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# 2024

## Expanding the Market of Recyclable Shoes in Taiwan

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Feebees

Image: [https://lh3.googleusercontent.com/p/AF1QipMqyVLfaSn0ncqBX5Os bHX-fOTTI5GDXIB\\_qmwl=s1360-w1360-h1020](https://lh3.googleusercontent.com/p/AF1QipMqyVLfaSn0ncqBX5Os bHX-fOTTI5GDXIB_qmwl=s1360-w1360-h1020)

# **Expanding the Market for Recyclable Shoes in Taiwan**

An Interactive Qualifying Project submitted to the faculty of the  
WORCESTER POLYTECHNIC INSTITUTE  
in partial fulfillment of the requirements for the  
Degree of Bachelor of Science

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Submission Date:

01 March 2024

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2.4. Current Feebees Marketing	Roey, Willa	All
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# 1. Introduction

The global economic paradigm that most companies use today is a linear economy (Skawińska & Zalewski, 2018). A linear economy consumes virgin materials to create products (Platon et al., 2022). Once the product becomes worn or unusable, the consumer will typically throw the product away and buy something new. The product's life ends in the landfill. Comparatively, a circular economy focuses on the repurposing and repairing of products to eliminate the need for virgin materials (Platon et al., 2022; Stahel, 2016). A circular economy focuses on a sustainable approach for the future.

In light of recent years and growing environmental concern, Taiwan's government made strides to improve their economy and sustainability by shifting to a circular economy. To support their goal, Taiwan's government implemented monetary incentives for companies to shift over to a circular industry. There are currently over 300 companies that have shifted their structure so that it aligns with a circular economy (Taiwan Circular Network, 2020). Regarding the shoe industry in particular, the linear economy poses a sustainability concern as billions of shoes are produced and thrown away each year. The industry ultimately contributes 8% of the global CO<sub>2</sub> emissions (Chrobot et al., 2018). Utilizing a circular economy will reduce waste by reutilizing old shoes as a material source for new shoes.

To achieve Taiwan's goal of sustainability, the company Feebees set out to create a sneaker that can be part of a circular economy. The company's recyclable sock shoe has a woven upper build with melted down, molded polyurethane (PU) as the sole. While Feebees currently markets towards active adults, they would like to expand their customer base.

The goal of this project is to analyze how Feebees currently brands itself and how they can change their marketing so that it draws in more customers. By getting Feebees more customers, the team anticipates that the project impact will have wider implications related to the United Nation's twelfth sustainable development goal, "ensure sustainable consumption and production patterns" (United Nations, n.d.). Throughout the project, the team intends to answer two research questions:

1. How does Feebees currently brand itself to customers?

2. To what extent does Feebees' environmental image influence consumers to buy their recyclable shoes?

To analyze how Feebees currently brands itself to new customers, the team completed a literature review on circular economies and green marketing to analyze Feebees' current practices. To answer the remaining research questions, the team identified the following project objectives:

1. Understand the common factors of the Taiwanese public looks for in sustainable sneaker brands.
2. Assess the preferences of the Taiwanese public regarding what they seek in a sneaker.
3. Determine the Taiwanese public's views on sustainable branding.

From there, the team can provide a set of recommendations on the best way for Feebees to rebrand themselves so that the company can expand to a broader customer base while maintaining its current customers.

## **2. Background**

This chapter provides context for the project's objectives to investigate, assess, and determine ways for the company, Feebees, to expand their customer base. The chapter begins with a discussion of Taiwan's circular economy and the role recycling plays in the sneaker industry. Next, the focus moves onto Taiwan's shoe and textile recycling industry and introduces Feebees' current market base. Finally, this chapter will explore Feebees' current branding image and the new marketing standard, green marketing. This information is important to begin to understand the relationship between branding and customer relations and will provide the background for expanding their customer base.

### **2.1. Circular Economy**

Taiwan's journey towards sustainability began in 1984 when the country transitioned from open burning to sanitation landfills (Wu et al., 2020). In the late 1980s, Taiwanese companies saw the introduction of environmental policies aimed at reducing production waste. The Taiwanese government used these policies to encourage companies and manufacturers to implement new recycling systems. Within these changes, the government also implemented mandatory environmental education programs in 1990 to teach the public how to sort their waste and use public waste services. The government introduced taxes on producers to fund the development of the recycling sector (Wu et al., 2020). In 2003, non-governmental organizations and enterprises entered the recycling industry, marking a new era of private companies contributing to Taiwan's recycling systems (Wu et al., 2020).

The need to fund new recycling programs led to higher prices for green products and services, which helped the government test public support for recycling (Wu et al., 2020). By 2016, the recycling rate in Taiwan reached 52.5%, and green lifestyle products and services populated the markets (Wu et al., 2020). As the Taiwanese public became more environmentally conscience, the Taiwanese government introduced updated recycling and waste regulations to work towards their goal of a circular economy (Wu et al., 2020; Tsai, 2021).

The circular economy is a modern economic model that emerged as a response to the traditional linear economy's limitations. A linear economy consists of "extracting, processing,



manufacturing, and disposing of materials” (Platon et al., 2022). Over time, managing a linear economy’s waste is not sustainable because of limited energy, resources, and space. Stahel proposed the concept of a circular economy based on the idea of “substituting manpower for energy” (Stahel, 2016). He argued for repair over replacement to achieve an “end of waste” to utilize discarded waste as new materials (Ragossnig & Schneider, 2019; Stahel, 2016). Stahel suggested sales of services over sales of goods to incentivize companies to produce durable and repairable products to reduce waste (Stahel, 2016). The circular economy model decreases greenhouse gas emissions through reduced energy consumption (Stahel, 2016). In addition to reducing consumption and waste, a meta-analysis showed the model also improves a company's financial and ecological performance (Yin et al., 2023).

However, transitioning to a circular economy presents challenges. It requires new technologies to deconstruct used products back down to starting materials, requiring advancements in metallurgical and chemical sciences. The end goal is to recycle “atoms”, transforming waste into high-value-added products (Platon et al., 2022; Stahel, 2016). The recovery of materials from discarded waste often requires significant energy and additional processing costs. In addition, the quality of recycled materials is often lower than that of raw, virgin materials, limiting their reuse in the same type of product (Platon et al., 2022).

Founded by Kuming Chen in 2011, Feebees, a Taiwanese sneaker company, implemented a partial circular economy to their business model and are working to become 100% circular. The company recycles polyurethane (PU) foam for use in repairing and creating new soles for shoes. However, the company struggles to achieve a fully circular model due to insufficient return of old sneakers to provide enough polyurethane.

## **2.2. Shoe and Textile Recycling in Taiwan**

The textile industry is relatively new to Taiwan. In the 1940s and 50s, the country produced small quantities of cotton yarn and fabrics (Lin et al, 2022). Taiwan’s weaving output increased from 430,000 items to 1.25 million during the 1960s and 70s due to the increased demand for synthetic fibers among manufacturers (Chen Chiu, 2009). This rapid growth in production paved the way for a dramatic change in the textile industry. In the late 1980s,

Taiwanese companies made the official shift from using natural fibers to synthetic to provide more comfortable fabrics to the public (Lin et al., 2022).

Shortly after the emergence of Taiwan's textile industry, the country's shoe industry emerged in the 1960s. Taiwan quickly became the world's largest shoe exporter until 1971 at which China and Southeast Asia started to dominate shoe exportation (Hsieh et al., 2023). As of 2018, 86.2% of the total shoes produced worldwide were from Asia (Hsieh et al., 2023). Although Taiwan as a country is no longer the top shoe producer, Taiwan's Pou Chen Corporation is still one of the leaders in shoe production. Taiwan's shoe factories produce shoes for major footwear companies including New Balance, Merrell, Timberland, Converse, Asics, Reebok, Nike, and Adidas. These companies all have a place in the global fashion industry.

Consumerism around the global fashion industry is an ongoing concern for the environment. Researchers are focusing on reducing the amount of waste piling up in landfills and advancing the manufacturing of eco-friendly materials (Ghimouz et al., 2023; Hsieh et al., 2023). Within the global fashion industry, the global shoe industry contributes 8% of the world's CO<sub>2</sub> emissions (Chrobot et al., 2018). The materials used in common sneakers take years to decompose. Consequently, with increasing consumerism, several sneaker companies (including the ones mentioned above) have pushed for cleaner and recyclable sneaker materials to move towards a circular economy.

To help accomplish this goal, Ghimouz et al. (2023) proposed a successful circular approach for shoe manufacturing. This study applied an additive approach to manufacturing shoes by using a melted-down polymer as material for a 3D printed shoe. This technique showed that it is possible for the shoe industry to transition to a circular economy by recycling compatible plastics, thus "closing the loop" (Ghimouz et al., 2023). Polyurethane is the most compatible with other recyclable plastics and therefore can be integrated into a wide variety of products, for example sneakers (Hsieh et al., 2023). Another method that the sneaker industry can use to move towards this goal of a circular economy is a one-piece woven shoe (Hsieh et al., 2023). This method reduces the usage of material, production time, and labor costs.

The goals of the sneaker industry align with the Taiwanese government and company's goal to become a circular economy. This matches the desires of the Taiwanese people who are becoming increasingly aware of their environmental impact (Hsaio et al., 2001). The shared

desire to shift towards a more sustainable future is supportive of Feebees' company mission to contribute to a circular sneaker industry in Taiwan. The company incorporates both strategies of the shoe market by using melted down PU in manufacturing a one-piece woven shoe.

### 2.3. Feebees' Dual Industry

Taiwan's market for sustainability-based companies has grown over the years. All corners of the Taiwanese market have pushed for more sustainable practices, with a high focus in electronics, agriculture, and clothing. One of the most popular companies in Taiwan is Circular Taiwan Network (CTN). They are a non-profit organization that aims to make Taiwan a 100% circular economy. CTN plans to integrate their "5+2 industry innovation plan" (Circular Economy, n.d.). Their 5+2 plan focuses on changing five industries in one of two ways, circular economy or new agriculture. Since the CTN launched, over 300 private companies have joined sustainability centered organizations (Circular Economy, n.d.). In the past decade, Taiwan saw an increase of sustainable clothing brands. In 2021, the clothing company, FYNE, established a sustainable clothing brand with their mission to become a zero-waste company with a fully integrated circular economic structure. (FYNE, 2021).

Meanwhile, Taiwan's shoe market continues to maintain its relevancy. As of 2024, Statista estimated the total Taiwanese shoe market to be worth around \$2 billion USD with a predicted sneaker market revenue at \$130.8 million USD (Statista, 2024b). Within the broader Asia-Pacific (APAC) region, Statista (2024) estimated the sneaker market to be worth \$25.97 billion USD. Miller (2021) identified the top shoe brands across APAC as Nike, Adidas, Puma, and Reebok. For sportswear brands in particular, the article noted New Balance, Skechers, Asics, and Fila as other notable brands. The four brands that were uniquely popular in Taiwan were Birkenstock, Daphne, Aso, and La New. Aso and La New are local Taiwanese brands.

Feebees is a small company that established itself in both Taiwan's shoe market and sustainable market through their sock shoe (**Figure 1**). Feebees' sock shoe has two unique elements that each cater to the aforementioned markets. In terms of sustainability, the sock shoe is made of two parts: the upper and the sole. The upper is a 3D woven knit polymer that encases around the foot and the sole is made of melted down PU. Given its minimalistic design, the

sneaker can easily separate into its two materials. This separation facilitates more efficient recycling. Feebees can then grind each material down and use them to create new shoes. By intentionally incorporating PU as the plastic component of the shoe, Feebees' shoes are 100% recyclable, which meets Taiwan's goals of a circular economy.



**Figure 1.** Picture of Feebees' recyclable sock shoes (Feebees International, 2021)

In addition to being 100% recyclable, the sneaker design mimics the feeling of walking barefoot. Feebees uses the idea of a “barefoot” shoe to promote their health and fitness image. A study showed that running barefoot can have significant benefits on foot and ankle strength as well as improving overall foot health (Nigg, 2009). As humans age, their muscles become weaker and are more prone to breaks and sprains. Increasing the lower leg muscles builds stability, and as a result, helps prevent foot related injuries (Nigg, 2009). Therefore, the proposed health benefit of Feebees' shoes can appeal to an older demographic who want to stay active.

## **2.4. Current Feebees Marketing**

In line with the health benefits of their shoes, Feebees stated in conversation that they currently have two target audiences: 1) parents aged between 35 and 50, and 2) individuals with bunions, athlete's foot, and those who dislike the confinement of traditional sport shoes. The former serves as the primary audience while the latter is the secondary.

Within the primary target audience, Feebees wants to target adults in the workforce who struggle to find the time to stay active. Feebees recognizes that as people take on more responsibilities, it makes it hard to stay consistently active. In the conversation, Feebees stated that this is especially paramount for parents because of the long-term health risks of a sedentary lifestyle. On Feebees' website and social media pages, there are posts that highlight the family aspect of their company. The company sells sneakers for toddlers, all the way up to adults; however, the majority of their marketing appears to target young adults. Feebees notes on their website that excess stress is not good for long-term health. Instead making time to go out, exercising, and recuperating with family should be a priority. Within the secondary audience, Feebees wants to address the dangers of restrictive shoes for people with poor foot health. Feebees' sneaker molds to the foot, rather than the foot molding to the sneaker. This design choice hopes to prevent foot issues such as bunions, athlete's foot, and overall discomfort. This will then encourage active adults to maintain consistent exercise. However, neither the primary nor secondary target audience are built around the sustainability aspect of Feebees sneakers.

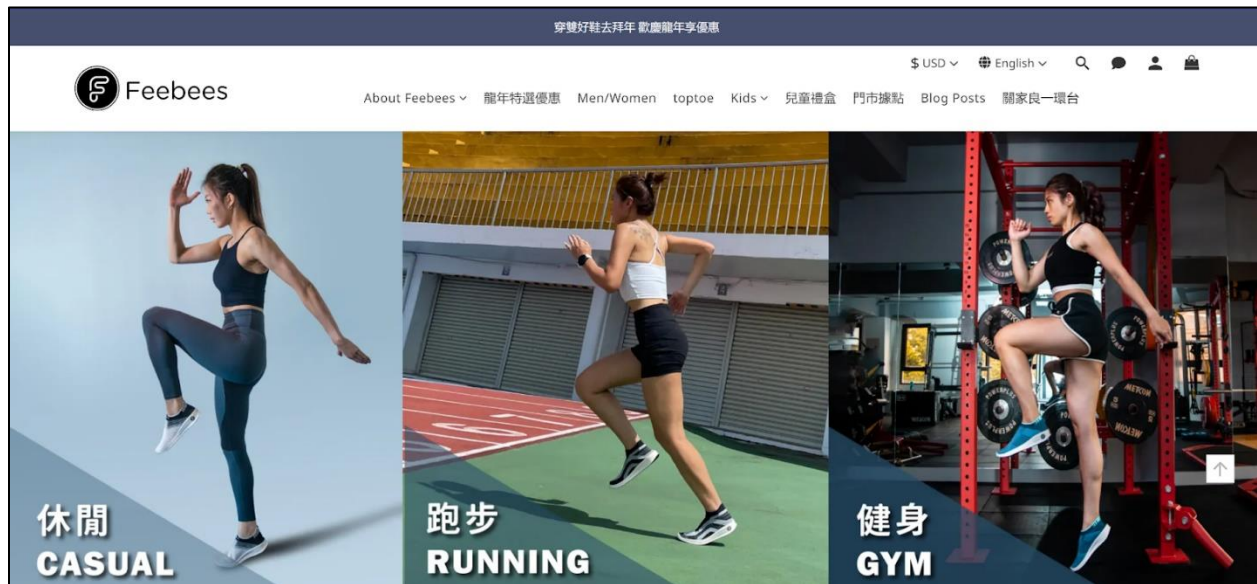
Feebees currently markets towards their target audience of active adults, ages 35 – 50, through social media (Facebook, LINE and YouTube). In addition to their online presence, Feebees regularly donates to charities such as 17run, one of their main charities which supports blind Taiwanese runners. Feebees also hosts brand events to promote their sneakers by motivating the Taiwanese public to be active. Through this, Feebees advertises themselves as a community-focused sneaker brand.

However, Feebees currently wants to broaden their audience and draw in more customers through a change in their brand image. A change in brand image may then shift how Feebees should market themselves to reach new customers.

## **2.5. Current Feebees Branding**

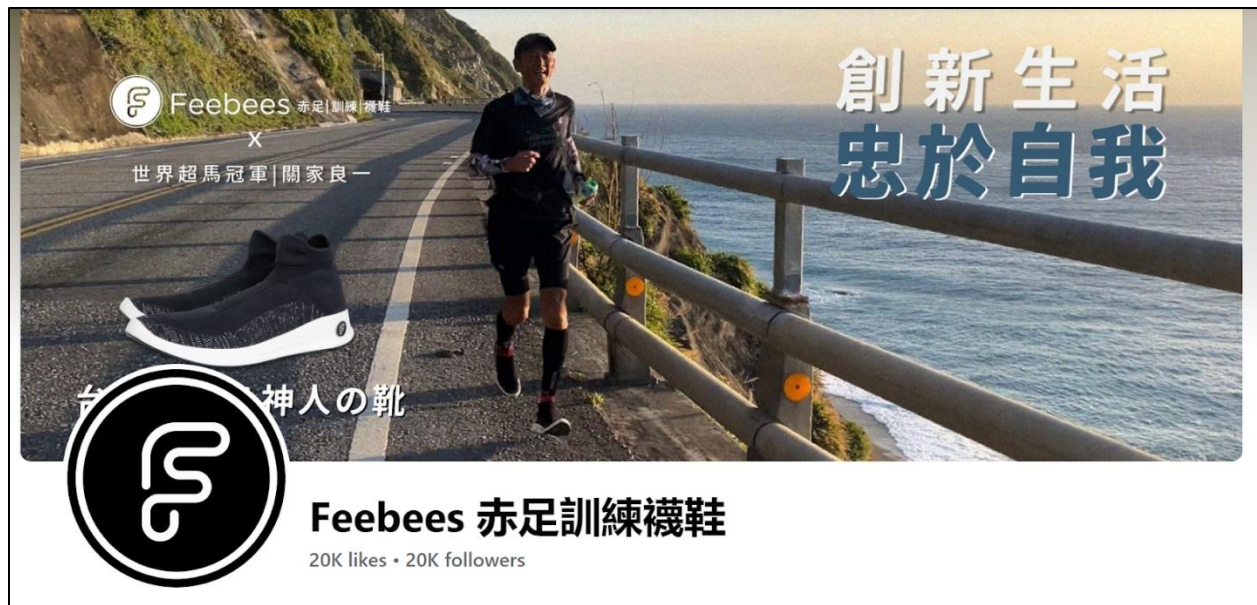
Compared to marketing (which is how a company reaches out to its consumers), branding is how a company represents itself to its consumers. In terms of branding, Feebees' current branding centers around health and fitness. Most of Feebees' promotional material on their website, as seen in **Figure 2**, features young and fit female models working out in Feebees shoes.

This is not representative of the older nature of their target demographic. It is important to note that most of the photos on the company's store homepage feature young female models, which would suggest that young females are the predominant target within Feebees' demographic. Despite this observation, in conversation, Feebees stated that they target their products to an older demographic and to both men and women. Therefore, their current brand image does not align with their current marketing towards an older demographic of active adults.



**Figure 2.** Promotional homepage image from Feebees' website (Feebees International, 2021)

While the branding on Feebees website is disconnected from their marketing strategy and target audience, their social media is more in line with the company's marketing. Feebees primary visuals on their Facebook page feature runners using Feebees shoes. Their focus on health and fitness is more evident in the company's Facebook page (**Figure 3**) which features an older man running. The picture supports Feebees' goal to market towards the older generations. Therefore, there is also a disconnect in how Feebees brand themselves on different platforms (website compared to social media).



**Figure 3.** Screenshot of Feebees' Facebook profile header (Feebees, n.d.)

Sustainability is a secondary aspect to Feebees' brand. Information about the company's sustainability initiatives is not included in the homepage but they are added to their "About Feebees" tab on their website. This page includes their company values and their sustainability goals. Their website implies that Feebees shoes are for everyone by stating that it is an all in one, saying that the shoes are good for the environment ("Feebees 赤足機能襪鞋 x 好環保" which translates to "Feebees Barefoot Functional Sock Shoes x Good for the Environment"). However, Feebees does not widely display these statements on their website or Facebook page as compared to their images about fitness and running. Therefore, this requires the customer to search for Feebees' sustainability goals.

## 2.6. Green Marketing

As consumer environmental awareness grows, green marketing is becoming a popular marketing strategy (Ginsberg et al., 2004). Given Taiwan's focus on improved sustainability and growing sustainability market, Taiwanese companies are "actively implementing green marketing [to meet] market demand" (Chang et al., 2019). Green marketing is a method of marketing that companies use to express to the public that they are environmentally conscious.

The extent that a consumer is an environmentalist varies greatly. Ginsberg et al. (2004) conducted a Roper survey and analyzed the American participants' behavior and intentions regarding their sustainable buying practices. The data presented five groups of sustainable behavior:

1. **True Blue Green** are consumers who have environmentalism as one of their core values. TBG's use environmentalism to guide their purchasing habits and are four times more likely to abstain from buying from non-environmentally conscious companies.
2. **Greenback Greens** are consumers who are more likely to choose the greener option when compared to the average consumer.
3. **Sprouts** are consumers who are environmentally friendly in theory, however, do not practice environmentally friendly habits.
4. **Grouses** are consumers who know very little about being environmentally friendly and think that environmentally friendly products are more expensive.
5. **Basic Browns** are consumers who make no choices regarding the effects on the environment.

A company can choose their green marketing strategy between the five groups listed above (Ginsberg et al., 2004). The green marketing strategies range from a "Lean Green" to "Extreme Green" based on how truly green a company is. The "Lean Green" strategy does not prioritize sustainability in their company mission and branding while the "Extreme Green" fully integrates environmental issues into every aspect of their company (Ginsberg et al., 2004). "Defense Green" and "Shaded Green" fall between these two extremes where perceived "greenness" either enhances brand image without promoting its initiatives or acts as a secondary goal because other attributes can bring a company more money (Ginsberg et al., 2004). Taiwanese corporation's shift towards a more circular economy sets the foundation for the success of "greener" strategies (Shaded, Defense, and Extreme Green).

Both Feebees' marketing and branding strategies are at the Shaded Green level (leaning closer to Lean Green) in which the recyclability aspect of their sneakers is not actively promoted nor is information about their company's sustainability actions widely displayed. However, there is gap between how Feebees presents their company to consumers (through their marketing and



branding) and their company mission of sustainability (which aligns with the growing market demand and Taiwan's initiatives towards environmental issues).

## **2.7. Areas of Growth**

With respect to the disconnect between the company's reported target demographic (marketing) and their website images (branding), Feebees can potentially build off their current branding to extend to a younger customer base. At the end of 2023, Taiwan's Department of Household Registration reported that females made up about 50% of the total Taiwanese population (Statista, 2024a). Young adults (ages 18-35) make up about 4.5 million of Taiwan's 23.42 million population (Statista, 2024a). The data indicates that there is a large market in Taiwan for young female adults. Thus, the team established the broader Taiwanese young adult population (ages 18-35) as Feebees' potential demographic. Movement into this potential demographic is an area of growth for Feebees. In addition, targeting younger Taiwanese adults will support Feebees' goal of having lifelong brand loyalty from their customers.

Huang et al. (2022) interviewed young adults in Taiwan (ages 18-24) and proposed a hypothetical green marketing strategy for Nike to promote the idea of environmentally friendly shoes. The results showed that there is a large market of young Taiwanese adults that would purchase sustainable shoes if other criteria such as style and affordability were met. Unlike Nike, Feebees already developed environmentally friendly shoes through their recyclable sock shoes. Feebees should utilize this research as an advantage in their rebranding to reach out to a new, younger demographic. By switching to intentionally branding themselves towards young people, Feebees can then market towards young people to get more customers.

## **2.8. Summary of Background**

Through its utilization of recycled polyurethane, Feebees establishes their sock shoes as part of the Taiwanese circular shoe industry. The company's involvement in the circular economy aligns with Taiwan's movement into a more sustainable economy. Through the background research into a circular economy, shoe and textile recycling in Taiwan, and an

analysis into general marketing strategies and Feebees' current market, the team can better support Feebees in their mission to expand their customer base.

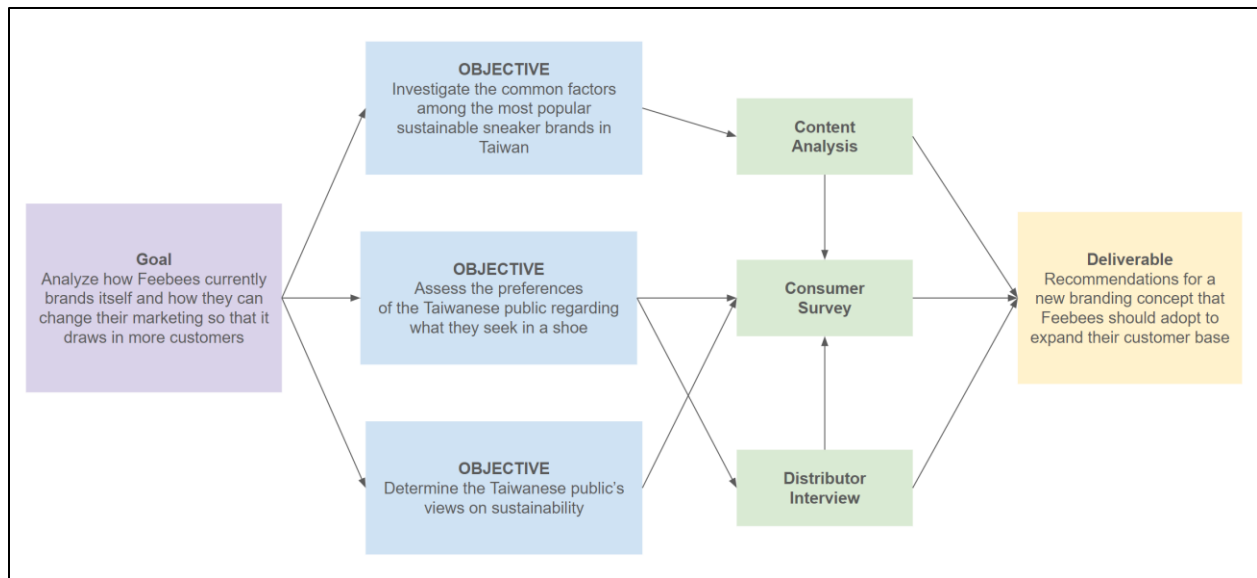
Currently, Feebees markets itself to the older active adults in Taiwan. However, their current branding on their website and social media does not accurately represent their target demographic. Despite this, research into hypothetical Nike environmentally friendly sneakers shows that there is a strong market of young Taiwanese adults willing to buy sustainable sneakers, such as Feebees' sock shoes. This presents an opportunity for Feebees to explore in their rebrand.

### 3. Methods

This project's goal is to determine and analyze how Feebees portrays itself to new customers and how they can change their marketing so that it draws in more customers. Using the methods outlined in this section, the team intends to analyze Feebees' branding strategies and determine how they can expand their customer base. To accomplish this goal, the team identified the following objectives:

1. **Assess the preferences of the Taiwanese public regarding what they seek in a sneaker.** Identifying the preferences of the Taiwanese public will make it easier to cater and sell to them. The data will be collected by the team via surveys and interviews to obtain a sufficient number of samples.
2. **Investigate the common factors among the most popular sustainable sneaker brands in Taiwan.** Understanding the current market will establish which marketing strategies work for different brands. Feebees can then implement these marketing factors into their updated branding. To observe these factors, the team will conduct a content analysis to collect any common designs, themes, or keywords.
3. **Determine the Taiwanese public's views on sustainable marketing.** Understanding the public's views will guide Feebees' approach to expanding their reach into Taiwan's green market. To determine their perspectives, the content analysis will be used to guide some of the survey questions.

To meet these objectives, the team plans to implement three methods: content analysis, surveys, and interviews. **Figure 4** illustrates the relationship between the project goals, objectives, and the deliverable.



**Figure 4.** Flowchart of goals, objectives, methods, and deliverables

### 3.1. Content Analysis

The purpose of this content analysis is to identify differences in communication trends, company intentions, and the marketing strategies used between various companies.

The team will use content analysis to assess and compare Feebees' marketing strategy to other sustainable Taiwanese companies in the shoe industry. The team is looking for the following company types (in order of most to least priority): sustainable sneaker brands, and small sneaker companies. The team will exclude companies that are no longer in business or have minimal to no online presence (website or social media) from the analysis.

The team will analyze the website and social media pages of the selected companies for common words, themes, and images. In particular, the team will look at specific sustainability-related keywords (e.g. "carbon footprint", "recycling", and "eco-friendly"), overall website design. With the designs there are environmental statistics and certifications which are often promoted by companies. By identifying common keywords and trends that companies use, the team will evaluate what marketing strategies and aspects sustainability-focused companies use to promote a sustainable image. Additionally, the team wants to observe and compare brand imaging between Feebees and other sustainable companies. This analysis will determine what Feebees can do to stand out from other sustainability-focused brands. The content analysis will

inform the team of different aspects to include in the moodboards. The team will create a visual preference portion in the surveys based on the results (see **Section 3.2**).

In addition to measuring specific visuals and content, the team will write a program to collect statistics on words, phrases, and general visual representations used by each selected company. The team will use a coding frame which will guide the direction for analyzing the data (Berg & Lune, 2017). The coding frame is a method of organizing qualitative data, that dictates how to group the data through common keywords, trends, and themes. The team will use the data collected to find common features to include in the moodboards.

Two limitations of this method is that this implementation of a content analysis is that this method requires a detailed coding frame and can take a long time to conduct. If the coding frame is not specific enough, keywords, phrases, or any other data can be taken out of context, and skew observations (Berg & Lune, 2017). To minimize error, a mixed-methods approach will add context to the data for each dataset. To help confirm any conclusions made and answer the objectives, the team will incorporate additional qualitative and quantitative data through a series of surveys and interviews.

### **3.2. Surveys**

The team will use surveys as the primary method of data collection. This approach can reveal the opinions and attitudes of the Taiwanese population regarding sneakers. Surveys are generally less of a time commitment for participants compared to interviews, which encourages a higher response rate. The team plans to utilize this data collection method to collect data from a large sample size within a five-week time frame through a combination random sampling.

The team will use QualtricsXM, an online survey service, to host the survey. The survey will be distributed through various methods as outlined further below. The survey will assess the Taiwanese public's opinion on sneaker-buying tendencies and preferences for different visual brand concepts through brand moodboards. The survey questions will include a selection of multiple choice and Likert scale-based questions. The survey adopts questions regarding consumer behaviors from Huang et al. (2022). The survey will incorporate branding moodboards to assess participant visual preferences for different branding concepts. The common themes,

keywords, and designs between sustainable identified in the team's content analysis (**Section 3.1**) will guide the moodboard creation. A brand moodboard will include a collection of images, text, photos, or any other visuals that will represent the brand and goals of a hypothetical sneaker company. To assess how sustainable branding is perceived, each moodboard will include a branding concept that embodies one of the green marketing strategies (**Section 2.6**): Lean Green, Defense Green, Shaded Green, and Extreme Green. Depending on their response, the survey will use skip logic to ask what the respondent liked about the moodboard. Appendix A contains the complete survey protocol.

The team intends to administer the survey to Taiwanese people within Feebees' intended customer demographic (older active adults) and Taiwanese people within their potential customer demographic (younger active adults). Surveying their intended customer demographic will help determine if Feebees' current branding aligns with their target demographic's mindset. This will help determine what themes should remain in Feebees' updated branding. Comparatively, surveying Feebees' potential demographic will reveal new concepts and features that the company could incorporate into their branding. These features will draw in potential customers to grow their customer base. To reach each of these demographics, the team plans to distribute the survey through:

1. **Social Media (LINE, Facebook).** Promotion on Feebees' LINE and Facebook pages to reach their current customer base.
2. **Feebees Branding Events.** QR codes will be given out to consumers during the event to reach Feebees' target demographic.
3. **Amazon Mechanical Turk (MTurk).** A crowdsourcing service that will be used to randomly sample Feebees' potential demographic.

The team chose Amazon MTurk as a method of delivery as it is an easier way to reach a wider amount of the Taiwanese public without needing a pre-existing relationship. MTurk is a quick and affordable source for obtaining research participants (Robinson et al., 2019). The use of MTurk acts as a supplement to traditional survey distribution methods (Robinson et al., 2019). The service will randomly distribute the survey to a population as defined by the team (i.e. Taiwanese public ages 18-35). The sample size is also determined by the team. The target sample size for this particular demographic will be 200, in order to have enough data to represent

the population while factoring in the team's financial limitations. Assuming a cost of \$1 USD per response, the estimated cost of using Amazon MTurk will be \$200; the project sponsor has agreed to cover this cost. This cost will cover MTurk service fees and payment for each respondent. Respondents on MTurk are paid based upon survey completion and not the quality of responses. This avoids monetary bias because the respondent will not feel pressured to answer in a certain way to earn more money. However, the act of payments raises the concern of superworkers, respondents using the service who complete as many tasks (such as surveys) as possible to earn the most amount of money and thus put little effort into their responses (Robinson et al., 2019). To account for superworkers, the team should set experience limits in the defined population parameters for the workers that can participate in the survey (Robinson et al., 2019). This will recruit survey respondents with less MTurk survey experience (i.e. non-superworkers). Furthermore, workers in MTurk must be 18 years or older which includes the non-traditional demographic that the team hopes to reach through MTurk.

The team will analyze the collected data and exclude any survey responses which deviate from the questions from the data set. These outliers would be respondents who provide inconsistent responses to redundant questions, respondents who choose the same answer choice each time (i.e. the first option for every question), and respondents who primarily choose "Not applicable" or "Prefer not to say" for scaled-based questions. The team plans to use R, a programming language designed for statistical computing, to analyze the remaining data. The team will export the data to a CSV file and import it into R to perform a statistical analysis such as a multiple-regression analysis. Multiple regression analysis will establish relationships between participant demographics and their sneaker buying tendencies. The green market strategy associated with the most popular branding moodboard will direct the level of sustainable branding Feebees should use in the future. Subsequently, the team can try to determine what Taiwanese consumers value the most when purchasing sneakers and how to implement the top preferences for Feebees' brand image.

To ensure content validity, surveys should be pilot tested prior to data collection (Creswell & Creswell, 2018). The team will send the survey to a pilot group primarily consisting of Feebees, the project advisors, and peers in the Taiwan cohort for review before its public release. An English version of the survey will be pilot tested to assess the quality of the

questions. A translator will translate the survey into Mandarin Chinese (and verified via back translation) before distributing. Feebees will pilot test the Mandarin Chinese version of the survey to assess its clarity. The responses will be translated back into English for analysis.

### **3.3. Interviews**

Interviews can provide more in-depth responses regarding consumer sustainability habits (Berg & Lune, 2017). However, compared to surveys, interviews are a greater time commitment for the team and participants. For market research, interviews are not optimal for large sample sizes. Conducting 3-5 interviews with Taiwanese sneaker consumers will be difficult to arrange due to time constraints, language barriers, as well as transportation and scheduling concerns for the participants. Comparatively, workers at a distributor store can provide insight on the trends of many consumers without the need to coordinate as many individuals.

The team plans to utilize one-on-one interviews with some of Feebees' main distributors (i.e. shoe stores that sell Feebees sneakers) to get a third-party perspective on consumer behaviors to supplement survey data. By interviewing distributors, the team can analyze if there are any differences between general customer behavior versus customer feedback received in surveys. Interviews will also help the team determine the general wants of a consumer (e.g. what are the most popular sneakers at their stores and common consumer questions when buying sneakers).

As stated on their website, Feebees' main distributor stores are: 城市綠洲 (Urban Oasis), 鐵人鑄造所 (Ironman Foundry), 東東市 (Dongdong City), and 山路好朋友 (Shanlu Good Friends). For interview requests, the team will reach out to the distributors through email or ask the sponsor, Feebees, for other methods of communication. The team hopes to conduct one interview with each distributor, for a total of four interviews.

The team will use semi-structured interviews. Semi-structured interviews follow a flexible outline with focused questions (Berg & Lune, 2017). This enables the interviewee to have more control over the interview process and gives more opportunities to elaborate on questions, encouraging more detailed and nuanced responses (Berg & Lune, 2017). When conducting these interviews, the team should focus on creating a welcoming atmosphere to build



the interview-interviewee relationship. Additionally, having good background knowledge and prioritizing important topics will help keep the interview on-topic. The team plans to ask the distributors questions about what type of sneakers customers tend to look for and buy as well as the popularity of Feebees sneakers. The team also hopes to gain a more in-depth perspective of the sneaker market to help reposition Feebees in the market. **Appendix B** provides the current interview protocol. The protocol will be shared and discussed with Feebees before proceeding with any interviews to make any changes as necessary.

The team will conduct the interviews in Mandarin Chinese or English depending on the interviewee's preference. Given the nature of semi-structured interviews, the team will require the additional presence of a translator to help facilitate the conversation. The team plans to recruit either a translator not affiliated with Feebees or a student from Soochow University as the translator to minimize conflicts of interest. The team will record and transcribe the interviews, have them translated into English, and then analyze them.

However, semi-structured interviews can introduce bias due to its small sample size and potential conflicts of interest (Berg & Lune, 2017). The concurrent use of consumer-targeted surveys (which will have a much larger sample size) will address this issue. Furthermore, the addition of a disclaimer stating that their responses will not impact their relationship with Feebees going forward is important to minimize conflict of interest concerns. Additionally, the transcribed data will not identify which distributor was interviewed.

### **3.4. Ethics**

For content analysis, while the subject for the research is not human, ethical concerns lie with the team's personal biases. Bias will be present in how the team measures the different qualities of the companies analyzed. Therefore, company marketing "success" will be primarily determined by quantitative data. Furthermore, to minimize translation bias, proper translations of each website are necessary to ensure accurate analysis. The team will achieve this through a combination of Google Translate (or other translation service) and reaching out to native Mandarin-Chinese speakers (e.g. students at Soochow University).

While conducting interviews and surveys, there are different ethical considerations that the team needs to consider. While the data collected is not likely to be sensitive in nature, the team should take care to maintain participant confidentiality, particularly with regard to demographic data. Surveys will not collect any form of personally identifiable information (PII), and the surveys will provide a “Prefer not to say” option for all demographic-related questions. The team will also provide informed consent to all participants. If the team collects data during Feebees’ branding events, extra care will be taken to establish with the participant that their data is being collected for a research project. The use of QR codes to distribute the survey at these events provides more flexibility for the participant on when they will take the survey; this will remove stress or pressure to answer questions in a certain way. During interviews, the team will specifically ask participants for additional consent related to the use of audio recordings. The team will record the name of the interviewee for initial reference and delete them after generating anonymized interview transcripts.

In addition to confidentiality concerns, the team should take care to avoid bias and leading questions. The team hopes to avoid bias by designing clear questions and ensuring they are reviewed and/or pilot tested. Furthermore, translations of all questions will be verified via back-translation to minimize clarity issues.

To ensure that the methods appropriately address these ethical concerns, the Worcester Polytechnic Institute Institutional Review Board will need to approve the project before the team collects any data.

### **3.5. Limitations**

For all proposed methods, there are limitations that could impede data collection. There will be a spoken and written language barrier between the team (English) and the participants (Mandarin Chinese). This will greatly increase the time it takes to create and optimize data collection such as writing questions and recording answers, as there will need to be translations both for the outgoing questions and the incoming responses. Back translation will help improve clarity of translations for both parties.

Lastly, the team is limited to a 5-week data collection period. This period is inclusive of planning and implementations for the proposed methods. Therefore, it is crucial for the team to be efficient in troubleshooting the data collection methods. The team should focus on addressing the extraneous time burden of translation back and forth for each data collection phase.

For instance, pilot testing for surveys will be necessary to reduce the time spent on fixing translations. As stated in **Section 3.2**, pilot testing involves testing the surveys in English with the project IQP advisors and cohort. Then, translating it and testing with the project sponsor, Feebees to verify correct grammar and phrasing. The team will then repeat this process for each survey response.

### **3.6. Summary of Methods**

By using mixed methods to collect data—including content analysis, surveys, and interviews—the team hopes to achieve the project goal and objectives to help direct Feebees updated branding image. Content analysis provides quantitative data that helps analyze relationships and any trends that may be useful for Feebees to either implement or build on in their updated brand image. However, a limitation to this method is that some terms and phrases can be taken out of context and misconstrue the interpretation. The team will avoid this by describing the context of the data in the analysis. In addition, the keywords found will be based on what companies view as sustainable, not the general public. The implementation of surveys allows a more comprehensive data set. The survey will contain questions asking about demographics, visual preferences (brand moodboards), and sneaker purchasing tendencies. The surveys are one of the better methods to collect data to represent a large population. The team will interview distributors that carry Feebees' sneakers and record their responses to assess the observations of the general consumer shopping habits. However, two limitations to using interviews for data collection are language barriers and limited time to set up the interviews. Using a multi-method approach will enable the team to collect a mix of quantitative and qualitative results. The analysis of the collected data can help answer the team's research questions and objectives.

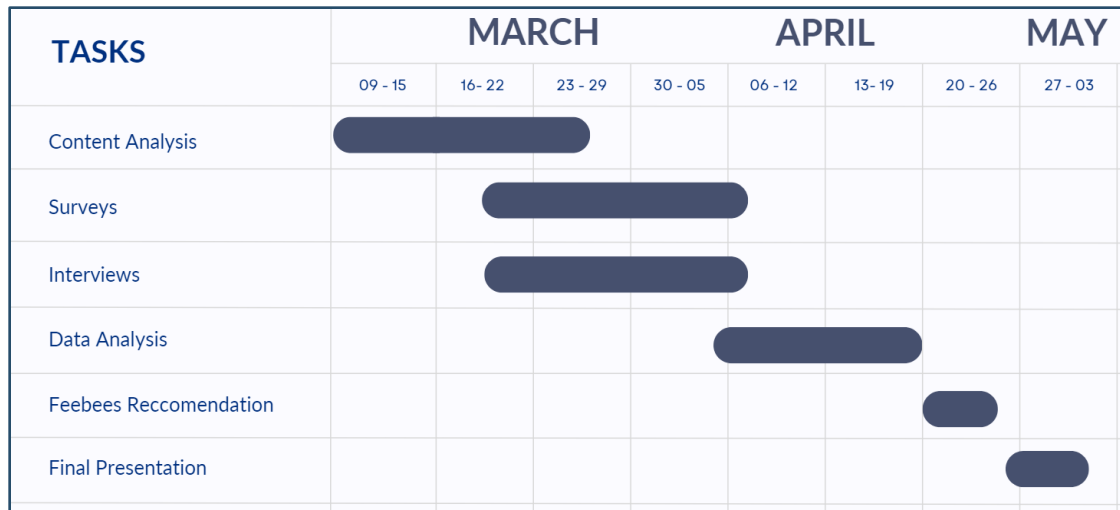
## 4. Conclusion

### 4.1. Summary

Taiwan is moving towards a circular economy in all sectors of industry. The clothing industry is a popular topic due to the environmental impacts of clothing production and waste. Feebees currently markets itself to the older active adults in Taiwan through a Shaded Green strategy in which sustainability is a secondary aspect of the brand and health and fitness is the primary. Despite targeting older Taiwanese citizens, Feebees' website and social media page are more representative of younger active adults. The research surrounding marketing and Feebees indicates that the company has a customer base to expand their clientele into. Through content analysis, consumer surveys, and interviews, the team will gain more insight on different branding ideas that Feebees can adopt. The data collected will be used to understand consumer sneaker purchasing tendencies and their opinions on sneaker company branding concepts. Understanding what Taiwanese consumers look for in a sneaker helps the team evaluate what Feebees can do to reach a new demographic of young adults. Despite sustainability appearing to be Feebees' secondary mission, the company has a strong foundation to focus on sustainable consumer practices.

### 4.2. Next Steps

The Gantt chart (**Figure 5**) shows the preliminary task schedule for our 7-week project while on-site in Taiwan.



**Figure 5.** Gantt Chart

Upon arriving in Taiwan, the team will begin content analysis and finalize the survey design and questions. The content analysis will need to be finished before designing moodboards for the visual preference-related survey questions.

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# Appendices

## Appendix A: Consumer Survey-related Materials

### A1. Survey Questions (English)

Hi! We are students from Worcester Polytechnic Institute, a university in the United States. We are researching consumer habits in regard to buying sneakers on the behalf of our sponsor, Feebees, a Taiwanese shoe company. The purpose of this survey is to collect data regarding company concepts and sustainability from the perspective of consumption. The survey is expected to take 10 to 12 minutes. All responses are anonymous, and no personal identifying information will be collected or be made public. To take this survey, you must be at least 18 years old.

By continuing, you agree to participate in this research study. Your participation is completely voluntary, and you can withdraw at any time.

---

#### Start block: Demographics

1. How old are you?
  - a. 18-24 years old
  - b. 25-34 years old
  - c. 35-44 years old
  - d. 45-54 years old
  - e. 55-64 years old
  - f. 65+ years old
  
2. How would you describe your gender?
  - a. Female
  - b. Male
  - c. Non-binary
  - d. Other: \_\_\_\_\_
  - e. Prefer not to say

3. What region of Taiwan do you primarily live in?
- a. Northern
  - b. Southern
  - c. Central
  - d. Eastern
  - e. Western
  - f. Not applicable
  - g. Prefer not to say
4. What best describes your employment status over the last three months?
- a. Working full-time
  - b. Working part-time
  - c. Unemployed
  - d. Self-employed
  - e. Seasonally-employed
  - f. Student
  - g. Retired
  - h. Other (Please specify): \_\_\_\_\_
  - i. Prefer not to say

End block

---

Start block: Sneaker Purchasing Tendencies

The following questions will ask you about where you like to buy your sneakers.

1. What brand of sneakers do you normally buy?
- a. Nike
  - b. Adidas
  - c. New Balance
  - d. Aso

- e. La New
  - f. Other: \_\_\_\_\_
2. What option best describes how often you buy new sneakers?
- a. Every month
  - b. Every 3 - 6 months
  - c. 1 - 2 times per year
  - d. Rarely
  - e. Never
3. What option best describes how often you wear sneakers?
- a. Always
  - b. Often
  - c. Sometimes
  - d. Rarely
  - e. Never
4. Approximately how many sneakers do you personally own?
- a. 0 pairs
  - b. 1-5 pairs
  - c. 5+ pairs
5. How do you prefer to buy sneakers?
- a. Online
  - b. In-store
6. How do you find information when buying new shoes?
- a. Company website
  - b. Word of mouth
  - c. Advertisements
  - d. Social media/Influencers

- e. News articles
- f. Other: \_\_\_\_\_

Below are statements related to your shoe preferences. For the following statements, please indicate whether you: **STRONGLY AGREE**, **MILDLY AGREE**, **UNSURE**, **MILDLY DISAGREE**, **STRONGLY DISAGREE**, or **NOT APPLICABLE**.

1. When buying products, I buy products/brands that trusted others endorse.
2. I gain a sense of belonging by buying the same products/brands as others.
3. To make sure I am buying the right product/brand, I observe what others buy and use.
4. I often ask friends and family to help me choose the most suitable product/brand.
5. I think companies have a social responsibility towards environmental protection
6. I would buy shoes from a brand that has better environmental benefits compared to others
7. When I buy shoes, I go out of my way to choose eco-friendly brands
8. I would buy sneakers made from recycled materials in the future
9. I would rather get my sneakers repaired before buying new sneakers
10. When buying shoes, pricing is main concern
11. When buying sneakers, I prioritize the comfort over style
12. I decide what sneakers I buy based on current trends
13. If I could, I would wear one sneaker brand for the rest of my life

End block

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Start block: Visual Preferences

Below are different moodboards with branding ideas for fictional companies developed by our team. For each one, please state your association and how likely you would buy from the company.

[Picture of a different hypothetical brand moodboard\*]

1. In one or two words, what does this image make you think of? (Open ended)
2. How willing would you buy from this company?
  - a. Not at all
  - b. Maybe
  - c. Yes

[Picture of a different hypothetical brand moodboard\*]

1. In one or two words, what does this image make you think of? (Open ended)
2. How willing would you buy from this company?
  - a. Not at all
  - b. Maybe
  - c. Yes

[Picture of a different hypothetical brand moodboard\*]

1. In one or two words, what does this image make you think of? (Open ended)
2. How willing would you buy from this company?
  - a. Not at all
  - b. Maybe
  - c. Yes

[Picture of a different hypothetical brand moodboard\*]

1. In one or two words, what does this image make you think of? (Open ended)
2. How willing would you buy from this company?
  - a. Not at all
  - b. Maybe
  - c. Yes

End block

\*Note: These moodboards will be created after performing a content analysis. The moodboard will include a collection of images, text, photos, or any other visuals that will represent the brand and goals of a hypothetical sneaker company

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Start block: Visual Preferences (continued)\*\*

\*\*Note: For the brand image where consumers responded “Yes” or “Maybe” to the “How willing would you buy from this company?”, this question will be asked for that particular brand concept. If the participant answers “No”, this question will be skipped.

1. What in particular did you like about the brand concept the most? (Open ended)

End block

---

Are there any other comments you would like to provide?

---

Thank you for taking the survey! We are grateful for your time and contribution to our research.

## **Appendix B: Distributor Interview-related Materials**

### **B1. Interview Questions for Distributors (English)**

Prior to each interview, a consent form (**Appendix B2**) will be sent to the interviewee asking if they consent to the interview being audio recorded. The consent form would highlight that no personal or private company information would be made public. The audio recordings will only be listened to by the team. While the responses will be recorded which distributor was interviewed will not be made public either. Upon signing the consent form, the planned interview questions will be prior to conducting the interview.

At the beginning of each interview, the team would introduce themselves and remind the interviewee of the project purpose. After which, the team would ask direct the interview with the following questions\* (in order):

1. Based on your observations, what type of customers frequent your store?
2. Upon visiting your store, what are common questions/preferences that the customer requests regarding shoes?
3. What type of shoes are most purchased and what type of shoes are least purchased?
4. Which brand of sneakers sell the most?
5. What is the general price range of purchased sneakers?
6. Do you think that there is a large market for brands marketed as very sustainable?
7. From your observations, what might entice your customers to buy from more sustainable shoe brands?
8. Is there anything else we should know that we haven't covered?

\*The exact wording of questions are subject to change depending on the conversational flow. However, the general ideas will be retained.

## B2. Consent Form for Distributor Interviews (English)

### Informed Consent Agreement for Participation in a Research Study

Study Investigator: Wen-hua Du, Ph.D

**Student Team:** Roey Chen, Brian Chung, Benjamin Skarnes, Willa Royce-Roll

**Contact Information:** [gr-Feebees-d24@wpi.edu](mailto:gr-Feebees-d24@wpi.edu)

**Title of Research Study:** Expanding the Market for Recyclable Shoes in Taiwan

**Sponsor:** Worcester Polytechnic Institute (WPI) and Feebees International

You are being asked to participate in a research study. Before you agree, however, you must be fully informed about the purpose of the study, the procedures to be followed, and any benefits, risks or discomfort that you may experience as a result of your participation. This form presents information about the study so that you may make a fully informed decision regarding your participation.

**Purpose of the study:** The purpose of this study is to learn more about what aspects of a brand image impacts the Taiwanese public's shoe purchasing intentions. This information will be used to help determine a new branding image that the shoe company, Feebees, can adopt to market to a broader customer base in Taiwan.

**Procedures to be followed:** Through the use of interviews, research regarding customer behaviors towards buying sneakers in Taiwan will be conducted. This study will be conducted during a 7 week period of time (March 11th-May 1st), if you consent to this study, the interview will take up to 1 hour. The questions asked may request information including observed buyer habits, common questions regarding shoe purchases, how shoe



companies (other than Feebees) brand their products. The specific questions will be provided to you prior to the interview. If at any point in time you no longer wish to participate in the study and would like to resign consent to the data given, the data taken will become void and will not be used in the study.

**Risks to study participants:** We will be discussing topics that can pose a conflict of interest between the interviewee and Feebees. These include asking for an outside perspective on the effectiveness of Feebees' branding and marketing strategies. If given consent by the interviewee, audio recordings will be taken of the interview for reference by the project-specific team. The audio recordings will not be publicized and will only be listened to by the team to generate anonymized interview transcripts in which all personal or private company information is removed. The data collected from these transcripts may be used to determine trends between branding concepts to help direct Feebees' new branding image. This data will be viewed by the project-specific student team.

**Benefits to research participants and others:** Through participating in this study, you will provide vital information for Feebees to construct a new brand image. There are no personal benefits to individual participants.

**Alternative procedures or treatments available to potential research participants:** If necessary, the interview will include the presence of a non-Feebees affiliated translator who speaks both Mandarin-Chinese and English. This will be done to facilitate the interview in order to mitigate confusion and allow participants to feel more comfortable. The use of a translator will ensure that the information is received and interpreted accurately.

**Record keeping and confidentiality:** Audio recordings of the interview will be taken by the team in order to generate anonymized transcripts. Only the team will have access to the

full recordings. At no point will Feebees International be able to listen to the audio recordings or have access to information disclosing which individual provided a specific interview. Only the anonymized transcript will be reported. This transcript will exclude personal or private company information about the interviewee. Records of your participation in this study will be held confidential so far as permitted by law. However, the study investigators, the sponsor or its designee and, under certain circumstances, the Worcester Polytechnic Institute Institutional Review Board (WPI IRB) will be able to inspect and have access to confidential data that identify you by name. Any publication or presentation of the data will not identify you.

**Compensation or treatment in the event of injury:** Participation in this study is considered minimal risk. You do not give up any of your legal rights by signing this statement.

For more information about this research or about the rights of research participants, or in case of research-related injury, contact:

Student team: Email: [gr-Feebees-d24@wpi.edu](mailto:gr-Feebees-d24@wpi.edu)

IRB Manager: Ruth McKeogh, Tel. 508 831- 6699, Email: [irb@wpi.edu](mailto:irb@wpi.edu)

Human Protection Administrator: Gabriel Johnson, Tel. 508-831-4989, Email: [gjohnson@wpi.edu](mailto:gjohnson@wpi.edu)

**Your participation in this research is voluntary.** Your refusal to participate will not result in any penalty to you or any loss of benefits to which you may otherwise be entitled. You may decide to stop participating in the research at any time without penalty or loss of other

benefits. The project investigators retain the right to cancel or postpone the experimental procedures at any time they see fit.

**By signing below,** you acknowledge that you have been informed about and consent to be a participant in the study described above. Make sure that your questions are answered to your satisfaction before signing. You are entitled to retain a copy of this consent agreement.

\_\_\_\_\_ Date: \_\_\_\_\_  
Study Participant Signature

\_\_\_\_\_ Date: \_\_\_\_\_  
Study Participant Name (Please print)

\_\_\_\_\_ Date: \_\_\_\_\_  
Signature of Person who explained this study