



PERFUME STICK

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DECLARATION OF ORIGINALITY

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3. To fulfill the requirements for the award of the Diploma in Business Studies to us, we consented to transfer ownership of the intellectual property "**PERFUME STICK**" to "Polytechnic Sultan Salahuddin Abdul Aziz Shah."

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ABSTRACT

Cosmetic products, especially perfumes and colognes, are widely used in various communities. Smells play a significant role in human behavior therefore researchers decided to innovate perfume products to cater for these needs. This perfume is formulated with natural or gentler ingredients, making them a good choice for individuals with sensitive skin. This product has several advantages, one of which is that it can last longer due to its thicker consistency, perfume sticks tend to last longer on the skin than alcohol-based perfumes. In addition, this product can moisturize the skin. Finally, the product is portable as its small and compact size makes it easy to carry the perfume stick anywhere, making it an ideal choice for all-day touch-ups.

The Marketing target for our products is to younger consumers. Perfume sticks may appeal to younger consumers (teens to mid-30s), but older consumers may also appreciate the convenience. Although perfumes are traditionally divided by gender (male and female), there is a growing market for gender-neutral fragrances. Next, busy Professionals, frequent travelers, athletes and students may prefer portable and easy-to-use perfume sticks. Also, targeting everyday fragrance users, and those who only wear perfume on special occasions. Also, perfume sticks make great gifts, so targeting consumers looking for personal yet practical gifts, especially during the holidays, can be effective. Finally, it can be marketed as an affordable and high-value alternative to traditional perfumes, appealing to a more cost-conscious audience.

ABSTRAK

Produk kosmetik, terutamanya minyak wangi dan cologne, digunakan secara meluas dalam pelbagai komuniti. Bau memainkan peranan penting dalam tingkah laku manusia oleh itu penyelidik memutuskan untuk menginovasi produk minyak wangi untuk memenuhi keperluan ini. Minyak wangi ini dirumus dengan bahan semula jadi atau lebih lembut, menjadikannya pilihan yang baik untuk individu yang mempunyai kulit sensitif. Produk ini mempunyai beberapa kelebihan, salah satunya ialah ia boleh bertahan lebih lama kerana konsistensinya yang lebih tebal, batang minyak wangi cenderung untuk bertahan lebih lama pada kulit berbanding minyak wangi berasaskan alkohol. Selain itu, produk ini dapat melembapkan kulit. Akhir sekali, produk ini mudah alih kerana saiznya yang kecil dan padat memudahkan untuk membawa batang minyak wangi ke mana-mana, menjadikannya pilihan ideal untuk sentuhan sepanjang hari.

Sasaran Pemasaran untuk produk kami adalah kepada pengguna yang lebih muda. Batang minyak wangi mungkin menarik minat pengguna yang lebih muda (remaja hingga pertengahan 30-an), tetapi pengguna yang lebih tua juga mungkin menghargai kemudahan tersebut. Walaupun minyak wangi secara tradisinya dibahagikan mengikut jantina (lelaki dan perempuan), terdapat pasaran yang semakin meningkat untuk wangian neutral jantina. Seterusnya, Profesional yang sibuk, pengembara yang kerap, atlet dan pelajar mungkin lebih suka batang minyak wangi mudah alih dan mudah digunakan. Juga, menyasarkan pengguna wangian setiap hari, dan mereka yang hanya memakai minyak wangi pada majlis khas. Selain itu, batang minyak wangi menghasilkan hadiah yang hebat, jadi menyasarkan pengguna yang mencari hadiah peribadi lagi praktikal, terutamanya semasa cuti, boleh menjadi berkesan. Akhir sekali, ia boleh dipasarkan sebagai alternatif yang berpatutan dan bernilai tinggi kepada minyak wangi tradisional, menarik kepada khalayak yang lebih mementingkan kos.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

For those who need sophistication but are also eco-friendly, the ‘Go Green’ Perfume Balm Stick is the perfect purchase. It is a good alternative to liquid perfumes, which are sprays or “Eau De Parfum” containers, and consists of all natural, organic essential oils in a balm stick form and lasting fragrance without any artificial or chemical additives. Each scent is carefully crafted and manufactured, keeping users in mind so that they can enjoy the fragrances while being green as well.

We also integrate environmental consciousness into the final product, even more so in its making, use, and even packaging. In Going Green,” our “Perfume Balm Stick, based on reduced waste features, is packed in recyclable or biodegradable materials instead of adding more harm to the environment as with squared packet perfume sprays. Such a design of packaging that has environmental friendliness also provides some functional advantages, such as easy carry when traveling, and hence is perfect for busy people as it is sturdy.

It is not just the case of enjoying a luxurious and personal experience when using “Go Green” Perfume Balm Stick, as every consumer also helps the world become greener. The product is the perfect combination between style, innovative design implementation, and current trends, which help people to live in modern practices considering sustainable ways of life. Every time the users apply the product, they also get the added benefit of knowing that they are using a brand that cares for them as well as the nature.

1.2 PROJECT BACKGROUND

The combination of luxury, convenience, and sustainability means that this project adds a modern twist to traditional fragrance applications. Combining high-quality essential oils with a nourishing base made from natural ingredients such as beeswax and shea butter, this innovative product will become a unique solid perfume. This balm stick format will not only allow for a subtle, long-lasting fragrance but also reduce the need for glass or plastic bottles, following the principles of eco-friendliness. The project will appeal to the increasing numbers of people concerned by their ecological footprint but who still want to add a touch of sophistication to their daily personal care routine by sourcing the ingredients sustainably and using minimal packaging.

Complementing its commitment to green practices, the perfume balm stick ensures the use of ethical ingredient sourcing and recyclable packaging. Every element of this product, from its formulation to presentation, shows a firm commitment to reducing waste while furthering a healthy planet. This approach not only addresses the rising demand for eco-sensitive products but also offers a more enriched end-user experience with a superior alternative to liquid perfumes in an eco-friendly format. The project, in turn, aims at raising the ante in the world of fragrance by showing the coexistence and interrelation of luxury and sustainability.

1.3 PROBLEM STATEMENT

The perfume balm stick project-a sophisticated gift with keenness for sustainability-is a way to change the fragrance industry in an eco-friendly manner. This innovative product is crafted by blending high-quality essential oils with a nourishing base of natural ingredients, such as beeswax and shea butter, into a solid perfume that is so sophisticated and practical. It is designed to be user-friendly and easy to carry. Due to the stick form, the perfume application doesn't involve a glass or plastic bottle. Not only does this ensure convenience but also meets our environmental care policy.

The current green awareness raises the importance of this perfume balm stick project in terms of sustainability throughout the product development phase. These ingredients are sourced in an ethical manner, meaning the production of such ingredients considers the environment and is at a just deal for the laborers. Second, the packaging used in our products is made from materials that can easily be recycled and eco-friendly to show our care for waste reduction and our support for the circular economy. By using minimal packaging and sustainable material, we minimize our carbon footprint while being able to provide a real quality product and meet the needs of each eco-conscious consumer.

The project will also include heavy testing and consumer feedback to come up with a product to meet or even exceed performance and environmental responsibility expectations. The perfume balm stick guarantees long-lasting fragrance and skin benefits while setting a new standard for the industry by showing how luxury and sustainability can go hand in hand. With this, we also aim to potentially encourage other brands to go greener, in order to offer a good alternative to conventional fragrance options, all while keeping in mind our pledge to a more sustainable future.

1.4 PROJECT OBJECTIVE

- i. To develop a solid Perfume Balm Stick that is spill-free, portable, and convenient for daily use without the risk of leaks.
- ii. To evaluate the environmental impact of the product by using sustainable and recyclable materials for packaging, supporting waste reduction efforts.
- iii. To determine the effectiveness and consumer satisfaction of ethically sourced, high-quality natural ingredients in providing a long-lasting fragrance.

1.5 PROJECT QUESTION

Three project questions are posed to aid the consumers in achieving the objectives. The project questions are as follows:

- i. What type of scents do you usually prefer in perfumes (e.g., floral, woody, citrus, fresh)?
- ii. Do you have any skin sensitivities or allergies that affect your choice of perfume?
- iii. How often do you reapply perfume throughout the day?

1.6 PROJECT SCOPE

The scope of our project, focused on developing and launching a perfume stick product, covers several key areas essential for successful market entry. First is the area of product development, entailing research on consumer preferences to create a range of unique, long-lasting fragrances combined in a portable, ergonomic package in stick format. Ensuring that the product is safe for all skin types, especially sensitive skin, is paramount. The next phase of this project will be comprehensive market research, considering the prevailing trends in the perfume industry, studying competitor products, and conducting surveys and interviews with potential customers to gain insight into their preferences. This will include identification of favorite scents, packaging, and price points of your target demographic.

The project also addresses sustainability, it considers environmental-friendly packaging and the use of natural or organic ingredients to attract those environmentally concerned consumers. The scope of the project will also involve branding and marketing. It should, therefore, be expected that there would be a well-developed brand identity with support from a marketing strategy, including digital campaigns, social media promotions, and influencer partnerships. Finally, the project will establish a competitive pricing strategy* through product positioning, and the insights gained during market research to ensure that, despite being quality products, the price tags are affordable. The all-inclusive scope will ensure nothing has been left out in the product of perfume sticks, from product development through marketing.

1.7 SIGNIFICANCE OF THE PROJECT

The significance of this project lies in its commitment to sustainability, affordability, and product performance. By utilizing eco-friendly packaging made from biodegradable or recyclable materials, the project minimizes environmental impact, catering to the growing number of consumers who prioritize sustainability in their purchases. Additionally, the project focuses on affordability, making high-quality, eco-conscious products accessible to a broader range of consumers and enhancing market competitiveness. The long-lasting fragrance formula ensures that the scent endures throughout the day, reducing the need for frequent reapplication and providing greater value and convenience to users.

1.7.1 PROJECT ADVANTAGES

They are compact and leak-proof, making stick perfumes a perfect travel companion. They easily fit in small bags or pockets. Unlike liquid perfumes, which require sprayers, the fact that these perfumes have this simple, direct application allows a person to regulate the amount of fragrance to use with precision without any over-application. The nature of being a solid or semi-solid precludes spills and messy situations, hence the durability and longevity of the item. Stick perfumes have higher fragrance oil concentrations, too, and are longer-lasting on the skin.

They are much more hygienic and effective since there is no waste from leftover liquid and no risk of contamination. Stick perfumes offer subtle, controlled fragrance application, hence perfect for professional environments. Because of how long they tend to last and because less is spilled, they are more economical than their liquid counterparts.

Besides that, many stick perfumes now come in eco-friendly, recyclable packaging that has a gentle effect on the environment. Fragrance technology does not stop here, improving their performance day after day, and for these very reasons, more people appreciate stick perfumes because of their convenience, ease of application, and for being in tune with minimalist and sustainable living. A convenient, hygienic, and friendly option for the environmental stick perfume is ideal for travel or everyday use.

1.7.2 JUSTIFICATION OF BUSINESS PROJECT SELECTION

The industry of perfumery is changing, and stick perfumes have certain advantages that meet the expectations of today's consumer. Stick perfumes address the demand for convenience with their portable, mess-free format ideal for both the busy professional and the traveler. They appeal to concerns about hygiene because their solid form presents less risk of contamination than liquid sprays. Providing long-lasting fragrance with a higher concentration of oils, stick perfumes offer value and reduce the need for frequent reapplication.

The latest and different stick perfume formulas are friendlier to the skin and also available in a wider range of scents. Eco-friendly packages and personalization options add to their appeal. For their part, stick perfumes are lower-priced than liquid ones, providing more value for money, since they tend to be longer-lasting without resulting in much waste. Their compact size also makes them suitable for gifting and impulse purchases.

It ensures a factor of profitability with sustainability through eco-friendly packaging, since the cost of production is low and the margin may be high. Educating the consumers about the benefits of stick perfumes and effective marketing will let the brands differentiate their offerings within an increasingly competitive market.

1.8 OPERATIONAL DEFINITION

I. Definition of Perfume

Perfume is a fragrant liquid typically made from a blend of essential oils, aroma compounds, alcohol, and water, used to give a pleasant scent to a person, object, or space. It is applied to the skin or clothing to enhance one's personal fragrance and can vary greatly in scent and strength. Perfume is classified into different types based on the concentration of aromatic compounds, such as eau de parfum, eau de toilette, and eau de cologne, with each type having a different level of scent intensity and longevity.

II. Definition of Fragrance

Fragrance is a term that refers to a pleasant or sweet smell. It often describes scents that are added to products like perfumes, colognes, soaps, and lotions to create an appealing aroma. Fragrances can be derived from natural sources, such as flowers, fruits, and spices, or they can be synthesized using chemical compounds to mimic natural scents.

III. Packaging Specifications

The perfume balm stick is characterized by its packaging, which must be compact, leak-proof, and designed for portability. The packaging typically includes a retractable or screw-up tube made from materials that are either recyclable, biodegradable, or both, and ensures that the product remains protected from contamination and spillage.

1.9 SUMMARY

The Perfume Stick project focuses on developing a portable, solid fragrance product designed for ease of use and long-lasting scent. Unlike traditional liquid perfumes, the perfume stick is a compact, wax-based formula that can be applied directly to the skin. It offers convenience and mess-free application, making it ideal for on-the-go use.

The perfume stick will be formulated with a high concentration of aromatic oils to ensure that the scent lasts for several hours without reapplication. Key attributes such as fragrance longevity, spreadability, and skin sensitivity will be prioritized in the product design, ensuring a smooth glide and comfortable wear on various skin types.

This project aims to cater to consumers looking for a convenient, travel-friendly alternative to liquid perfumes, while maintaining the high-quality fragrance experience expected from traditional perfumes.

CHAPTER 2

FIELD REVIEW

2.1 INTRODUCTION

This chapter is mostly concerned with the literature reviews that adapt the content to the project's goal. It was necessary to have the qualities listed below and more

2.2 PREVIOUS STUDIES/REVIEW/INVESTIGATION

Wastage In Perfume

Perfume wastage is an often-overlooked issue that affects fragrance lovers and casual users alike. Each year, countless bottles are purchased, yet many end up forgotten on shelves, collecting dust. This phenomenon is often driven by impulsive buying, where consumers are seduced by enticing advertisements, celebrity endorsements, or the latest trends. As a result, people accumulate a variety of scents, but not all of them resonate. It's common for individuals to buy a bottle after a quick spray at a department store, only to realize later that the scent doesn't suit them or, worse, clashes with their body chemistry. This leads to a cycle of disappointment and waste, as beautifully packaged bottles sit unused, their contents slowly evaporating over time, ultimately representing both a financial loss and a missed opportunity for enjoyment.

Improper storage practices also contribute significantly to perfume wastage. Many individuals make the mistake of storing their fragrances in bathrooms or near windows, where humidity and sunlight can negatively impact the scent. Over time, exposure to these elements can degrade the quality of the fragrance, causing it to lose its original character. Perfumes, particularly those with natural ingredients, can oxidize and develop off-putting scents if not kept in cool, dark environments. Additionally, perfumes have a shelf life; while some can last for years, others may begin to break down after just a few months if exposed to unfavorable conditions. This lack of understanding about how to properly care for perfumes often results in wasted investments, as consumers find themselves left with unusable products that once held great promise.

Application habits are another major factor leading to perfume wastage. Many people mistakenly believe that more is better when it comes to applying fragrance. In an effort to leave a lasting impression, individuals often overspray, enveloping themselves in an overpowering cloud of scent. This not only overwhelms the wearer but can also discomfort those around them. Special occasions often prompt this behavior, with individuals eager to make an impact at parties or gatherings. However, excessive application can backfire, causing dissatisfaction and leading to the rapid depletion of the product. The desire to layer multiple fragrances can further complicate matters, as

incompatible scents can create an unpleasant olfactory experience. This overindulgence often results in individuals seeking out new fragrances to replace those that have been wasted, perpetuating a cycle of consumption that is both costly and environmentally damaging.

The environmental impact of perfume wastage is another crucial consideration. Many fragrances are packaged in beautifully designed bottles that are often not recyclable, adding to the growing concern of plastic waste. The fragrance industry heavily relies on synthetic ingredients, many of which are derived from petroleum, leading to a larger ecological footprint. As awareness of environmental issues rises, consumers are increasingly seeking sustainable options in their purchasing decisions. In response, many brands have begun to offer refillable packaging and eco-friendly formulations, encouraging responsible consumption. These initiatives not only help reduce waste but also foster a deeper connection between consumers and the products they use, promoting a more conscious approach to fragrance.

To combat the issue of perfume wastage, individuals can adopt several mindful practices that enhance their fragrance experience. One effective strategy is decanting, which involves transferring smaller amounts of perfume into travel-sized bottles. This allows users to experiment with different scents without committing to full bottles, reducing the likelihood of unwanted waste. Hosting perfume swaps among friends can also promote sharing and appreciation, turning the experience into a communal event rather than a solitary one. Additionally, learning about proper application techniques, such as spritzing on pulse points rather than over spraying, can maximize the longevity of a fragrance while enhancing its overall effect. By embracing these practices, individuals can cultivate a more sustainable relationship with their perfumes, ensuring that they savor every drop.

Ultimately, becoming aware of the patterns surrounding perfume wastage can lead to more thoughtful choices and greater enjoyment of fragrance. Recognizing the emotional connections tied to specific scents encourages a deeper appreciation for each bottle, transforming the act of wearing perfume into a meaningful ritual rather than a routine task. With the growing emphasis on sustainability and responsible consumption, the fragrance industry is beginning to evolve. Consumers are now more empowered than ever to demand transparency and ethical practices from brands, pushing the industry toward more sustainable alternatives. As individuals strive to create a more mindful approach to their fragrance habits, they not only reduce waste but also enhance their overall experience, allowing them to fully appreciate the artistry and intention behind each scent.

In conclusion, addressing the issue of perfume wastage requires a multifaceted approach that encompasses consumer behavior, storage practices, application methods, and environmental considerations. By fostering awareness around these factors, individuals can make more informed choices that promote sustainability while enhancing their enjoyment

of fragrance. The journey towards a more mindful relationship with perfume is one that honors both personal preferences and the planet, ensuring that each spritz is not just an act of indulgence but a celebration of the art of perfumery itself.

Bad Ingredients In Perfume

The allure of perfume lies not only in its captivating scents but also in the emotions and memories it evokes. However, beneath the surface of many popular fragrances lies a troubling reality: the presence of harmful ingredients. While some perfume houses pride themselves on using natural components, many commercial fragrances are loaded with synthetic chemicals that can pose risks to health and the environment. Common culprits include phthalates, which are often used to enhance fragrance longevity. These compounds have been linked to endocrine disruption, potentially affecting hormone levels and reproductive health. The sheer prevalence of such ingredients raises concerns about the safety of daily exposure to synthetic fragrances, especially for those with sensitivities or allergies.

Another problematic ingredient frequently found in perfumes is synthetic musk's. While they provide a desirable scent profile, many synthetic musk's, such as galaxolide and tonalide, have been associated with various health issues, including hormone disruption and potential carcinogenic effects. These compounds can accumulate in human tissues and the environment, leading to long-term ecological impacts. In fact, studies have shown that synthetic musk's can be detected in water sources and even in the bodies of wildlife, raising questions about their environmental persistence and bioaccumulation. As consumers become more informed about the implications of these ingredients, the demand for transparency and safer alternatives in the fragrance industry continues to grow.

Fragrance allergens represent another area of concern in the formulation of perfumes. Many fragrances contain allergens that can trigger reactions in sensitive individuals, leading to skin irritations, respiratory issues, and other adverse effects. Common allergens such as limonene and linalool are often derived from natural sources but can cause allergic reactions in some people. Regulations in the European Union require manufacturers to disclose certain allergens, but this transparency is not universal. Consequently, many consumers may unknowingly expose themselves to potentially harmful substances, particularly when testing fragrances in stores or applying them liberally without awareness of their skin sensitivities. This highlights the need for greater consumer education regarding the ingredients in perfumes.

Additionally, certain preservatives and stabilizers used in perfume formulations can be problematic. For example, parabens, which are commonly used to extend shelf life, have raised concerns due to their potential role as endocrine disruptors. Parabens can mimic estrogen in the body, leading to fears about their association with breast cancer and other health issues. While the cosmetic industry has seen a shift towards paraben-free

formulations, many fragrances still contain these preservatives, putting consumers at risk. Moreover, other preservatives, such as phenoxyethanol, have also been scrutinized for their potential irritative effects and toxicity. As awareness grows, consumers are increasingly seeking out fragrance brands that prioritize safer, more natural formulations.

The environmental impact of bad ingredients in perfumes is another critical consideration. Many synthetic compounds used in fragrance formulations are derived from petrochemicals, contributing to the depletion of natural resources and increasing the carbon footprint of production processes. Additionally, the manufacturing and disposal of these chemicals can lead to pollution, affecting ecosystems and human health. Ingredients like synthetic dyes, which are often added to enhance the visual appeal of perfumes, can further exacerbate environmental issues. These dyes may not only be harmful in their production but also pose risks when they enter waterways. The push for sustainable and eco-friendly practices in the fragrance industry has led to a demand for transparency and accountability in ingredient sourcing and production.

In response to the growing awareness of these issues, many consumers are turning to niche and artisan perfume brands that prioritize natural ingredients and ethical sourcing. These brands often emphasize the use of botanical extracts, essential oils, and other natural components that provide both pleasing scents and safer alternatives. By choosing perfumes made from natural ingredients, consumers can reduce their exposure to harmful chemicals while supporting more sustainable practices in the fragrance industry. Furthermore, the rise of “clean” beauty movements has encouraged established brands to reformulate their products, eliminating harmful ingredients and adopting greener practices. This shift not only benefits consumers but also promotes a healthier planet, encouraging a more responsible approach to fragrance.

In conclusion, the presence of harmful ingredients in perfumes is an important issue that deserves attention from consumers and manufacturers alike. From synthetic musks and phthalates to fragrance allergens and controversial preservatives, the risks associated with these ingredients highlight the need for greater transparency and education in the fragrance industry. As consumers become more discerning and demand safer, more natural alternatives, the industry is poised for change. By prioritizing health, safety, and sustainability, both consumers and brands can work together to create a more responsible approach to perfume that honors the art of fragrance without compromising well-being or the environment. Ultimately, the goal is to enjoy the beauty of scent while minimizing potential risks, paving the way for a healthier future in the world of perfumery.

Table 2.2 1 Name of Toxic Chemical

| NAME OF TOXIC CHEMICAL IN FRAGRANCE | EFFECTS |
|-------------------------------------|---|
| Benzaldehyde | This substance is known as narcotics, lungs and eye irritation. It causes nausea, abdominal pain, and kidney damage |
| Benzyl acetate | Known carcinogen, which causes eye and lung irritation as well as coughing |
| Camphor | Can cause dizziness, confusion, nausea, muscle twitching, convulsions |
| Ethyl acetate | Can cause eye and respiratory irritation. |
| Linalool | Can cause respiratory disturbances in animal studies, depression, and central nervous system disorders |

2.3 SITUATIONAL ANALYSIS (SWOT)

| STRENGTHS (S): | WEAKNESS (W): |
|---|---|
| <ul style="list-style-type: none"> • Portability: The stick format makes it easy for customers to carry the perfume in their bags or pockets, ideal for on-the-go application. • Easy to Use: The application is simple and mess-free, compared to liquid perfumes which might spill. • Longevity: Perfume sticks might last longer on the skin due to their concentrated nature. | <ul style="list-style-type: none"> • Product Education: Some customers might be unfamiliar with the concept of a perfume stick and may need education on how to use it effectively. • Seasonal Sensitivity: The solid nature of the stick might be affected by extreme temperatures, becoming too soft in heat or too hard in cold. • Limited Fragrance Throw: Perfume sticks may not diffuse as widely as sprays, which could be a drawback for those who prefer a more noticeable scent |
| OPPORTUNITIES (O): | THREAT (T) |

| | |
|---|--|
| <ul style="list-style-type: none"> • Political: Increasing government regulations and incentives for sustainable practices can support and enhance the appeal of eco-friendly products, potentially providing tax breaks or grants. • Environmental: Rising consumer demand for eco-friendly products aligns with your product’s attributes, increasing market potential. • Social: Rising awareness and preference for non-toxic, health-conscious products offer a strong market for products that align with these values, enhancing brand loyalty and customer engagement | <ul style="list-style-type: none"> • Political: Changes in regulations or trade policies could impact the cost or availability of sustainable materials and ingredients, potentially affecting production and pricing. • Environmental: Limited availability or higher costs of sustainable materials could affect pricing and supply. • Social: The growing number of competitors entering the eco-friendly and non-toxic personal care market may intensify competition, making it harder to differentiate and capture market share. |
|---|--|

Table 2.2 2 SWOT

2.4 DESIGN THINKING PROCESS

Design thinking is a human-centered approach to innovation that emphasizes understanding the needs and experiences of users. It involves a systematic process of empathizing with users, defining their problems, ideating potential solutions, prototyping, and testing. The goal of design thinking is to create solutions that are not only functional but also resonate emotionally with users. This iterative process allows designers to explore multiple ideas and perspectives, encouraging collaboration and creativity. By focusing on empathy, design thinking helps teams to delve deeper into the user's context, uncovering insights that may not be immediately obvious. This user-centric perspective is crucial for developing products and services that truly meet the needs of the people they are designed for, ultimately leading to more effective and innovative solutions.

In practice, design thinking is applicable across various fields, including product development, service design, and business strategy. It encourages cross-disciplinary collaboration, bringing together diverse skill sets and viewpoints to enrich the creative process. The methodology typically begins with empathy work, such as user interviews or observations, to gather qualitative data about user experiences. This information is then synthesized to define the core problem, guiding the ideation phase where brainstorming generates a wide range of ideas. Prototyping allows teams to bring their concepts to life, creating tangible representations that can be tested and refined based on user feedback. This iterative cycle of prototyping and testing fosters a culture of experimentation and adaptability, essential for navigating the complexities of modern challenges. Ultimately,

design thinking is not just a toolkit but a mindset that champions innovation through empathy, creativity, and a commitment to understanding users deeply.

2.4.1 EMPATHY

From watches users at this early stage to better understand how they interact with and are impacted by product or issue. Empathy is crucial for observation because it prevents us from passing judgment on the client's requirements and from imposing our own. Empathic observation is advantageous since it might highlight issues that the client is unaware of or unable to express. Now it's simpler to understand the need of people for whom you develop.

2.4.2 DEFINE

The problem you are attempting to solve is identified in this second stage by using your observations from the first stage. Consider the challenges your users are experiencing, the issues they frequently encounter, and what you have learned from their reactions to the problem. After combining your research, you may identify the issues they are having.

2.4.3 IDEATE

The next stage is to generate solutions for the issue you have identified. These brainstorming sessions can be done individually, in groups, in an innovation lab, in an office setting, or in a school that fosters creativity and teamwork. Finding the finest ideas requires getting lost of varied ideas from each group member. You will have some suggestions for the following action after this procedure.

2.4.4 PROTOTYPE

This is the stage where concepts are transformed into workable solutions. A prototype is not finished commodity or service. Before making something available to the public, they offer a method to test concepts, verify operational procedures, and find ways to make it better. The prototype can be tested in numerous ways, such as by being prodded and thrown against a wall. It has a better probability of satisfying clients if it passes these criteria. A prototype can be scrapped if it turns out to have flaws. To swiftly test the idea's viability and analyses user reaction, also has purpose to do so. A landing page to evaluate customer preferences for a product or a prototype film that demonstrates the method by which products are made.

2.4.5 TEST

Users must be given a prototype solution, and you must then watch them to see how they react to it. You should gather comments regarding your effort at this point. Rather than being linear, the design thinking process is iterative. You might need to go back to one or more levels after the fifth level is complete. Perhaps testing has revealed that you need to create a new prototype, for which you have moved back to stage four. Or it might be demonstrated that you incorrectly specified the user's needs. If so, you must start the process over from scratch

2.5 SUMMARY

This chapter outlines how the case study is coming along and why this project was picked. Numerous case studies are cited connected with our creation, which is an perfume stick. Bad ingredients and packaging of perfume in the customer's perfume is a topic covered in many case studies. As a result, the project methodology, or how the project is structured, will be explained in Chapter 3.

CHAPTER 3

METRODOLOGY/ DESIGN

3.1 INTRODUCTION

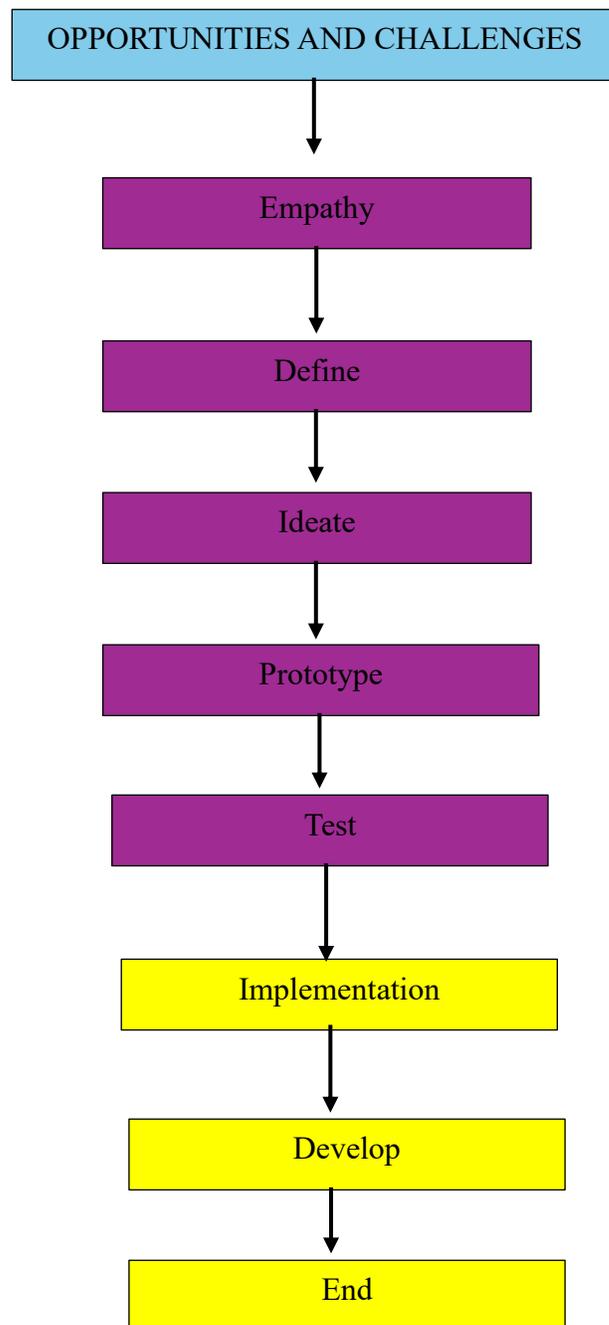
This chapter is mostly concerned with the literature reviews that adapt the content to the project's goal. It was necessary to have the qualities listed below and more.

3.2 PROJECT DESIGN

Design thinking is a human-centered approach to innovation that emphasizes understanding the needs and experiences of users. It involves a systematic process of empathizing with users, defining their problems, ideating potential solutions, prototyping, and testing. The goal of design thinking is to create solutions that are not only functional but also resonate emotionally with users. This iterative process allows designers to explore multiple ideas and perspectives, encouraging collaboration and creativity. By focusing on empathy, design thinking helps teams to delve deeper into the user's context, uncovering insights that may not be immediately obvious. This user-centric perspective is crucial for developing products and services that truly meet the needs of the people they are designed for, ultimately leading to more effective and innovative solutions.

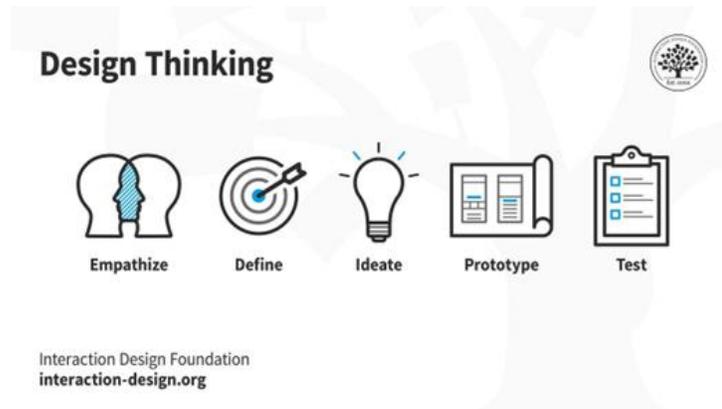
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3.2.1 FLOW CHART DESIGN



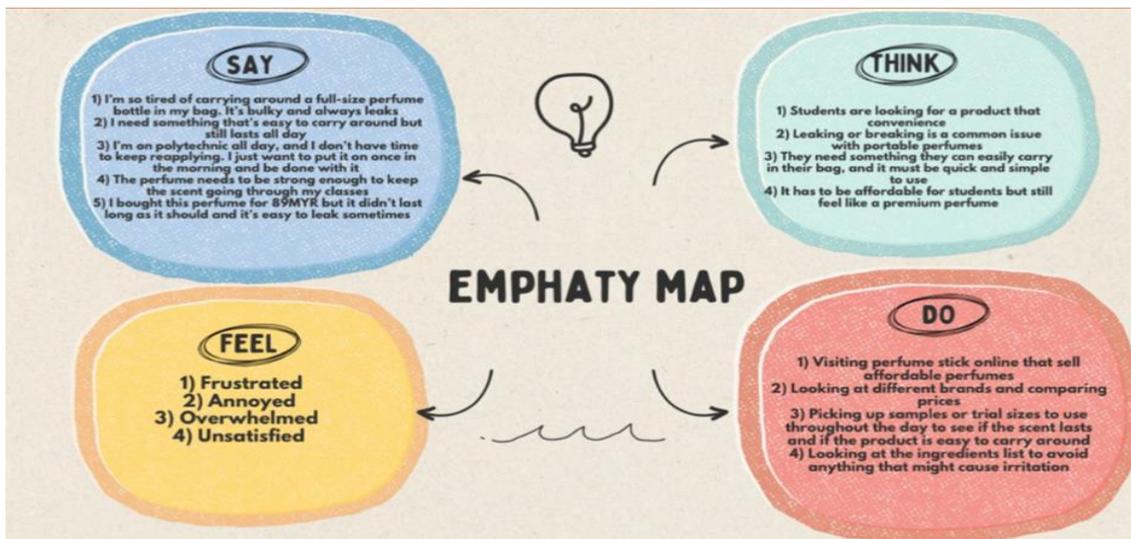
3.2.2 METHOD/PROCEDURE/PROJECT PRODUCTION TECHNIQUE

In this project, design thinking was employed to create the product, which took a large amount of time to Empathize, Define, Ideate, Prototype, and Test to ensure that all relevant procedures were followed during the product development process. Having clearly defined steps makes it easy for us to make the lip balm, making this technique incredibly valuable to our project and we can achieve the objective of creating our perfume stick



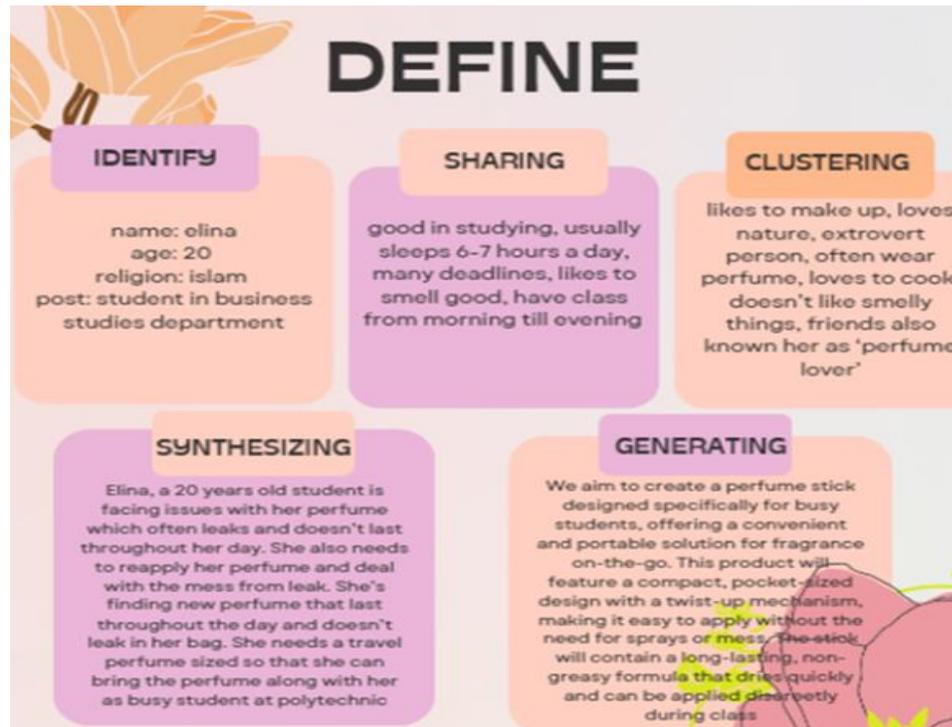
EMPATHY

Empathy was achieved through interviewing PSA students. According to the interviews, some students have problem with perfume packaging.



DEFINE

After empathizing, a small sample revealed that many students suffer from the old bottle that used from glasses is easy to leak and difficult to carry anywhere. Students also were not aware about chemical that have in their perfume. Additionally, several students used their perfume product without conducting any research.

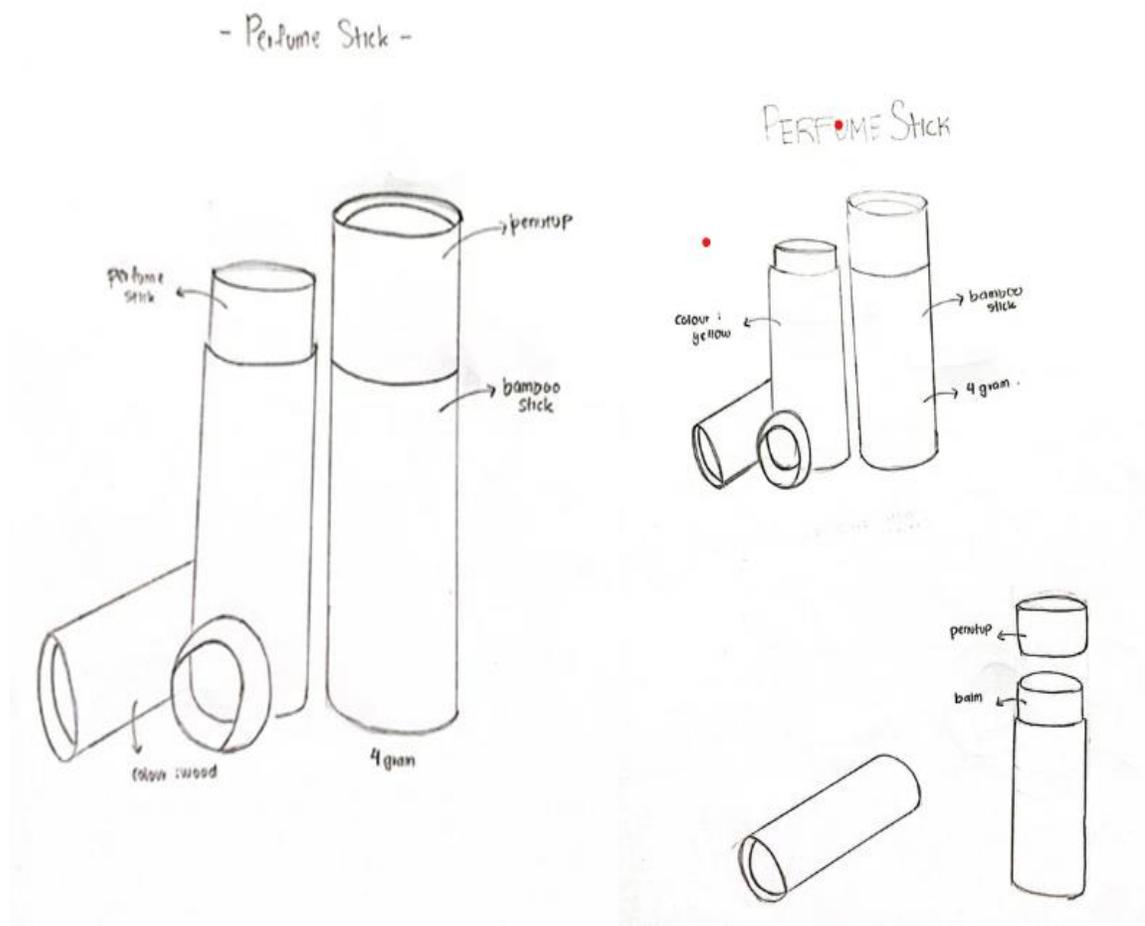


IDEATE

We brainstormed together for ideas after we had clearly defined the issues. We investigated many suggestions from each member to find a solution to the situation.



PROTOTYPE



TESTING

Testing will take place once the entire process of developing the application has been completed in accordance with the prototypes. The outcomes of the tests will be discussed in Chapter 4.

3.2.3 ANALYSIS DATA METHOD

This section describes to analyze data for the eco-friendly Perfume Balm Stick project, a Google Form will be utilized to collect consumer feedback and preferences. The form will include questions on scent preferences, packaging appeal, and overall satisfaction with eco-friendly aspects. This quantitative data will help identify trends,

assess consumer attitudes towards sustainability, and guide improvements for the product's development and marketing strategies. The process of assessing the results and data is divided into three phases.

Phase 1 (Empathy)

Phase 1 consists of the process of analyzing data during pre-development of the product which has been done in EMPATHY which is observation, interview and initial survey (option) where the data are collected from the google form survey that has been distributed to collect the response from the user based on the issue identified. Besides, the data collection from real time observation also has been analyzed and displayed in this chapter (section 3.2.2).

Phase 2 (Testing)

In Phase 2, the user test or analysis based on the application is conducted. Testing involves gathering feedback from real or target users to evaluate a design's success and identify where improvements are needed. The Test and Prototype stages usually occur in a cycle, as prototypes are refined (or replaced) in line with user feedback before being re-tested repeatedly until the product is ready to be launched.

The Test stage is essential to:

- Early identification of usability and accessibility concerns can enhance the user experience and save time and money during deployment.
- Prioritize user satisfaction over assumptions when making design decisions
- Uncover unanticipated insights that may invalidate or re-focus the problem or solution, not discovered during the Empathize stage. In this project, input on testing will be organized into a feedback grid.

Common themes in the feedback grid include What worked, what could be improved, new ideas and new questions. The results of testing will be discussed in Chapter 4.

Phase 3 (Survey)

Quantitative research method was adopted to this study. This study is considered a descriptive study on the base of data collection method. Also, since the data are obtained through sampling of population to examine its distribution parameters, it is a survey study.

3.4 MATERIAL AND EQUIPMENT



1. Organic Beeswax Pellets

- Organic beeswax is a natural emollient that offers numerous benefits for the skin. It acts as locking in moisture while allowing the skin to breathe. Rich in antioxidants, it helps to soothe and repair dry, irritated, or sensitive skin. Its anti-inflammatory properties also reduce redness and swelling, making it ideal for those with eczema or other skin conditions.



2. Organic Shea Butter

- Organic shea butter is a natural moisturizer packed with vitamins A and E, making it highly effective at hydrating and nourishing the skin. Its anti-inflammatory properties help soothe irritated or inflamed skin, while its rich fatty acids create a protective barrier to lock in moisture. Shea butter is also known to improve skin elasticity and is gentle enough for all skin types, making it a versatile option for promoting soft, healthy skin.



3. Fragrance Oil

- Fragrance oils in perfume balms provide natural, long-lasting scents while offering therapeutic benefits. They can enhance mood, reduce stress, and promote relaxation. Additionally, these oils are free of synthetic chemicals, making them skin-friendly and ideal for those with sensitivities or allergies.

4. Packaging

- Bamboo stick packaging for perfume balm offers eco-friendliness, lightweight durability, and a unique aesthetic. It's biodegradable and sustainable, reducing plastic waste. Bamboo's natural antibacterial properties help preserve the balm, while its sleek design enhances user experience, making it an attractive choice for environmentally conscious consumers.



3.5 METHOD OF COLLECTING DATA

The actual data for this study was collected from outsiders, our students, lecturers, and staff from Polytechnic Sultan Salahuddin Abdul Aziz Shah. Data collected using a questionnaire technique given to respondents. The questionnaire is made in the form of a Google Form. Therefore, we need to spread it through the link. The number of respondents at the level is 113 people. With that, we produce products and achieve objectives based on that data. However, if our respondent refuses to answer the questionnaire, we will distribute it to another respondent in the same group sample.

3.6 SUMMARY

The design thinking process method will be used to implement the Perfume stick project, which will be more accurate in achieving our product target. To produce this product, meticulous implementation and study are required. Because samples from customers can influence the development of Perfume stick, it is in high demand once it is manufactured.

CHAPTER 4

DATA ANALYSIS AND FINDING

4.1 INTRODUCTION

This chapter will examine the results of the data analysis conducted to assess the product of a Perfume Stick using the respondents' responses. The purpose of this survey is to make sure that our product's goals are properly met. Students, lecturers, and staff at Sultan Salahuddin Abdul Aziz Shah Polytechnic participated in the survey. In addition, the public was also the target audience for the survey.

4.2 RESEARCH / TESTING FINDING

Sample and profile are the characteristics of the individuals included in our research study. It comprises all the information related with the respondent. The information such as age. It is important to study the population. The table and pie chart below shows the result and percentage of the survey.

| RESPONDENT DEMOGRAPHIC | ITEM | FREQUENCY | PERCENTAGE % |
|------------------------|------------|-----------|--------------|
| Age | Under 18 | 8 | 7.1 % |
| | 18 – 24 | 72 | 63.7 % |
| | 25 – 34 | 19 | 16.8 % |
| | 35- 44 | 12 | 10.6 % |
| | 44 & above | 2 | 1.8 % |
| Gender | Male | 67 | 40.7 % |
| | Female | 46 | 59.3 % |
| Occupation | Student | 53 | 46.9 % |
| | Employed | 53 | 46.9 % |
| | Unemployed | 7 | 6.2 % |

Table 4.2 1 Respondent Demographic

PRE-SURVEY

Table 4.2 2 Pre-Survey

| QUESTION | RESPONDENT ANSWER | FREQUENCY | PERCENTAGE |
|---|--|-----------|------------|
| Have you ever spilled your perfume in a bag? | Yes | 85 | 75.2 % |
| | No | 28 | 24.8 % |
| What type of fragrance do you prefer in a perfume stick? | Floral | 27 | 23.9 % |
| | Fruity | 39 | 34.5 % |
| | Woody | 32 | 28.3 % |
| | Fresh/Citrus | 15 | 13.3 % |
| How do you typically apply perfume? | Roll - on | 15 | 13.3 % |
| | Spray | 85 | 75.2 % |
| | Stick | 13 | 11.5 % |
| Does the packaging suitable for this product? | Yes | 98 | 86.7 % |
| | No | 15 | 13.3 % |
| What packaging materials that you prefer for eco-friendly perfume balm sticks? | Recyclable or compostable paper tubes. | 43 | 39.8 % |
| | Metal tins or glass jars that can be repurposed. | 25 | 22.1 % |
| | Minimalist packaging to reduce resource use. | 45 | 39.8 % |
| What factors do you consider for this product? | Price | 27 | 23.9 % |
| | Quality | 67 | 59.3 % |
| | Features / Innovation | 14 | 12.4 % |
| | User Reviews | 5 | 4.4 % |
| How likely are you to recommend this product to others if it meets your expectations? | 1 (Not at all likely) | 0 | 0 % |
| | 2 | 0 | 0 % |
| | 3 | 22 | 19.5 % |
| | 4 | 23 | 20.4 % |
| | 5 (Extremely Likely) | 68 | 60.2 % |
| Is this product easy to carry anywhere? | 1 (Strongly disagree) | 1 | 0.9 % |
| | 2 | 1 | 0.9 % |
| | 3 | 11 | 9.8 % |
| | 4 | 16 | 14.3 % |
| | 5 (Strongly agree) | 83 | 74.1 % |
| The packaging attracts my interest to the product | 1(Strongly disagree) | 0 | 0 % |
| | 2 | 2 | 1.8 % |
| | 3 | 16 | 14.3 % |
| | 4 | 24 | 21.4 % |
| | 5 (Strongly agree) | 70 | 62.5 % |

| | | | |
|--|---------------|----|--------|
| What is the estimated price you are willing to pay for this Perfume Stick? | RM 10 - RM 20 | 26 | 23 % |
| | RM 21 - RM 30 | 48 | 42.5 % |
| | RM 31 - RM 40 | 25 | 22.1 % |
| | RM 41 – RM 50 | 8 | 7.1 % |
| | RM 51 & above | 6 | 5.3 % |

DEFINE

The survey shows that consumers want a spill-proof, spray-based perfume with fruity or woody scents, packaged in eco-friendly and attractive materials. They value quality, ease of carrying, and affordability within a mid-range price. Most people like the current packaging, though many prefer recyclable or simple designs, reflecting interest in sustainable options. Additionally, many will recommend the product if it meets expectations, showing good potential for positive word-of-mouth and alignment with eco-conscious, quality-focused preferences.

IDEATE

After identifying consumer needs, we brainstormed solutions with a varied group, exploring options to address their key preferences. We chose one main issue from the feedback: the need for a perfume product that is spill-proof, eco-friendly, and available in fruity or woody fragrances. We decided on sustainable packaging to meet the demand for recyclable and visually appealing designs. This approach ensures that consumers have a high-quality, portable, and affordable option, aligned with their eco-conscious values, and encourages positive word-of-mouth through satisfied recommendations.

PROTOTYPE

Prototyping is a critical step in evaluating the environmental impact of the solid perfume stick, focusing on the use of sustainable and recyclable packaging materials. This early-stage testing assesses how effectively the prototype meets waste reduction goals while maintaining functionality and durability. By examining the packaging's performance and sustainability with actual users, prototype testing helps identify improvements before full-scale production, ensuring the final product aligns with environmental objectives and consumer expectations for eco-friendly, convenient design.

TESTING FINDING

The prototype testing phase for the Perfume Balm Stick was conducted to assess the usability, functionality, and overall user experience. The primary goal was to gather user feedback and identify potential improvements before moving into the final development and implement phase. Five users with background of dry lips. User feedback was categorized using feedback grid as shown below:

Table 4.2 3 Feedback Grid

| | |
|---|---|
| <p>WORKED</p> <ul style="list-style-type: none"> • Use sustainable, recyclable materials to reduce environmental impact. • Conducted multiple tests to ensure our perfume stick delivers consistent scent retention throughout the day and offers a pleasant, non-greasy application • Improvise the scent to ensure it's both unique and long-lasting. We're also focusing on creating a smooth texture that glides easily on the skin and leaves no residue. • Calculated the cost of ingredients, packaging, and production, and set a price that is both competitive and profitable, ensuring we can sustain our business while offering good value to customers | <p>CHANGES</p> <ul style="list-style-type: none"> • Consider more creative, eye-catching designs that still align with our eco-friendly mission. • Look for even more sustainable ingredients or packaging materials, like compostable or refillable options. • Allow customers to personalize the scent or packaging for a more tailored experience. • Offer a range of fragrances to appeal to different customer preferences. |
| <p>QUESTION</p> <ul style="list-style-type: none"> • Are there limited editions or seasonal scents planned for the future? • How does the perfume stick contribute to reducing carbon footprints compared to traditional perfumes? • How does the perfume stick interact with different skin types or pH levels? • Will there be customization options for packaging, like engraving or personalized designs? | <p>IDEA</p> <ul style="list-style-type: none"> • Planning to release limited edition and seasonal scents to offer customers exclusive fragrances that align with different times of the year, like floral notes for spring or warm. • Our perfume stick reduces carbon footprints by using eco-friendly packaging made from recycled or biodegradable materials. • We've formulated the perfume stick to be gentle on all skin types, including sensitive skin. It's designed to adapt to the natural pH of your skin, ensuring the scent stays consistent. • We plan to offer customization options in the future, such as engraving names or personalized messages on the packaging. |

4.4 IMPLEMENTATION

At this stage, the Perfume Stick application's development results are applied by users to evaluate its effectiveness, attractiveness, and efficiency. The implementation is rolled out to a small group of users to gather feedback before the official releasing it. This approach ensures that any potential issues or areas for improvement are identified and addressed early on, optimizing the application's usability, and enhancing the overall user experience.

For this survey, researchers gave a questionnaire to 113 people as a sample for the study. Participants were asked to score their level of agreement on a scale of 1 to 5, with 1 significant disagreement. and 5 indicating strong agreement This strategy aims to acquire insights on user perceptions and experiences with the application's features and functionality, allowing the team to make more informed decisions about future developments.

The implementation phase evaluated users' responses to the solid perfume stick prototype, with a focus on environmental sustainability and convenience. Feedback, as shown in the table, was analyzed to assess whether the project met its objectives of creating a spill-free, portable, and eco-friendly product. The findings indicate strong user satisfaction, with a mean score of 4.61, suggesting that the product's design and sustainable packaging were well received. Users expressed positive views on the product's convenience and environmental impact, affirming that the solid perfume stick meets the intended goals and supports waste reduction efforts.

| Item | Mean | Std. Deviation |
|---|------|----------------|
| How likely are you to recommend this product to others if it meets your expectations? | 4.41 | .798 |
| This product is easy to carry anywhere | 4.60 | .776 |
| The packaging attracts my interest to the product | 4.45 | .804 |
| This product is environmentally friendly | 4.61 | .702 |

Table 4.4 1 SPSS Analysis of Respondent

4.5 REALIBITY OF MEASUREMENT

The Cronbach's Alpha coefficient was used to assess the consistency of each item in the instruments. For ease of understanding, each question's dimension was established independently. The consistency of a measuring instrument in measuring whatever concept it is measuring is then determined via reliability analysis. The concept of measurement dependability relates to the consistency and stability with which the instrument applies the concept, which contributes to establishing the "quality" of a measure.

| | Cronbach's Alpha | N of Items |
|---------------------|-------------------------|-------------------|
| Respondent Feedback | .872 | 4 |

Table 4.4 2 Reliability Statistics for Respondent Feedback

According to Nunnally's (1978) criterion, the variable shown on the Cronbach's Alpha result is at a good level value of greater than 0.7. Our result for the Perfume Stick application was higher than 0.7, at 0.872.

4.3 DISCUSSION

The development of a solid perfume balm stick aims to address practical and environmental concerns, offering a leak-proof, portable, and user-friendly solution for daily fragrance applications. Unlike liquid perfumes that risk spillage, a solid balm stick format ensures convenience and ease of use, especially for individuals on the go. This product also emphasizes sustainable practices by utilizing recyclable and eco-friendly packaging, aligning with global waste reduction goals and minimizing the environmental footprint. Moreover, by incorporating ethically sourced, high-quality natural ingredients, the balm not only promises a long-lasting fragrance but also aims to enhance consumer satisfaction by adhering to ethical standards, potentially appealing to environmentally conscious and health-conscious customers.

4.4 SUMMARY

The survey results indicate a strong preference for a spill-proof, spray-based perfume with fruity or woody fragrances in eco-friendly, attractive packaging. Consumers prioritize quality, portability, and mid-range pricing (RM 21-RM 30), with 86.7% finding the current packaging suitable and 39.8% favoring recyclable or minimalist materials. A majority (60.2%) are highly likely to recommend the product if it meets their expectations, underscoring the potential for positive word-of-mouth. A product meeting these criteria would align well with market preferences, particularly among eco-conscious consumers valuing convenience and quality.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In this topic, we will brief about the conclusion, recommendation, and limitation of the project. This is to ensure that the Perfume Balm Stick that we produced can reach the objectives and purposes set up. We will cover all the limitations we face during the project and conclude the recommendation to make further improvement of Perfume Balm Stick in the future.

5.2 CONCLUSION

At the conclusion of this project on the Perfume Balm Stick, we successfully achieved our objectives by addressing the core issues faced by eco-conscious consumers in fragrance usage. The perfume balm stick simplifies fragrance application with a spill-free, portable solution crafted from sustainable materials. Positive responses from our survey confirmed the product's appeal and usability, particularly its eco-friendly packaging and ease of use. Throughout the project, we encountered and overcame various challenges, relying on effective communication and collaboration among team members to ensure steady progress. The perfume balm stick not only provides a convenient and luxurious fragrance experience but also promotes sustainability in the fragrance industry, aligning with the values of eco-conscious consumers. Additionally, we gathered insights from user feedback and prior studies, which enabled us to refine the product to better meet consumer needs. This product serves both individual users and the wider community by offering a sustainable alternative to traditional perfumes.

5.3 RECOMMENDATIONS

After extensive research and development of the solid perfume stick project, we recommend several improvements for future iterations. While the project successfully prioritized sustainable materials and user convenience, some challenges arose, particularly in sourcing eco-friendly packaging options that are both durable and cost-effective. Time constraints and limited resources also posed obstacles in testing the product's performance across a range of temperatures and conditions. For future projects, we suggest allocating additional resources for advanced material testing and exploring partnerships with suppliers specializing in sustainable packaging. Moreover, a longer testing period would allow for more comprehensive feedback on user satisfaction and product durability. These enhancements will help future projects achieve greater environmental impact and offer a more refined user experience, ultimately leading to a more sustainable and appealing product for eco-conscious consumers.

5.4 PROJECT LIMITATIONS

Benefits and drawbacks are inevitable in the development of successful products; consequently, certain limitations occur during the manufacturing process of our product, and we can observe that these limitations may change, potentially causing negative consequences in terms of our product's application. The following are some examples of these limitations:

1. Limited Shelf Stability Testing Across Diverse Conditions

The project lacked sufficient time and resources to extensively test the balm's stability in various environmental conditions, such as extreme heat or humidity. This limitation may impact on the product's longevity or usability in different climates, reducing consumer confidence in its durability.

2. Constraints on Sustainable Packaging Options

While sustainable and recyclable materials were prioritized, the range of accessible eco-friendly packaging that balances durability, aesthetics, and affordability was limited. This constraint may compromise the ability to fully meet both environmental and consumer expectations.

3. Restricted Consumer Feedback Collection

The testing phase included a limited pool of participants, which may not fully represent the diverse preferences and needs of the broader target market. This could result in an incomplete understanding of consumer expectations and areas for improvement.

4. Challenges in Achieving Cost Efficiency

The incorporation of high-quality natural ingredients and sustainable packaging increased production costs. This may limit the product's affordability and competitiveness in the mass market, posing a challenge for widespread adoption.

5. Limited Testing for Long-Term Environmental Impact

While the project emphasized recyclable packaging, the long-term environmental impact of the materials used, such as their actual recyclability in various waste management systems, was not thoroughly assessed. This could hinder the project's ability to claim true environmental sustainability.

While the Perfume Stick project achieved its objectives of sustainability and portability, the identified limitations highlight areas for improvement. Addressing these challenges in future iterations can enhance product performance, user satisfaction, and environmental impact.

5.5 SUMMARY

In summary, the perfume balm stick project successfully addressed key objectives by developing a sustainable, portable, and user-friendly fragrance product. Despite encountering limitations such as sourcing eco-friendly packaging and managing production costs, the project highlighted the potential for innovative solid perfume solutions. Respondent feedback was overwhelmingly positive, showcasing the product's convenience and alignment with environmental goals. This project not only demonstrates the viability of a solid perfume balm but also sets a foundation for future improvements in fragrance longevity, material sustainability, and cost efficiency. With continued refinement, the perfume balm stick can offer consumers an eco-conscious and practical fragrance option for everyday use.

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APPENDICES

I. Costing for our Project

| Material | Price (RM) | Volume |
|------------------|-----------------------|----------|
| Shea butter | $22.00 \div 5 = 4.40$ | 200 gram |
| Bee wax | $7.00 \div 5 = 1.40$ | 100 gram |
| Fragrance oil | 7.00 | 5 ml |
| Bamboo Container | 4.00 | 5 gram |
| Packaging | 10.00 | 250 gsm |

Total perfume stick per packet = RM 26.8

Selling Price = RM 30 per unit

Profit = RM 30 – 26.8

= RM 3.20