

**LAUNDJEANS BAG**



**LAUNDJEANS BAG**

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**DIPLOMA IN BUSINESS STUDIES**

**SESSION 1 2024/2025**

**POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH**

**LAUNDJEANS BAG**

**PRODUCT:**

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**SESSION 1 2024/2025**

## **DECLARATION OF ORIGINALITY**

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**SESSION 1 2024/2025**

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2. Without appropriating or imitating any intellectual property right or third parties, we acknowledge that the “Laundjeans Bag” and the intellectual property included in it are our original works.
3. To fulfil the requirements for the award of the Diploma in Business Studies to us, we consented to transfer ownership of the intellectual property “Laundjeans Bag” to “polytechnic Sultan Salahuddin Abdul Aziz Shah”.

## LAUNDJEANS BAG

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We declare that the work in the final year project paper was carried out in accordance with the regulation of Polytechnic. It is original and is the result of our own work, unless otherwise indicated or acknowledge as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any diploma or qualification.

We hereby, acknowledge that we have been supplied with the Academic Rules and Regulations for Undergraduate, Polytechnic, regulating the conduct of my study and research.

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# **ABSTRACT**

In today's fast paced world, managing laundry efficiently is crucial for maintaining cleanliness and organization. However, many individuals struggle to handle their laundry effectively, particularly those in busy households or those with limited mobility, such as the elderly or physically challenged, who may forget or lack the motivation to do laundry consistently. This challenge highlights the need for a reliable solution to encourage regular and efficient laundry management. The primary objective of this project is to develop a laundry bag called the Laundjeans Bag, which helps users organize and manage their dirty laundry at designated intervals throughout the week. Design Thinking methods were used to develop this innovative product. This innovative product is designed over a traditional laundry bag that offers customizable features. Users can use ways to sort and manage their dirty laundry based on their preferences and needs. The concept of the Laundjeans Bag received positive feedback from respondents via our questionnaire, validating its effectiveness in helping users manage their laundry. This Laundjeans Bag provides several benefits, including a convenient design for organizing clothes, adjustable compartments for organizing different fabrics, and portability for use anywhere, including home, laundry and dorm. Laundjeans Bag empower consumers to manage their laundry with ease, promoting better organization and preventing laundry mistakes.

## **ABSTRAK**

Dalam dunia yang serba pantas hari ini, menguruskan dobi dengan cekap adalah penting untuk mengekalkan kebersihan dan organisasi. Walau bagaimanapun, ramai individu bergelut untuk mengendalikan cucian mereka dengan berkesan, terutamanya mereka yang berada dalam rumah yang sibuk atau mereka yang mempunyai mobiliti terhad, seperti warga emas atau orang cacat fizikal, yang mungkin terlupa atau tidak mempunyai motivasi untuk melakukan cucian secara konsisten. Cabaran ini menyerlahkan keperluan untuk penyelesaian yang boleh dipercayai untuk menggalakkan pengurusan dobi yang kerap dan cekap. Objektif utama projek ini adalah untuk membangunkan beg dobi yang dipanggil Laundjeans Bag, yang membantu pengguna mengatur dan mengurus pakaian kotor mereka pada selang waktu yang ditetapkan sepanjang minggu. Kaedah Pemikiran Reka Bentuk digunakan untuk membangunkan produk inovatif ini. Produk inovatif ini direka bentuk di atas beg dobi tradisional yang menawarkan ciri yang boleh disesuaikan. Pengguna boleh menggunakan cara untuk mengisih dan mengurus pakaian kotor mereka berdasarkan pilihan dan keperluan mereka. Konsep Beg Laundjeans menerima maklum balas positif daripada responden melalui soal selidik kami, mengesahkan keberkesanannya dalam membantu pengguna menguruskan pakaian mereka. Beg Laundjeans ini menyediakan beberapa faedah, termasuk reka bentuk yang mudah untuk menyusun pakaian, petak boleh laras untuk menyusun fabrik yang berbeza, dan mudah alih untuk digunakan di mana-mana sahaja, termasuk rumah, dobi dan asrama. Laundjeans Bag memperkasakan pengguna untuk menguruskan dobi mereka dengan mudah, mempromosikan organisasi yang lebih baik dan mencegah kesilapan dobi.



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## **CHAPTER 1: INTRODUCTION**

### **1.1 INTRODUCTION**

In this chapter, information about the project, Laundry Bag, will be presented. This section will cover the background of the project, the problem statement and research questions, objectives, hypothesis, scope of the project, significance, and operational definitions.

Laundry Bag is a product that has the importance of function and need in a matter. From busy cities to quiet villages, laundry bags are always needed for their use. From traditional design to innovation in function, this laundry bag aims to make it easier for users and the role of laundry bags in everyday life to use them. Join us as we delve into Laundry Bag products and their uses. where every design reflects usability, utility, functionality and continuous innovation.

### **1.2 PROJECT BACKGROUND**

According to Wikipedia, Laundry bags are an essential tool for anyone who wants to keep their clothes in good condition. They are designed to protect delicate fabrics from damage during the washing process. Laundry bags come in a variety of shapes and sizes, and they are made from different materials. Some are mesh, while others are made from nylon or polyester.

Using a laundry bag is simple. All you need to do is place your clothes inside the bag and zip it up. Then, you can toss the bag into the washing machine along with the rest of your laundry. The bag will protect your clothes from getting tangled, snagged, or stretched out. It will also help to prevent any buttons or other embellishments from getting caught in the machine's agitator.

If you're not sure which laundry bag to use for your clothes, it's important to consider the fabric type and the size of the garment. For example, a small mesh bag is perfect for washing delicate items like lingerie and hosiery, while a larger bag may be more suitable for bulky items like sweaters and jackets. By using a laundry bag, you can extend the life of your clothes and keep them looking new for longer.

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### **1.3 PROBLEM STATEMENT**

Managing laundry bag can be challenging, especially when it involves carrying heavy loads, sorting clothes, and dealing with limited space. Traditional laundry baskets are often bulky and lack compartments. A well-designed laundry bag could solve these problems by being easy to carry, space-efficient, and durable. With compartments for sorting and compact design for storage, a laundry bag can make the laundry process faster and more organized, saving time and effort for users.

### **1.4 OBJECTIVE**

The following are the objectives for our innovation product (LaundJeans Bag) :

- 1) To develop a laundry bag made from upcycled jeans, utilizing the durable nature of denim to reduce waste and create a long-lasting product.
- 2) To make the laundry bag that can hold a reasonable amount of clothes and withstand the weight.
- 3) To use materials and resources efficiently to keep the project cost-effective, especially if you're repurposing old jeans.

### **1.5 PROJECT QUESTIONS**

- 1.What materials are most suitable for durability and water resistance?
- 2.Who is the primary target audience for this product?
- 3.What additional functionalities this product?
- 4.What branding strategies will resonate with our target market?

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### **1.6 SCOPE OF PROJECT**

The all-in-one design of this laundry bag seamlessly combines convenience and practicality, making it a versatile solution for managing laundry efficiently. With its thoughtful layout, users can easily sort and transport their clothes, ensuring that laundry day is streamlined and hassle-free. This innovative approach not only enhances organization but also saves valuable time, allowing individuals to focus on other important tasks.

Ideal for small living spaces, this compact bag fits neatly into tight areas while still offering ample capacity for sorting and carrying clothes. Its space-saving design means that it can be easily tucked away in closets, under beds, or in laundry rooms without compromising on functionality. This feature is particularly beneficial for urban dwellers or anyone looking to maximize their limited storage options.

To further improve user experience, the bag incorporates features that streamline laundry tasks and processes. For instance, designated compartments for different types of clothing can help users accomplish their sorting goals more quickly, minimizing the time spent on laundry preparations. Additionally, the bag's lightweight construction and ergonomic handles make it easy to carry or move, so users can conveniently transport it from room to room or take it on the go. Whether heading to a laundromat or simply moving laundry between rooms, this product is designed for ultimate ease and mobility.

Overall, this laundry bag is not just a functional tool but a thoughtful addition to any home. By combining an efficient design with user-friendly features, it addresses the challenges of modern living, making laundry management a more enjoyable and efficient experience.

## LAUNDJEANS BAG

### 1.7 SIGNIFICANT OF PROJECT

#### SWOT ANALYSIS

<b>STRENGTHS</b> <ul style="list-style-type: none"><li>• Incentives to recycle more denim waste</li><li>• Handcrafted appeal</li><li>• The bag highly practical and user friendly</li></ul>	<b>WEAKNESSES</b> <ul style="list-style-type: none"><li>• The bag can be heavier</li><li>• Time consuming on production</li><li>• Availability of recycled materials</li></ul>
<b>OPPORTUNITIES</b> <ul style="list-style-type: none"><li>• Less competitors of recycle laundry bag</li><li>• Utilize social media to educate consumers and raise public awareness</li><li>• Could appeal to students, small apartment dwellers, or anyone who values organization.</li></ul>	<b>THREATS</b> <ul style="list-style-type: none"><li>• Saturation of sustainable product</li><li>• Customers' acceptance toward buying recycled products</li></ul>

### 1.8 OPERATIONAL DEFINITIONS

We named this project as Laundjeans Bag because of the solution we have identified. This specific solution has been chosen after many brainstorming sessions, along with because some of the ideas or solutions have already implemented but made no change. A Laundjeans Bag is a laundry bag for people who often go to the laundromat. A very flexible, reusable bag designed to store laundry clothes. A Laundjeans bag provides with compartments is designed to hold small clothes such as undergarments and socks to prevent it from missing at the laundromat.

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These bags often feature multiple sections or compartments within a single unit, allowing users to store some of their belongings. For example, phones, powerbank or it can be coin for the laundromat, and detergent. This design helps to organize the clothes and prevents mixing, while still providing the convenience of a compact, portable compartment. Other than that, this laundry bag also provides wheels to easily carry and move it around without using a lot of energy. Besides, a jeans can be used to create a new versatile product by serving as a flexible, visual workspace where ideas, designs, and components are developed and organized. It allows teams or individuals to brainstorm, sketch, prototype, and refine various aspects of a product, such as its features, structure, and functionality, in one cohesive space. By providing a clear overview and interactive environment, the canvas helps streamline the creative process, making it easier to innovate and bring new products to life.

## **1.9 SUMMARY**

In conclusion, at the end of this project, we are expected to produce a LaundJeans Bag which can address the growing needs of modern living and working environment. This product show how innovation can drive sustainability, transforming waste into a functional and stylish everyday item. By choosing a product made from waste materials, users contribute to reducing environmental impact and support sustainable practices.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 INTRODUCTION**

The Laundjeans Bag is a versatile and space saving solution that addresses the challenges of modern urban living. As city dwellers increasingly face limited space and financial constraints, such a product becomes essential for efficiently managing daily chores. This Laundjeans Bag goes beyond a traditional design by incorporating multiple functions that make it more practical for people with limited space.

Moreover, the design includes thoughtful details such as a separate, secured section for delicate or undergarments, and additional pouches for detergents or accessories like laundry nets. This functionality allows users to keep everything organized in one place, minimizing clutter in small living spaces. With urban residents seeking multifunctional products, this laundry bag provides a smart and practical solution while contributing to a more sustainable lifestyle.

In conclusion, this Laundjeans Bag is more than just a space saving solution. It is an embodiment of forward-thinking design that merges practicality with environmental consciousness. However, further exploration in ergonomic improvements, better integration of sustainable materials, and a deeper understanding of its life cycle impact could help enhance the product's relevance to both consumers and the environment. The potential for such a product to influence household habits and contribute to sustainability goals makes it an attractive option for the environmentally conscious, space constrained individual.

### **2.2 PREVIOUS STUDIES/ REVIEWS / INVESTIGATIONS**

The purpose of this previous study is to provide context for research proposals by summarizing relevant investigations focused on the multipurpose laundry bag made from recycled denim. Identifying the target market is essential for understanding potential users who may invest in this product.



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Sustainability conscious consumers are increasingly attracted to eco-friendly products, making laundry bags from recycled denim appealing due to their alignment with environmentally friendly practices and support for Sustainable Development Goals (SDGs) related to responsible consumption. Key factors in bringing this product to market include prioritizing comfort, efficiency, and safety. Designers should create a laundry bag that meets practical needs while offering an appealing aesthetic, with features like easy-to-carry handles and durable materials. By focusing on these elements, designers can develop products that resonate with contemporary consumers while promoting sustainability.

The study on developing a LaundJeans focuses on gathering user insights through interviews or surveys. This feedback is essential for creating a physical prototype that allows for thorough testing of durability and functionality, as well as user testing to evaluate usability and comfort.

By prioritizing user input in the design process, the goal is to develop a laundry bag that effectively meets specific needs and preferences. This user-centered approach ensures maximum satisfaction and optimal usability, making the bag a practical solution for consumers in limited living spaces. Ultimately, this focus on sustainability and practicality will resonate with today's environmentally conscious consumer.

### **2.2.1 WATER CONSUMPTION AND POLLUTION**

The clothing industry's linear model encompassing manufacturing, use, and cleaning is inherently wasteful and contributes significantly to water consumption and pollution. Producing garments, maintaining them, and cleaning them requires extensive water resources, leading to fiber and chemical residues contaminating our water supplies. Research by Morlet et al. (2017) estimates that the textile industry consumes approximately 93 cubic meters of water annually, equivalent to 37 million Olympic swimming pools. Furthermore, it takes around 2,720 liters of water to produce a single cotton T-shirt, which is the amount an adult would drink over three years (Chan, 2020).

These figures are particularly alarming for regions with limited water resources, exacerbating existing challenges. The dyeing and finishing processes contribute to around 20% of global water pollution, according to Kant (2012). As much of the clothing manufacturing occurs in

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developing countries, where environmental regulations may be lax, the ecological impact is intensified when these garments are shipped to industrialized nations.

Given these challenges, the textile industry's wasteful practices underscore the urgent need for sustainability and a transition to a circular economy. This involves redefining how we think about textile waste, which is a critical issue impacting ecosystems and human health. The generation of waste from manufacturing offcuts to discarded garments poses problems for landfills and contributes to the depletion of valuable resources. Shanthi (2017) highlights that textile waste not only harms the environment but also raises ethical concerns regarding overconsumption and waste generation.

### **2.2.2 A SUSTAINABLE SOLUTION**

Denim, one of the most widely used fabrics, presents significant opportunities for sustainable practices in laundry bag design. As the textile industry increasingly turns towards recycling, denim offers a pathway for reducing water usage, energy consumption, and chemical waste during production and disposal. The recycling of denim can mitigate some of the detrimental impacts of textile waste. According to Shanti (2017), reprocessed denim fibers eliminate the need for extensive dyeing and finishing, thereby conserving water and reducing chemical runoff.

Designing laundry bags from recycled denim not only aids in waste reduction but also addresses the water pollution issues associated with conventional laundering practices. The tightly woven structure of denim allows it to function as a natural filter, capable of trapping microfibers released during washing. Shroff et al. (2022) explored the ability of denim to capture microplastics, demonstrating its potential to reduce environmental pollution when used in laundry applications. This highlights denim's role not merely as a fabric but as a sustainable solution to tackle water pollution stemming from traditional laundry processes.

Moreover, the versatility of denim allows for creative and functional design, enabling the incorporation of compartments in laundry bags for efficient organization. By utilizing recycled denim for laundry bags, the textile industry can contribute to a circular economy, where post-consumer textile waste is transformed into valuable, reusable products, reducing the overall environmental footprint.

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Leading retailers like H&M and Nike have started showcasing products made from recycled denim, emphasizing their commitment to sustainability (Shanti, 2017). This trend not only encourages responsible consumer behavior but also creates market opportunities for innovative designs that promote eco-friendly practices.

In summary, the integration of denim into laundry bag design addresses the pressing issues of water consumption and textile waste while promoting sustainable practices within the textile industry. By rethinking how we use and dispose of textiles, we can pave the way for a more sustainable future

### **2.3 DESIGN THINKING PROCESS**

Design thinking is a dynamic process employed by organizations to tackle problems and foster innovation (Brown, 2008). Its creative and intuitive nature sets it apart from purely analytical approaches (Mansoori & Lackeus, 2020; Nakata, 2020). By emphasizing user needs, design thinking promises advantages for product and service innovations, particularly through immersion in user situations to uncover current and future requirements. This approach enhances decision-making by minimizing cognitive biases (Liedesign Thinkingka, 2015) and fosters learning (Beckman & Barry, 2007), ultimately transforming organizational culture towards innovation (Elsbach & Stigliani, 2018; Kolko, 2015). Long-term case studies indicate that adopting design thinking can lead to competitive advantages (Appleyard et al., 2020).

While design research has existed since the 1960s, applying design principles in business is a relatively new concept (Johansson-Sköldberg et al., 2013). Historically, research focused on defining characteristics that link design with business and management (Carlgren et al., 2016b; Micheli et al., 2019). Recently, studies have examined potential applications and impacts of design thinking (Chouki et al., 2021). Initially reliant on case studies (Holloway, 2009; Liedesign Thinkingka, 2015), research has increasingly utilized quantitative methods to assess the effectiveness of design thinking (Suci et al., 2021; Nakata & Hwang, 2020; Nagaraj et al., 2020).

Given its rising popularity, scholarly interest in design thinking has surged, resulting in a plethora of publications. However, the literature is often complex and fragmented. To address this, we aim to provide an overview of the design thinking field and propose a research framework through a systematic literature review.

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When applied to the laundry bag made from recycled denim, design thinking can play a critical role in its development. By engaging with potential users such as students, tech enthusiasts, and sustainability-conscious consumers designers can gather insights into their specific needs and preferences. This user centered approach will help create a laundry bag that is not only functional and durable but also aesthetically pleasing and aligned with the values of today's environmentally aware consumers. Moreover, employing design thinking principles can enhance the product's usability and appeal, ultimately contributing to its success in a competitive market.

### **2.3.1 EMPATHY**

In the early stages of design, the designer closely observes how consumers interact with a product or issue to gain a deeper understanding of their needs. This observation requires an empathetic approach, meaning the designer must avoid making judgments or applying prior assumptions about the consumers' requirements. Empathetic observation is crucial because it allows the designer to uncover issues that the user might not be aware of or unable to articulate. By adopting this empathetic perspective, it becomes easier to identify the underlying human needs that will guide the design process.

### **2.3.2 DEFINE**

In this second phase, you compile insights from the first stage to clearly define the problem you aim to solve. Focus on the challenges your users consistently encounter, the difficulties they face, and the patterns you've identified from their experiences with the issue. By synthesizing these observations, you can clearly articulate the core problem they are dealing with, which will guide the next steps of the design process.

### **2.3.3 IDEATE**

The next step involves brainstorming potential solutions for the problem you've identified. Ideation can take place in a collaborative environment, such as an office space designed to inspire creativity, an innovation lab, or even during solo brainstorming sessions. The key is to

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generate a wide range of ideas. By the end of this phase, you'll have a handful of promising concepts to pursue further.

### **2.3.4 PROTOTYPE**

This stage is where ideas are transformed into tangible solutions. Prototypes are not intended to be flawless their purpose is to quickly create a working model of the concept to test how consumers respond. Examples of prototypes might include a landing page to gauge interest in a product or a video showcasing optimized logistical processes. The goal is to gather feedback and refine the idea based on real-world reactions.

### **2.3.5 TEST**

After presenting your prototype to consumers, it's essential to observe their interactions with it. This testing phase involves gathering feedback on your design. The design thinking process is iterative, not linear, meaning that after the fifth stage, you may need to revisit one or more previous stages. For instance, testing might reveal the need for a new prototype, prompting you to return to the fourth stage. Alternatively, you may discover that you have misunderstood the consumer's needs, necessitating a step back to an earlier phase of the process to redefine those needs. This flexibility allows for continuous improvement based on user feedback, ensuring that the final solution effectively addresses the identified problem.

## **2.4 SUMMARY**

In conclusion, this chapter offers a deeper understanding of the various factors, knowledge, and values at play. This insight facilitates progress in completing the study. Consequently, instructional design provides a practical framework, allowing designers to create user friendly instructions. It also ensures a systematic approach that is straightforward to implement

## **CHAPTER 3: METHODOLOGY**

### **3.1 INTRODUCTION**

Methodology refers to the systematic approach and set of methods employed to conduct research or a project (Laundjeans Bag). It encompasses a comprehensive framework that includes the principles, techniques, and procedures used for collecting, analysing, and interpreting data. A well-defined methodology is crucial, as it ensures the reliability, validity, and relevance of the study, ultimately guiding researchers in effectively achieving their objectives.

A robust methodology begins with a clear identification of the research question or problem, which informs the choice of appropriate research design. This may involve selecting between qualitative, quantitative, or mixed methods approaches, depending on the nature of the inquiry.

### **3.2 PROJECT DESIGN**

Laundjeans Bag has determined that adopting the Design Thinking Process as a framework in the design and development of the product is the most effective method to proceed. Other than that, a qualitative research method was applied to produce this product, in which we distributed a questionnaire to 45 participants among the researchers and collected their responses to know the respondent's feedback on our product Laundjeans Bag.

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### 3.2.1 FLOW CHART DESIGN



### 3.2.2 OPPORTUNITIES AND CHALLENGES

The opportunity we see in creating the Laundjeans Bag lies in our ability to recycle denim, turning discarded fabric into something both practical and sustainable. We view this as a chance to contribute to environmental protection by reducing waste and minimizing the harmful gases released during the incineration of textiles. By repurposing old denim into new products, such as our Laundjeans Bag, we aim to help reduce global waste while offering consumers a functional and eco-friendly alternative for managing their laundry. Our goal is to create value for society by promoting sustainable practices that benefit both the environment and everyday life.

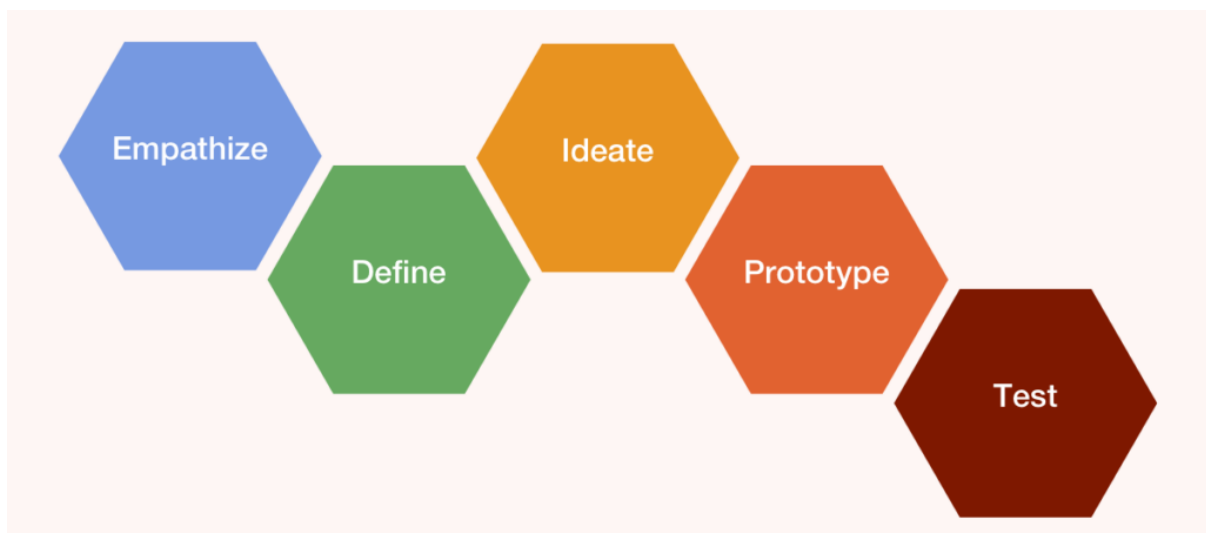
However, one of the challenges we face is the limited awareness of the benefits of using repurposed denim in everyday products like laundry bags. Many people are unfamiliar with the idea of recycling denim or may not have seen or considered products made from repurposed fabric. This lack of familiarity makes it difficult to convince consumers to make a purchase, as they may be hesitant to invest in a laundry bag that uses materials they are not accustomed to.

## **LAUNDJEANS BAG**

### **3.3 METHOD/PROCEDURE/PROJECT PRODUCTION TECHNIQUE**

The Design Thinking Process was employed to create the product for this project. Each phase Empathize, Define, Ideate, Prototype, and Test requires careful attention and time to ensure that the product development adheres to all essential steps. This approach greatly benefits our project by providing clearly defined stages, which facilitate the creation of an effective face mask. As a result, this methodology ensures that all necessary elements are addressed in the development of the Laundjeans Bag.

#### **DESIGN THINKING PROCESS**



#### **3.3.1 EMPATHY**

Empathy is done by distributing a google form questionnaire to student, lecturer, and staff of the Polytechnic Sultan Salahuddin Abdul Aziz Shah. From the questionnaire and we found that, some people have been interest about recycled materials and wants to help to prevent fabric waste. The most important features that people found is the ability to with stand heavy loads and frequent use. We also found out what kind of challenges that they were suffering from.



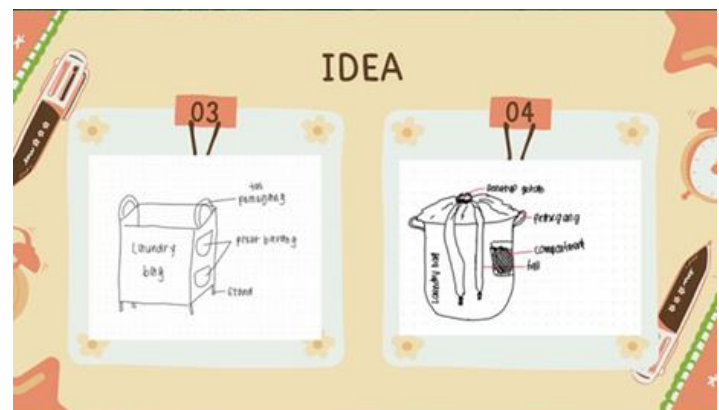
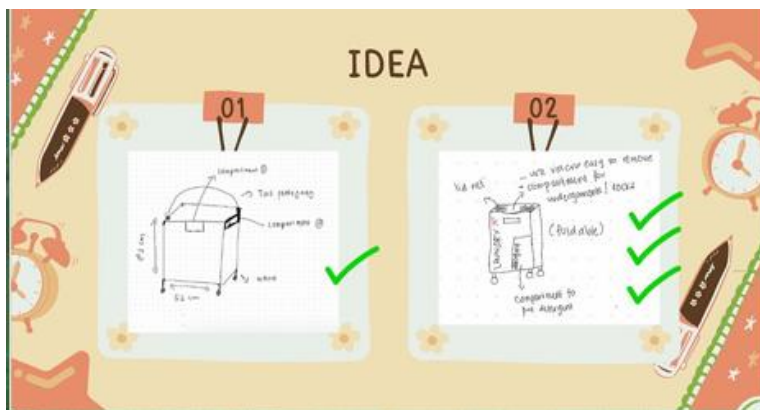
## LAUNDJEANS BAG

### 3.3.2 DEFINE

After empathising, we gathered all the findings from different aspects as in students, lectures, and staff of PSA. A handful of our findings showed that most of them face challenges with their current laundry bag such as hard to carry and not very durable. This was due to lack of multifunction of using the laundry bag due to various reasons, including does not have extra strap or wheels to help the person to carry their bag.

### 3.3.3 IDEATE

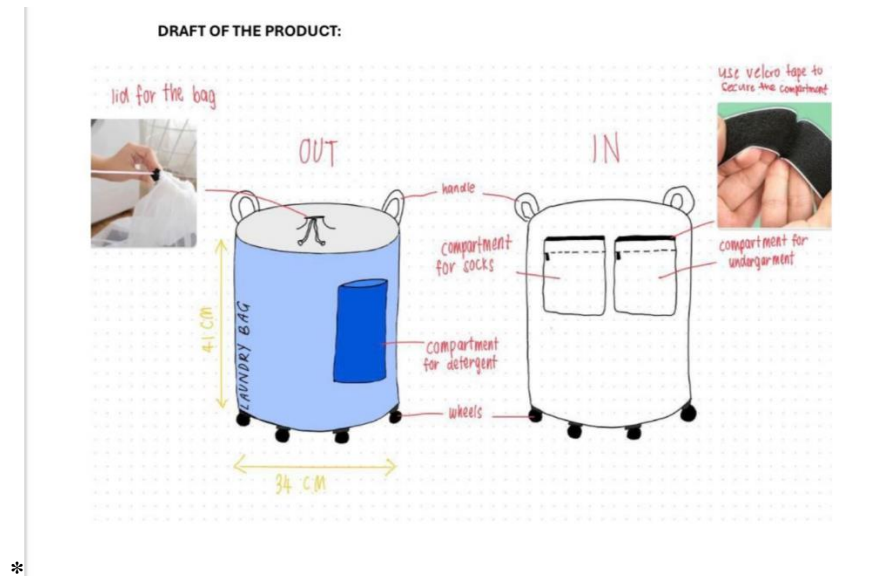
After the issues has been identified, we searched for solutions via brainstorming. We brainstormed ideas after clearly defining the issues. We investigated numerous suggestions from each member to find a solution to the situation. Each member gave ideas based on their thoughts about the product and what will other people think about our product. We were left with only some ideas that will be used in creating a prototype for our users.



## LAUNDJEANS BAG

### 3.3.4 PROTOTYPE

After shortlisting our ideas, we brought our ideas to life by creating a prototype. The rough prototype was named Laundjeans Bag. We used recycled material like denim to help the environment to prevent from fabric waste.



## 3.4 MATERIAL AND EQUIPMENT













In this phase, it is one of the most important phases since each member in the group is essential to making sure that our product is produced and completed within the allotted time. The working procedure on this product is as follows:

### Step 1: Material Preparations











For our product development we need to collect used denim to produce our product. We use our own jeans that we don't wear anymore and from our community which include jeans pants, jeans skirt and more. This helps raw materials of our product development.

The equipment or materials that were used to make the recycled jeans bag are:

## LAUNDJEANS BAG

Equipment/Materials	Picture
1. Used denim	 
2. Scissor	 
3. Thread and Needle	 
4. Measurement Tape	 
5. Tailor Chalk	 
6. Sewing Machine	 

## LAUNDJEANS BAG

7. Velcro	 
8. Drawstring Lid	 
9. Laundry Bag Zipper	 
10. Board	 
11. Wheels	 

## Step 2: Production process

After we collected our raw materials, and we did confirmation about measurement. We deliver and discuss about the production and costing on our own. After finished product is sewn, we send it to a person who specializes to help us install the wheels. After the wheels is ready to be installed, we continue to add more details to complete the product to become finished.



## LAUNDJEANS BAG



### 3.5 METHOD OF COLLECTING DATA

The actual data for this study was collected from our students, lectures and staffs from Polytechnic Sultan Salahuddin Abdul Aziz Shah. Data will be 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: <https://forms.gle/yGnUHTcxWfMqLqke9>

The number of respondents at the level is 45 people. With that, we produce products and achieve objectives based on that data. Other than that, we will consider the respondent opinion and produced the better product for them than their current one.

## **LAUNDJEANS BAG**

### **3.6 SUMMARY**

The implementation method of the Laundjeans Bag project is to use the Design Thinking Process method, which is more accurate to achieve our product objectives. There are various factors that need to be considered so that there is no shortage. The use of materials is also very important to produce the Laundjeans Bag. Therefore, careful implementation and research are required in the production of the product. In addition, respondents can affect the production of the Laundjeans Bag, so that this product has a lot of demand when it is produced.

## **CHAPTER 4:**

# **DATA ANALYSIS AND RESEARCH FINDINGS**

### **4.1 INTRODUCTION**

In this chapter, the analysis of the collected data will be carried out to evaluate the products produced through the answers of the respondents. This also include the preparation and the execution of innovation. As we did a survey among the students, lecturers, and administrative staff of Polytechnic Sultan Salahuddin Abdul Aziz Shah.

### **4.2 RESEARCH/TESTING FINDINGS**

Data analysis was performed using Statistical Package for Social Sciences (SPSS) Version 22.0 software. Descriptive statistical methods of mean score evaluation and standard deviation are used to measure the level of knowledge on the nine pillars of 4IR in education. The percentage analysis of the demographic information of the respondents is presented in Table 4 in the findings section. Additionally, the mean score analysis for the level of knowledge regarding the application of the 9 pillars of 4IR in education is shown in Table 7 in the findings section as well. The interpretation of the mean score value refers to Landell (1977), as shown in Table 5 below:

## LAUNDJEANS BAG

### 4.2.1 TESTING

The prototype testing phase for the Laundjeans Bag 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 /implement phase. Users feedback was categorized using feedback grid as shown below.





## LAUNDJEANS BAG

**Table 4.0: Feedback and suggestions for the Laundjeans Bag**

Category	Feedback/Suggestion
<b>What worked well</b>	Multiple compartments make it easy to separate clothes by type. Durable material ensures long term use. Compact design saves storage space. Has wheels easy to carry.
<b>What could be improved</b>	make a long rope to facilitate movement. Offer more size options to match user preferences.
<b>Questions</b>	Can this bag be washed? Can it hold heavy loads without tearing or losing shape? How much weight can this bag hold?
<b>New ideas</b>	Add a foldable design for easy storage when not in use. Has a sensor to weight clothes or give a warning when it's time to wash. Designed to hook onto doors or hang from closet rods

The prototype testing phase was successful in providing deep insight into the user experience. Overall, users find this modern laundry bag prototype attractive and user-friendly, but there are some aspects that need to be improved. Based on the feedback, participants have highlighted positive aspects as well as things that can be improved. Key themes in the feedback grid include what worked well, what could be improved, new ideas, and questions. Users are satisfied with this laundry bag because of its practical features such as wheels for easy movement, material that uses jeans that are very durable, a special compartment to separate undergarments and socks, as well as two pockets on the front for additional storage. These features make laundry bags very practical for everyday use. However, users note that this bag needs to have a long strap so that it is easy to pull and plans to add more compartments for the user's needs.

**4.2.2 PUBLIC RESPONSE TOWARDS LAUNDJEANS BAG**

The Landell method was used to grade the mean score to 3 main criteria, as in Table 4.1 In this study, the researcher selected the Landell method, due to the mean score range value for the best level (Good / Agree), is high at 3.80 - 5.00. This high mean score value gives reliable analysis results because the range for the score is high.

**Table 4.1** Landell method

Score Landell	Comprehension / Acceptance Level
1.00 – 2.39	Unsatisfactory / Strongly Disagree
2.40 – 3.79	Moderate / Disagree
3.80 – 5.00	Good / Agree

**Table 5:**  
*Mean Score Interpretation*

Mean Score	Level
3.68 – 5.00	High
2.34 – 3.67	Moderate
1.00 – 2.33	Low

Source: Adapted from Management by Menu (p432), by Landell (1977). London: Wiley and Sons.

**Descriptive Statistics**

<b>Respondent's Demographic</b>		<b>Frequency</b>	<b>Percentage %</b>
Age	18-21	20	95.2%
	22-24	1	4.8%
	25-27	0	-
	28 and above	0	-
Employment Status	Employed	4	19%
	Self-employment	0	-
	Students	17	81%
	Other	0	-
Gender	Female	19	95%
	Male	1	5%

*Table 4.2: Profile of Respondents*

The table presents the demographic profile of respondents who provided feedback on the Laundjeans Bag. Most respondents (95.2%) are aged 18–21, followed by (4.8%) aged 22–24, no respondents in the 25–27 and 28 and above age group. Regarding gender, (95%) are female, while (5%) are male. In terms of occupation, the majority (81%) are students, followed by (19%) who are employed.

## LAUNDJEANS BAG

Code		Number of respondents	Mean	Std. Deviation
POL 1	The Laundjeans Bag met my expectations for durability and quality.	45	3.24	0.712
POL 2	I found the Laundjeans Bag appearance appealing and aesthetically pleasing.	45	2.98	0.499
POL3	The Laundjeans Bag is worth the money spent on them.	45	2.93	0.580
POL 4	Using the Laundjeans Bag felt like an environmentally friendly choice.	45	3.20	0.726
POL 5	I would consider recommending the Laundjeans Bag to others.	45	3.24	0.679
<b>Valid N (list wise)</b>		45		

*Table 4:3 SSPN Analysis of Respondents*

Laundjeans Bag provides important statistical information to analysis and make a decision that enable to accomplish tasks. Table 4.3 shows that the highest mean score is POL 1 and POL 5 which is “The Laundjeans Bag met my expectations for durability and quality” with a mean score of 3.24 and “I would consider recommending the Laundjeans bag to others.” with a mean score of 3.24. The standard deviation for the questions is 0.712 and 0.679 which means a standard deviation shows that the data are clustered closely around the mean (more reliable). The lowest mean score is " The Laundjeans Bag is worth the money spent on them", with a mean score of 2.93. The standard deviation for this question is 0.580 which means a standard deviation shows that the data is widely spread (less reliable).

### 4.3 DISCUSSION

Based on the data presented in the table, we can analyse the responses from participants regarding their experiences with the Laundjeans Bag. Each item has been evaluated based on the mean and standard deviation scores, which provide insight into the respondents' overall perceptions. The highest mean score, at 3.24, is shared by two aspects: "The Laundjeans Bag met my expectations for durability and quality" (POL 1) and "I would consider recommending the Laundjeans bag to others." (POL 5). This indicates that respondents strongly valued the product's durability, quality, and its eco-friendly characteristics. These results highlight the importance of these factors in influencing customer satisfaction and affirm the bag's alignment with sustainability trends in the market. On the other hand, the lowest mean score, 2.93, is associated with the aspect "The Laundjeans Bag is worth the money spent on them" (POL 3). While this score still indicates a relatively positive response, it suggests that there is room for improvement in the bag's design and visual appeal to better meet user expectations. The remaining items, "I found the Laundjeans Bag appearance appealing and aesthetically pleasing" (POL 2) and "Using the Laundjeans Bag felt like an environmentally friendly choice" (POL 4), have mean scores of 2.98 and 3.20, respectively. These results indicate that respondents generally find the bag visually attractive and associate it with environmental benefits. Such perceptions suggest that the product could generate positive word-of-mouth, as consumers are likely to view it as a worthwhile purchase and share their favourable opinions with others. The standard deviations for all items are relatively low, ranging from 0.726 to 0.499, indicating consistency in the responses among the participants. This consistency supports the reliability of the data collected. In summary, the survey results underscore the Laundjeans Bag's appeal in terms of functionality and environmental friendliness, while also suggesting potential for design enhancements. The overall positive feedback suggests that the product has strong potential for success in its target market, particularly with targeted improvements to its aesthetic appeal.

### **4.4 SUMMARY**

The survey results indicate that the Laundjeans Bag is perceived as an innovative and highly practical laundry bag. Users appreciate its eco-friendly design, functionality, and versatility, which make it an attractive option for everyday use. The bag's thoughtful design includes multiple compartments, providing convenient organization for laundry, as well as added features like an integrated mat and built-in tracker that enhance its overall utility. Since its introduction, the Laundjeans Bag has garnered positive feedback for its sustainable materials, demonstrating its appeal to environmentally conscious consumers. Key features, such as its ample storage space, portability, and practical design, make the Laundjeans Bag a valuable product for those looking for an efficient and eco-friendly way to manage laundry. In conclusion, this laundry bag not only meets the practical needs of users but also aligns with sustainable practices, making it a product that enhances daily life through both functionality and environmental responsibility. Continuous attention to user feedback and potential feature upgrades will ensure its lasting appeal and could further broaden its functionality to meet evolving consumer needs.

## **CHAPTER 5: CONCLUSION AND RECOMMENDATIONS**

### **5.1 INTRODUCTION**

This chapter presents the conclusion of our analysis of the Laundjeans Bag, a unique, multifunctional laundry bag created to meet the diverse needs of modern consumers. Our research and market analysis highlighted a strong demand for products that combine convenience, organization, and versatility. Laundjeans Bag addresses these needs with features such as multiple compartments for separate small clothes, a lid to prevent the clothes from being scattered, and wheels that helps the bag easily move around. Our findings suggest that the Laundjeans Bag's innovative design resonates well with the target market, positioning it as a competitive offering in the laundry bag universe. Its emphasis on organized compartments and multifunctionality appeals to consumers seeking a product that can seamlessly integrate into laundromat era and stylish looking laundry bag with many features. Based on these insights, the Laundjeans Bag holds significant potential for success in meeting consumer preferences within this market.

### **5.2 CONCLUSION**

In conclusion, the main goals stated at the beginning of the project have been effectively met by this final year project, "Laundjeans Bag." We addressed important consumer concerns, particularly those related to portability, ease of use, and features. Laundjeans Bag are a creative solution that provides a practical, eco-friendly, and space-saving substitute. We were able to create, test, and develop the Laundjeans Bag during this project, and we were able to do so by getting insightful input from our target market.

Choosing materials, testing for durability, and making sure the design was user-friendly were some of the difficulties that arose during the research and development stage. But by working together and addressing problems continuously, we were able to get beyond these obstacles and create a working prototype that satisfies customer expectations. Our product testing yielded

## **LAUNDJEANS BAG**

encouraging results, with customers expressing satisfaction with functionality, storage efficiency, and convenience of use.

We were also able to learn a lot about market trends, consumer preferences, and the environmental effects of different packaging materials thanks to this initiative. We were able to develop our product and make well-informed decisions on its production and future enhancements thanks to the data that was gathered. The laundjeans bag can help several industries by offering a convenient and mess-free solution. The material we chose could recover the environment for being better in the future.

In the end, the Laundjenas Bag's price, usefulness, and sustainability make it competitive product in the market. We think that consumers seeking a more effective and environmentally responsible method of many features and using recycled material will embrace the laundjeans bag with further development and promotion. In addition to improving our knowledge of product development, this project has given us the ability to address practical design and innovation problems.

## **5.3 RECOMMENDATIONS**

To maximize the Laundjeans Bag's potential in the laundry bag market, we recommend a focused marketing strategy that highlights its unique features, such as the multi compartment storage system and wheels to easily move around. Targeted campaigns could emphasize its value to laundromat users, storage savings, and individuals looking for something different for laundry bag. Collaborating with home improvement retailer shops such as Ikea, Mr DIY and Eco-Shops in the furniture and home goods sectors. It could further enhance brand visibility and credibility among key consumer segments. Additionally, incorporating sustainable materials in the Laundjeans Bag's production process could attract eco-conscious consumers, adding a competitive edge in the growing market for environmentally friendly products. Expanding customization options such as different colours, sizes, or interchangeable compartments would allow consumers to personalize their bags to fit their unique needs, potentially boosting overall customer satisfaction and brand loyalty.



### **5.4 PROJECT LIMITATIONS**

Product development inevitably comes with both benefits and challenges, and these obstacles often serve as the driving force behind innovation. Our Laundjeans, a laundry bag crafted from recycled denim, has certain limitations that may influence its design and functionality. Overcoming these limitations is critical to the success of the product and may evolve over time.

One of the primary challenges lies in designing a laundry bag that offers exceptional organization and functionality. While there are many laundry bags on the market, few achieve the level of versatility and convenience that our Laundjeans Bag aims to provide. We seek to include multiple compartments, such as Velcro secured sections for undergarments and a front pocket to hold a wallet or phone, along with durable handles and wheels for easy portability. Achieving this balance without adding unnecessary weight or bulk requires meticulous planning and innovative solutions.

Affordability is another significant constraint. Many laundry bags are priced higher due to premium materials or advanced features, making them less accessible to budget-conscious consumers. Our goal is to create a cost-effective product that doesn't compromise on quality or essential features. To achieve this, we aim to use recycled denim and streamline our production process for efficiency, ensuring the bag remains both functional and affordable.

Lastly, creating a design that is both visually appealing and practical poses a unique challenge. In addition to focusing on utility, the Laundjeans must appeal to a broad range of consumer preferences. Striking the right balance between aesthetic appeal and practicality can be difficult, especially with limited resources for design development. Despite these constraints, we are committed to producing a stylish, durable, and functional product that stands out in the market.

By addressing these challenges, our Laundjeans has the potential to become a premium, affordable, and versatile solution tailored to meet the needs of diverse consumers.

### **5.5 SUMMARY**

According to our research, individuals, particularly students, frequently seek convenience and efficiency when managing their laundry routines, especially in compact living spaces like dorms. The lack of a practical and organized laundry solution often pushes users to their limits, leading to frustration and inefficiency. On the other hand, some users find makeshift solutions beneficial as they provide temporary fixes to laundry management challenges. However, these solutions are often insufficient for maintaining proper organization and ease of transport.

Studies suggest that a lack of efficient laundry systems can contribute to increased stress, particularly for students juggling multiple responsibilities. Our Laundjeans Bag addresses these challenges by offering a practical and stylish solution that simplifies the process of sorting, organizing, and transporting laundry. This chapter provides an overview of the findings and research supporting the development of our Laundjeans as a versatile and user friendly.

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**GANTT CHART**

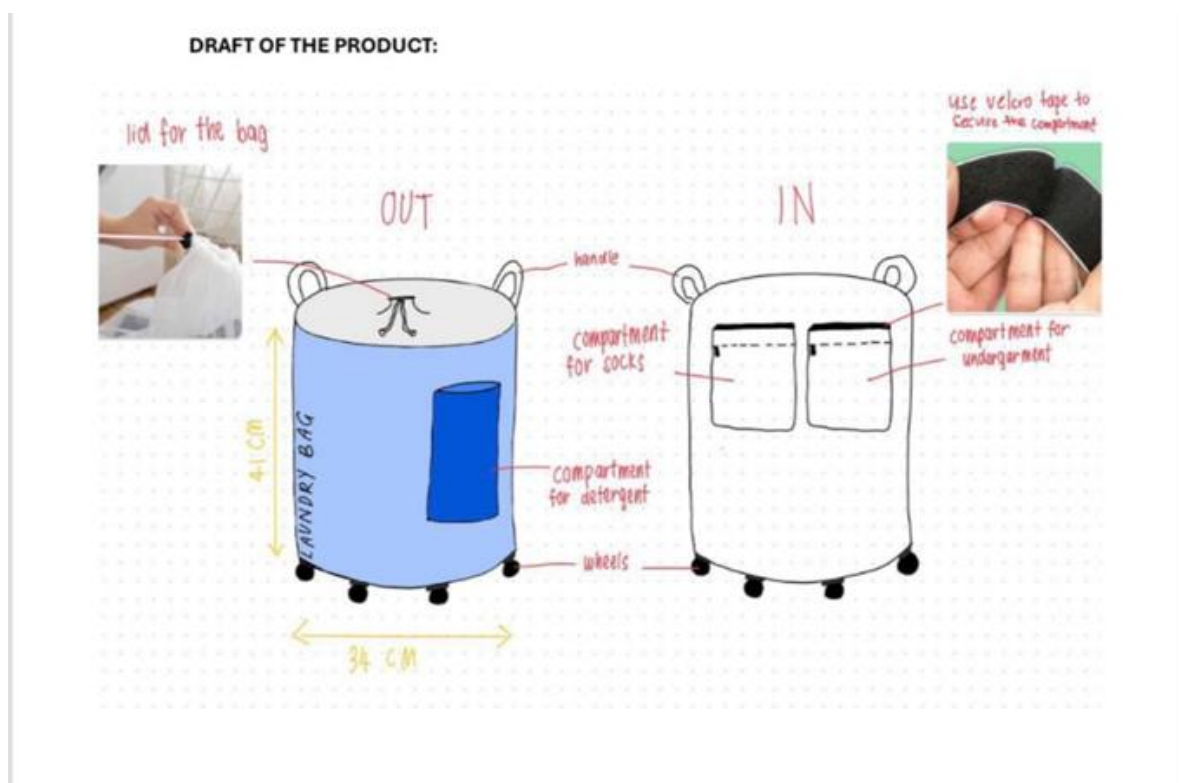
<b>GANTT CHART</b>	<b>W1</b>	<b>W2</b>	<b>W3</b>	<b>W4</b>	<b>W5</b>	<b>W6</b>	<b>W7</b>	<b>W8</b>	<b>W9</b>	<b>W10</b>	<b>W11</b>	<b>W12</b>	<b>W13</b>	<b>W14</b>
<b>EMPATHY PROCESS</b>														
<b>PROBLEM DEFINTIONS PROCESS</b>														
<b>IDEAT</b>														
<b>PROTOTYPE</b>														
<b>TESTING</b>														
<b>FINAL PROJECT SUBMISSION</b>														

## LAUNDJEANS BAG

### PROJECT COST ESTIMATE

MATERIAL AND EQUIPMENTS	UNITS	PRICE PER UNIT	RM
Jeans (recycled)	2	0	0
Small laundry bag	2	1.20	2.40
Velcro	1	2.00	2.00
Drawstring lid	1	1.40	1.40
Wheels	4	2.10	8.40
Plywood board	1	32.00	32.00
	<b>TOTAL</b>		<b>46.20</b>

### PRODUCT SKETCH



## LAUNDJEANS BAG

### QUESTIONNAIRES

#### LAUNDJEANS BAG

Thank you for spending time to answer this survey. We appreciate your time and honest feedback. This survey is about our final year project called Laundjeans Bag.

farahafifah848@gmail.com [Switch account](#)



Not shared

The Laundjeans Bag met my expectations for durability and quality

- ☐ Strongly agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree

I found the Laundjeans Bag appearance appealing and aesthetically pleasing

- ☐ Strongly agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree

The Laundjeans bag is worth the money spent on them.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree

## LAUNDJEANS BAG

Using the Laundjeans bag felt like an environmentally friendly choice.

☐ Strongly agree

☐ Agree

☐ Neutral

☐ Disagree

I would consider recommending the Laundjeans bag to others.

☐ Strongly agree

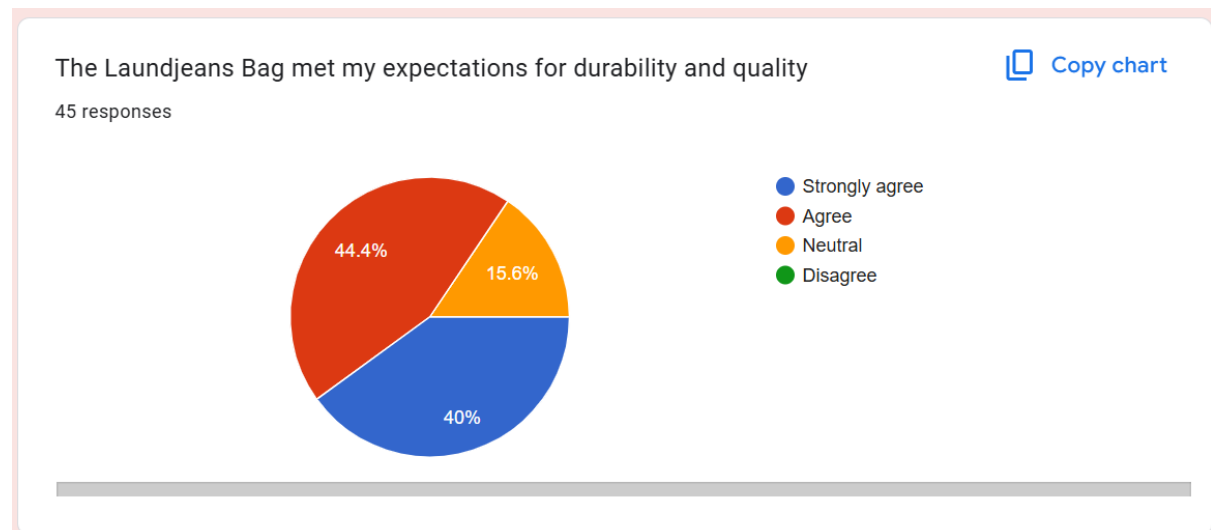
☐ Agree

☐ Neutral

☐ Disagree

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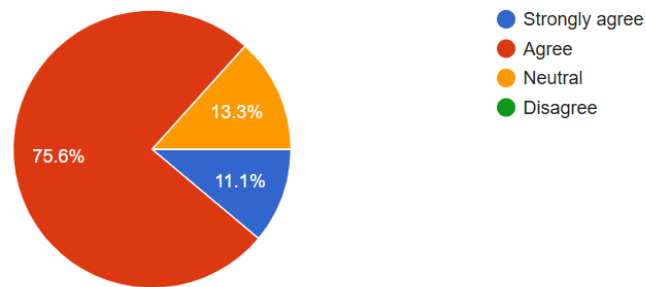


## LAUNDJEANS BAG

I found the Laundjeans Bag appearance appealing and aesthetically pleasing

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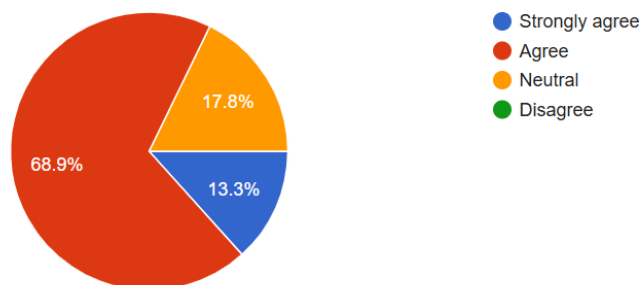
45 responses



The Laundjeans bag is worth the money spent on them.

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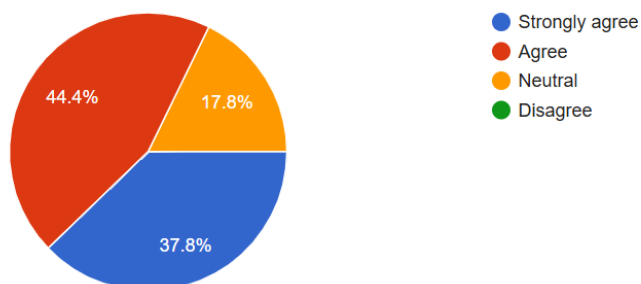
45 responses



Using the Laundjeans bag felt like an environmentally friendly choice.

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45 responses





## LAUNDJEANS BAG

I would consider recommending the Laundjeans bag to others.

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45 responses

