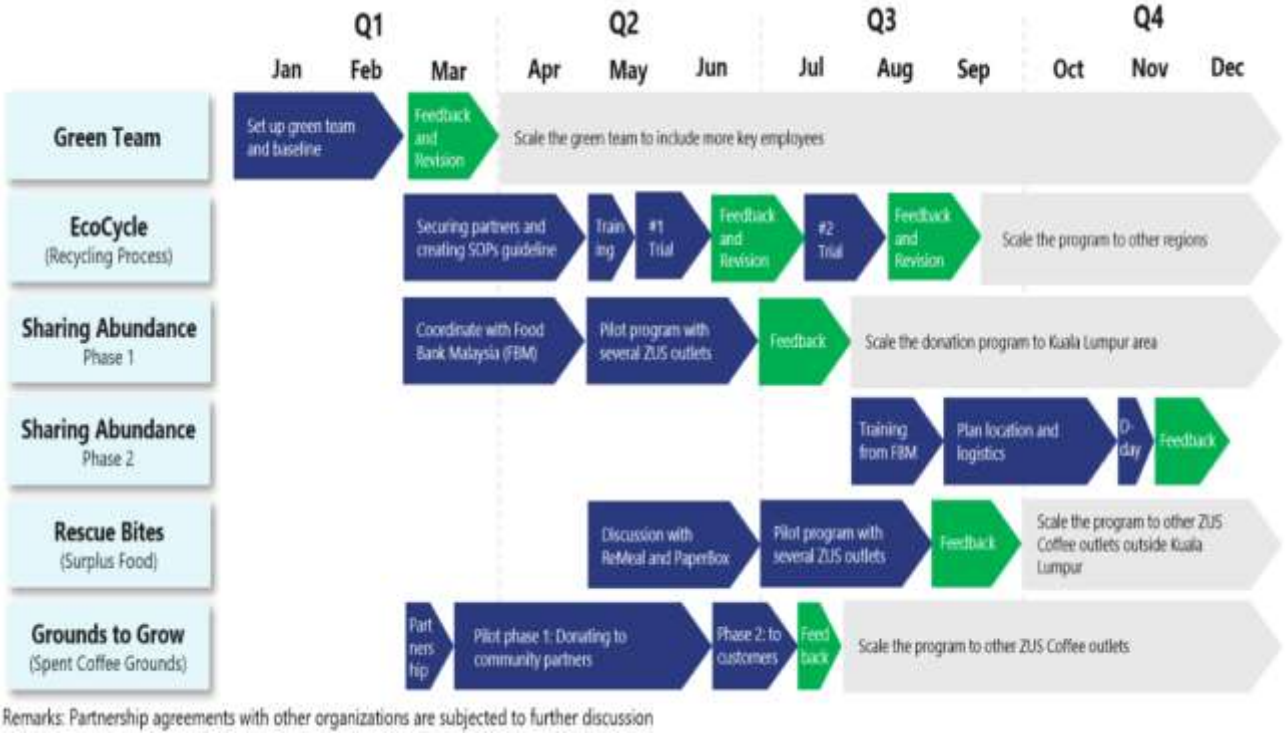
Appendix F1.

Prioritization matrix



Appendix F2.

Implementation timeline



Remarks: Partnership agreements with other organizations are subjected to further discussion

Appendix F3.

Cost breakdown for all outlets to implement the recommended Environmental initiatives

Cost Breakdown				
	Recommendation	**Item**	**Fixed Costs**	**Variable Costs**
Packaging Waste	Cardboard Boxes	-	-	-
	Milk Carton	White bin bag	-	*$ 111.60*
	PET Cups	Recycling bin	$ 4,730.35	
		Black bin bag	-	*$ 78.57*
	Workforce Development	-	-	-
	Careton	-	-	-
Food Waste	Grounds to Grow	-	-	-
		Monthly Recurring Costs	***$***	***190.17***
		Initial Expense	**$**	**4,920.52**

Note. All calculations are done under the following assumptions:

1. 248 Target stores within KL/Selangor region. 82 (33.3% of above) Target stores for the collection of PET Cups as Grab & Go outlets are excluded.
2. No transport costs are incurred in the delivery and collection of relevant resources.
3. Costs of bin bags for all outlets are based on weighted and projected sales volumes using existing historical data:
   a. Assumptions are conservative for the size and volume of bin bags to project the amount of flattened Milk Cartons or PET Cups that can be stored.
   b. White bin bags are used for colour coding to separate regular trash and recyclable Milk Cartons during the drink's preparation stage.

4. Cost of recycling bin is based on a rough estimation of Chinese manufactured bins and shipping costs, as domestically produced bins are more expensive. Alternative sourcing is encouraged if cheaper options are available to the ZUS Coffee team.

Appendix F4.

Recommended allocation of remaining budget for Social Initiatives

Budget Allocation				
	Recommendation	**Item**	**Recommended Weights**	**Dollar Amount**
Food Banks	Rescue Bites	-	-	-
	Sharing Abundance (Bi-annual Pop-ups)	Logistics	**40%**	$ 2,000.00
		Marketing Expenses	**10%**	
		Administrative Expenses	**5%**	$ 250.00
		Staffing	-	-
	Adminstrative expenses		**45%**	$ 2,250.00
			Remaining Budget	**$ 5,000.00**

Note. With a monthly budget of RM10,000, the remaining funds could be split in the following way for the cost-free or infrequent social initiatives.

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