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# Poster Book

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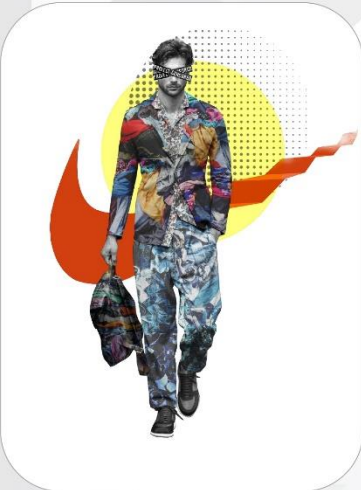
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# TRASHLAB: AN EXPLORATION OF SPATIAL STUDY ON TYPES OF UPCYCLING SPACES AND PROGRAMMES IN UPCYCLING CENTRE

## INTRODUCTION



### WHAT?

Upcycling is a term used to describe a variety of processes that allow old products to be updated and given a second life by being transformed into a new product.

### WHY?

While Malaysia has benefited from the expansion of the fashion industry, a number of issues have arisen as a result of the current situation. The absence of upcycling facilities in Malaysia exacerbates the rapidly growing apparel waste problem particularly in the urban city, which is rapidly filling the landfills.

### HOW?

In order to find the suitable literature that can be used for this research, a search phrase combination of "upcycle" or "upcycling" is used. A series of comparative analysis are also conducted in order to find out the best layout for upcycling facility in Malaysia.

## AIMS AND OBJECTIVES

To study the numerous upcycling layout types that can be implemented in an upcycling centre. Additionally, this will also study the potential of upcycling technology, which has the potential to promote a waste-free lifestyle.

To identify the suitable layout in creating an upcycling centre in Malaysia.

To investigate the upcycling strategies that encourage public to upcycle.

To establish the notion of upcycling that focus on sustainability in Malaysia.

## PROBLEM STATEMENT



Excessive amount of apparel waste

Lack of upcycling facility

Lack of upcycling awareness

## METHODOLOGY

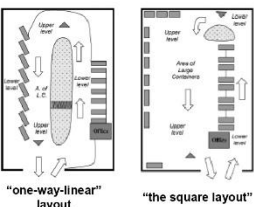
There will be a mixed of qualitative and quantitative methods used, and the three forms of methods that will be conducted to collect data regarding this research;

- Document Analysis – Literature Review
- Visual Observation
- Research Design – Precedent Study

## LIMITATION

There is a limitation of previous research papers and guidance on this particular topic in Malaysia. Lack of field work to visit existing upcycling facility due to time constraint and Malaysia's pandemic rule.

## FINDINGS AND DISCUSSION



Spatial design in a textile upcycling centre can be studied by looking at how the processes are organized in an orderly manner. In order to effectively exhibit innovative products and to tell the story of their process and success, significant consideration must be given to the surrounding physical space.

From the findings of Sundin et al., there are two type of layout typically found in upcycling centres;

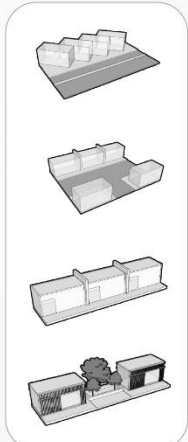
- "one-way-linear" layout
- "the square" layout

## PRECEDENT STUDY

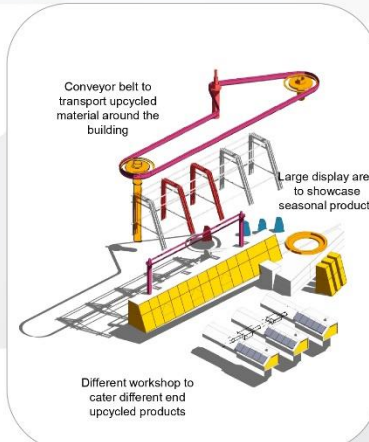


Based on the findings from these two precedent studies, the design of upcycling centre is greatly influenced by the spatial layout and also programmes that are provided. However, it can be very difficult to predict and plan for the time and number of visits as well as the type and amount of waste the visitors will bring. Even so, some patterns can be identified as the amount of waste is greatly increased after festive seasons.

Variable – Spatial Design	Observed Spatial Design Features	
	Smestad Recycling Centre	Sunset Park Material Recovery Facility
Workspace Configuration	1. One-way-linear Layout 2. Direct layout, easier to navigate 3. Simple space connectivity 4. "The Square" Layout 5. No usage of this layout	1. No usage of this layout 2. Compartmentation of spaces, allows visitors to roam freely 3. Allows more complexity to the space connectivity
Walls	1. Less solid wall available 2. Spaces are separated with partitions	1. Spaces are separated with solid walls 2. Spaces are arranged in compartmentation manner
Columns	1. Usage of partitions to allow overall space glance of the building	1. Usage of windows to create sense of openness towards the space
Size	1. Building is fairly small due to its simple layout 2. Easier to manage by smaller team of employees	1. Building is fairly large due to its complexity of layout 2. Requires a larger team of employees to supervise the building
Space arrangement	1. The spaces are arranged connected with each other	1. The spaces are arranged connected with each other through corridor, transitional spaces
Spatial relationship	1. Spaces needs to have relation with each other 2. Space typology is typically the same	1. Spaces can be not related with each other 2. Space typology is usually different in size
Greenery	1. Use of greenery to act as a natural barrier between the site context and neighbouring region	1. Use of greenery to act as a natural barrier between the site context and neighbouring region



## DESIGN STRATEGY



By letting the materials be moved around the outside of the upcycling centre, this makes people curious before they even go inside.

The upcycling centre can also show off seasonal products in the large, clear display area.

Last but not least, visitors will be able to choose which upcycled products they want to learn more about in the different workshops.

## CONCLUSION

It is possible to improve the design on upcycling centres by considering vehicle flows and visitor activities. For instance, the upcycling centre must be better managed by selecting an appropriate layout, signs, and operating hours. This can be accomplished by reducing the visiting durations and cleaning up the waste collection point. Queues, peak flows, bottlenecks, capacity, flexibility and efficiency can be controlled through a design guidelines for upcycling centre.