

# Sustainability Innovation

## Revolutionary Recycling: Sorting, Transforming, And Selling What Originally Was Trash

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# Summary

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The topic of our project is how to make innovative use of marketing to help the current waste disposal situation in Shanghai. According to the survey, the waste without proper treatment will cause both ecological and economic impact on the surrounding environment. Therefore, it is very necessary to draw a project that can protect the environment and realize benefits at the same time. According to the research, to solve this problem, we can start with the materiality of waste, systematic reform and the cultivation of social ideology. Therefore, we come up with the following schemes: 1) apply education related to waste treatment, 2) encourage more volunteers to participate in waste treatment 3) use modern technology to recycle and regenerate waste, and 4) Establish non-profit organizations to sell recycled products and complete the market cycle.

Therefore, we decided to build a smaller version of the above model. To this end, we set up a Wechat store, which sells the recycled handicraft that we made by ourselves. After a period of operation, we have gained 10 sales and a total revenue of 268 yuan, and we have successfully received 100% positive reviews in terms of user evaluation. According to our experience and observation, we believe that this waste recycling system has great market potential and environmental benefits in this still open field.

# Choose the Topic

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# Identify the Challenges

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## 1. Pollution Caused by Waste Discarded

Waste discarded leads to pollution (mainly caused by the putrefaction of kitchen waste). First, it causes contamination of the natural environment, including pollutions of water (water vapor, surface water, soil water, groundwater, water in organisms). Starting by killing the living things in rivers, lakes, and oceans. For example, plastic products choking underwater creatures is a big problem we can't ignore because it also affects the human consumption of marine life. According to the Marine Conservation group, plastic has been found in more than 60% of seabirds and 100% of turtles. Polluting soil, causing agricultural planting problem. For example, the soil is no longer healthy, resulting in a decline in the yield or quality of fruits and vegetables. And waste occupies a lot of land, results in the destruction of the landscape. Also, polluting the atmosphere, which, in other words, means air pollution. Second, the pollution of the ecological environment, and even harm to human health will be caused. Contaminated water and soil bring harm to organisms by breeding bacteria, rodents, and pests. Third, the pollution brings social impact, such as lowering the honor of the place polluted, negative psychological effect, reducing residents' income and real estate value, further causing a decrease in the possibility of development.

## 2. Methods Dealing with Waste

### 2.1 Disadvantages of Different kinds of Treatment

The commonly used waste treatment methods have some troubles. This can also be reflected in our questionnaire, 42.05% of the people do not think that the current garbage classification in Shanghai has a good effect on improving the community environment to which they belong. This is not even a half, so it seems like some very basic daily things such as there is still a lot of visible garbage in the environment or the smell near the trash can is too aggressive haven't been working out. This should be something that community service providers should be aware of and should strengthen.

But let's go further. First, choosing to use collected daily waste by burying them in the land, often in a mountain depression or a big pit dug in the suburban areas, and with some earth covering work done in order to cover them. Although the method is both economical and convenient, it requires a lot of land and can lead to pollution. Furthermore, land resources will inevitably run out one day; therefore, this method could not deal with the problem permanently.

Second, choose composting, an easy and natural treatment method of bio-

degradation is done by taking organic waste such as kitchen waste, separating organic components, adding additives for fermentation, turning them into plant foods. Despite its environmentally friendly property, the waste that can apply to only takes a small percentage, and moreover, because of the instability of the plant foods produced, in China, composting has stagnated and atrophied in the past twenty years.

Third, using the method of incineration, the waste to be disposed of is heated and converted into materials like gas, ash, and heat. It requires less land than landfills, the thermal energy produced can be reused, the high temperature of heating can kill harmful substances in waste. But, at the same time, the method has complex operations, high management costs, and large investments.

A table summarizing the traits of the three methods just mentioned is attached.

## 2.2 Current Classification and Disposal in Shanghai

Now turn to the situation of the garbage classification process and the current disposal methods of various garbage in Shanghai. After the implementation of the Regulations in 2019, the garbage is classified into four categories: wet, dry, hazardous, and recyclable waste.

Wet garbage, the perishable biomass fuel daily waste, includes plants, bones, and leftovers. First, each household should be thrown into the special garbage collection vessels for it set in the public regions of residential areas, and this step is required for the disposal of the other three kinds of waste. Then, the property company cleaners will roll to can. It will be collected to use factory to carry out comprehensive utilization.

Dry garbage includes other clothing, food, housing and transportation wastes except hazardous, recyclable and wet waste. The dry waste collection vessels will be transferred to garbage bin room, and then transported by the special vehicles of environmental sanitation. Last, incineration and, or landfill treatment will be carried out by municipal equipment.

Hazardous garbage is those leading to immediate or potential harm to physical health or geological environment, such as waste drugs and used batteries. Its collection vessels will be carried to storage point by vehicles, then to transfer station for sorting and storage, and eventually to treatment enterprises for harmless process.

Recyclable garbage refers to the waste material suitable for acquisition and use in the recycling system, like waste paper and plastic. With the methods of "immediately selling" , "to be recycled content collection vessels" , and "promotion to services website" being used, outlets and station carrying out collection, the recyclable will be transported various plants for renewable energy process.

To conclude, among these kinds of garbage, the one needs better treatment most, is the neither hazardous nor recyclable dry waste. It is the "other waste" hard to define and sort, wanting a fast solution, therefore being treated indiscriminately by

burying in land and burning to dust. But these two methods are indeed not long-term solutions, which means they are in need of reflection and improvement.

### 3. Each Person's Positivity and Ability to Categorize

Considering the reason why we are working on garbage classification is very important because it seems like most of the people aren't clearly realizing we are doing this for every one of us, our next and future generations, and very importantly for our one and only earth. Waste is produced inevitably and has to be treated responsibly to prevent its harm that spreads from individual to the whole society, such as the waste not properly dealt with of a household causing pollution spreading to the community. Therefore, education is important to all ages, not only on positivity but also on ability.

According to our questionnaire survey, in shanghai, 76.7% of people think that the publicity and guidance of garbage classification knowledge are in place. However, when we asked them about "What is the color of the hazardous waste trashcan?" Even though 81.25% of people got it right, the other 18.75 % rather chose blue (which is the recyclable bin), green (which is the kitchen waste bin), but this should be something everyone knows because it is a common-sense question everyone faces while throwing garbage.

Starting to instruct the students is fundamental, the government hand out orders, the education bureau plans professor content, and schools teach students about environmental protection and waste classification, and so in daily life, they will slowly pass on the knowledge to adults who have entered the society, who can also receive information on the internet. But it is hard to make a habit of what citizens consider a bother.

 [Table 1.0 Comparing the 3 Common Garbage Disposal Methods](#)

# Identify a Root Cause

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## 1 Materiality of "wastes"

The key to, or the core idea of recycling is to utilize the materiality of waste through rising its use-value above 0.

Waste is a kind of unique material, which is reflected in its two apparently contradictory attributes. First, waste, by definition, is something to be discarded because it no longer has value to the previous user. Second, at the same time, it has certain materiality, its own significance that can be devalued under some conditions. For instance, a case of selling trash mentioned in the research part, the empty perfume bottle has zero value to the previous user who only wants perfume, but it can be valued the same as jewelry to those who want the other properties it has other than what's inside, such as its skillful, exquisite design. However, in our questionnaire survey, we can find that 23.86% of people still don't think that recycling can really turn waste into treasure. Therefore, since our goal is to achieve a revolutionary change in waste treatment by preventing the appearance of what can do nothing but only be abandoned, the key would be to explore its function besides the purpose it is made to have, to take control of waste's changeable value, and sell them to the public and make them realize that all those empty bottles and papers we throw away can be revalued.

## 2 Operation of the System

The comprehensiveness of the system of garbage sorting is significant.

In the successful cases of garbage sorting, the systems operating all include a clear classification. Garbage is classified in super-specific and clear ways. Germany has a clear classification of trash cans, in which each color corresponds to one specific kind of garbage, and in Switzerland, containers only for cardboard, PET bottles, or glass can be found in neighborhoods and near supermarkets. Similarly, for Belgium, waste classification as a kind of regular family course is done using different color trash bags. And a counter-example is a government loophole in the system of Beijing, their separate waste and recycling system led to the recyclable trash thrown in city bins being treated as normal waste. Our questionnaire survey shows that fully 92.05% of Shanghai citizens want strict and detailed implementation of garbage classification in their communities. However we don't have a detailed and comprehensive system, and those loopholes may lead to citizens not having the opportunity to make the right choices because there are no right choices and that discourage enthusiasm.

The source and final destination of garbage in Shanghai have been briefly explained in our flow chart. In fact, we can see that the transfer system is not very

consummate and the procedures are a little complicated. Which is something that we should be working on.

In addition, there are related services to deal with troubles in unified ways that cannot be fixed only with cans sorting. In Switzerland, papers have to be put on the curb in bundles on the allocated to be collected, and compost such as bananas peels should be taken to the community compost. And the residents can ask their city hall for instructions, which is similar to Belgium's residential service centers. These are unified solutions appropriate to be used, in contrast to the U.S.'s short-term solution of exporting trashes to other countries and depending on incineration and landfill, which end up with different sorts of serious pollution.

### 3 Awareness of the People

People have to be aware of the existence of the system so that it can be really carried out.

In our questionnaire survey, it can be clearly seen intuitively from the data that 62.5% of people think that residents' enthusiasm for garbage classification is not strong. This can be a chance to prove that the economic incentive is needed for arousing the awareness of the garbage producers, the residents. Germany, Belgium, and Switzerland all have specific laws that warn and even fine whoever drops litter or does not classify and recycle according to regulations, in contrast to Beijing, where no such rules are enacted but only useless persuasion. As for the former, with such economic incentive, public awareness is risen, without doubt, leading to an increase in the recycling rate and garbage classifying rate, and a decrease in the amount of garbage generated.

Besides the awareness driven by fear of paying high fines, proper publicity and promotion can help the sense of duty born from the heart is probably more necessary. In Belgium, the government's strong promotion has made the concept of resources conservation grown deep in people, even children's minds. In contrast, in Beijing's case, although the "Green-brands" is to teach these concepts, their authority was not even fully acknowledged by the people who did not really realize the meaning of the educators' existence and the seriousness of the problems. This is the same in Shanghai, for the problems that Shanghai citizens think exist in garbage classification, 50% think that there is no restriction of relevant laws and regulations, and it is very deadly.

 Figure 1.0 Shanghai's Garbage Classification & Collection and Transportation Process Flow



# Generate Solutions

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## Solution 1

Education on collecting garbage should be applied. Two ways are adoptable. The first way is to give lectures. Schools or universities invite globally known professors or experts to plan and give lectures. With authority, they persuade citizens more easily. Also, there should be rules to encourage people to attend the lectures. For example, colleges can give students extra credits for listening to the lectures. Furthermore, community administrators can periodically provide lectures for residents. The next way is to scatter posters or booklets to citizens. Editors state the purpose and necessity of collecting garbage with tutorials on well accomplishing it. Afterwards, volunteers are employed to deliver them to the public.

## Solution 2

Volunteers are engaged in the process of collecting garbage. Initially they must finish training programs to efficiently collect and correctly sort garbage. They hand them to people who are in charge of assembling and delivering them to processing factories. Eventually, volunteers report their work and earn rewards, certifications for exam

## Solution 3: Recycling Factory

For the next solution we designed a recycling factory. All recyclable waste will come to the factory and be recycled in a new and more efficient way. There are five types of recyclable garbage which are paper, plastic, glass, metal, and textiles. We will explain each type in details.

### PAPER

Of the five types of recyclable garbage, paper can be transformed into sellable goods in two categories.

First is books. More specifically, books that are not damaged too much. The only process these books need to go through is maintenance care like dusting off and heat sealing the cover, flattening the bent or folded pages, and keeping it from getting more damages by lining them neatly on shelves. These books will be sold in our shops for lower price than original, considering that they are still second-hand books.

Second is any paper materials, ranging from cardboard boxes and toilet rolls to used notebooks and torn-apart novels. Since different types of paper needs the same steps of processing but the time and amount of resources needed, these

materials will be grouped into 3 different categories: soft, medium, and hard. Soft is any paper that can be ripped apart easily like tissue paper and toilet rolls; medium is paper that is harder to be ripped but easy to fold and can maintain a fold for a long time, like newspaper, textbooks, calendar, etc. Hard is paper that is difficult to rip and fold like cardboard boxes and hard book covers. All of the paper will then be brought to their corresponding pulpers. This step breaks the original paper into small pieces of fiber and dissolves the fiber bonds in them. After that, the mixture of paper will be passed through screens from rough to fine, so that materials that are not paper can be screened out and be recategorized. Paper mixture will then have their ink taken out and will be bleached. After that, the mixture will be spread out and dried. The final product is our recycled paper. Soft paper will be made into recycled tissue and toilet paper. Medium paper will be made into leaflets for spreading awareness and empty notebooks. Hard paper will be used to contain different products we sell by making them into boxes.

## PLASTIC

Plastic is another type of recyclable garbage.

When plastic is collected, it is grouped into different colors. Next, everything is washed, which means there won't be non-plastic material. Then, they are all broken down into smaller pieces so they are ready to be transformed. Finally, plastic of all colors are combined and reshaped into products we sell. The items include water bottles, eco-friendly bags, "save the earth" keychains, and mystery boxes that has figures of animals that saved from this recycling process.

## GLASS

Glass is almost everywhere in our life. However, it can be 100% recycled and can be recycled endlessly without losing purity, which makes it a good recyclable waste. In addition, recycled glass not only reduces the emission and consumption of raw materials, but also saves energy. First, recyclable waste is collected and then will be sent to our recycle factory. Of course, we can't put all the different glasses together. They will be sorted by color - this step will help the later process. Then, the glass will be melted in a special hot melting furnace (after our transformation, it will reduce emissions and will not cause more pollution to the environment) to make handicrafts. Finally, we will sell cups, lamp decoration, vases, etc. that are made of different colors of glass in the grocery store.

## METALS

The fourth kind of recyclable waste is metals. For metals, we also have special process in our factory to make them into brand new goods. Most factories nowadays use magnets to sort out the metals in all the garbages. The advantage of this kind of sorting is that it's very efficient. However, some of the small metals might not be detected which is very wasteful. In

order to maximize the utilization of all wastes, we plan to use both magnet sorting and manpower to ensure all the metals are recycled. After all metals are sorted out, we put them into the furnace in our factory and melt them. In this way, we can reshape the metals into whatever we want. Our group is planning to make these metals into new accessories and utensils. Such as necklaces, bracelets, spoons, and forks. All these recycled products will go into our grocery shop which we will talk about in details later.

## TEXTILES

Many of the textile recycling process in modern factories are very complex. They break down the fibers in the fabrics and resemble them into new fabrics which costs both money and time to do this. In our recycle factory, we choose to use a rather easy way to recycle textiles. We clean and reform the used textiles all by hand. The textiles in our factory are assorted into two categories which is fabrics and second-hand clothes. When the trash first arrive at our factory, we put them into the cleaning machines and clean them thoroughly. Then, we sort them into fabrics and clothes, so that our workers can start making them into new products. For fabrics, the small ones can be made into purse and accessories such as scrunchies. The bigger fabrics will be made into dolls or toys and even tablecloths. As for the second-hand clothes, some of the less damaged ones can go straight into the shop after they are cleaned. The tattered clothes will be renewed by the employees. They can either be designed into new clothes or be made into toys. The feathers in clothes such as down jackets can also be used to make the filling of toys or pillows. Again, the handmade recycled products will be sold in our grocery shop.

### Solution 4: grocery store

After the recyclable waste has been processed in our factory, the products will be sent to our grocery store. The store is different from the ones on the market now - its decoration style is vintage, and different products will be placed in different areas. We will have a QR code next to each product - consumers can scan it and it will go to a website that's specially set up by us. There will be explanations for every handicraft on this website, which tells how the recyclable waste turns into what it looks like in the store and what steps and processes they have gone through. Moreover, the schedule of our volunteer activities, the community and school lectures will be posted on the website as well. In this way people can know the time in advance and join us. More importantly, we will also explain our ideas and publicize our environmental protection projects on the website. However, the money earned in this grocery store will be only used by the program. It' s nonprofit.

# Identify the Criteria

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- 1) Improvement: Does the project improve the existing waste disposal environment?
- 2) Feasibility: Can this project technically (using existing science and technology) change the existing waste treatment industry in a good way?
- 3) Social impact: Can the project affect more than 50% of the population in Shanghai?
- 4) Environmental protection: Will the operation of the project does not lead to more environmental damage?
- 5) Defensibility: Is there a reason for local environmental protection departments or government departments or other stakeholders to promote the project?
- 6) Decontamination: Can this project remedy the problem of pollution?
- 7) Social concern: Will this project have a high possibility to make the discussion of waste classification and treatment more popular?
- 8) Social acceptance: Is less than 15% of the people opposed to the project?
- 9) Innovation: Does the project put forward new concepts or even innovations comparing to the traditional waste treatment process?
- 10) Operability: Can the project operate for a long period of time, even if it may encounter various difficulties such as capital, manpower, and land in the early stage?
- 11) Truthfulness: Does the project have a good monitoring system?
- 12) Manageability: Can every aspect of the project be controlled?
- 13) Intuitiveness: Can the results of the measures be directly reflected in the changes in waste classification statistics?
- 14) Effectiveness: Can the project display its effects in a short period of time?
- 15) Profitability: Is it highly possible for the project to be profitable?
- 16) Disaster resistance: Can the project continue to operate normally in the face of disasters that are prevalent in the area of Shanghai, particularly typhoons, rainstorms, and red tides?
- 17) Compatibility: Can this project prevent others from entering the market, and if it cannot, can it still operate stably?
- 18) Conversion cost: Does the enterprise's products or services have high conversion costs?

# Evaluate the Solutions

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- 1) Improvement: The project improves the existing environment. For example, it designs a recycling factory that applies different procedures to specific types of recyclable garbage. However, factories in most regions in the world are hardly able to implement waste classification.
- 2) Feasibility: The project utilizes special existing techniques to recycle waste. For example, it describes melting glass in order to recycle the glass, and using both magnet sorting and manpower to detect metals in bulks of garbage.
- 3) Social impact: We arrange activities such as school lectures and we set interesting options in our grocery store. Also, we advertise our project through media. Therefore, probably, it is expected to affect more than 50% of the population in Shanghai.
- 4) Environmental protection: All the procedures in our project do not include damage to the environment, except that some procedures cause a little pollution.
- 5) Defensibility: The project lowers the government's expenditure in multiple ways, such as education to students. Thus, it is beneficial for government departments or other stakeholders to promote the project.
- 6) Decontamination: The project is able to remedy the problem of pollution in ways exemplified by creating new production measures so as to reduce pollution.
- 7) Social concern: The project will publicize the discuss of waste classification through fun activities.
- 8) Social acceptance: Whether a number of people will oppose the project or not is still unknown. We should see the outcome whenever we implement it.
- 9) Innovation: We use QR codes in grocery stores to tell customers the handicrafts' experience. This way of introducing recycling garbage is quite innovative.
- 10) Operability: The project fails to maintain for a long period of time due to volunteers' and our busy work in school. We hope to operate it long and successfully.
- 11) Truthfulness: The project has a good monitoring system. All members in the project report their work in a Wechat group. Hence, all the work done is transparent.
- 12) Manageability: Not every step in the project can be well controlled, since we have to cooperate with different departments such as schools.
- 13) Intuitiveness: The results of the measures can be directly reflected in the changes in waste classification statistics.
- 14) Effectiveness: The project cannot display its effects in a short period of time, because the work done by our designed factory is only a small proportion, and education only shows its long-term consequence.

15) Profitability: The project is not profitable. Our work costs great amounts of expenses and manpower. Though we run a grocery store, it is nonprofit.

16) Disaster resistance: The project cannot operate normally when disasters appear. While there are typhoons, rainstorms, and red tides, we have to stay in shutter for security.

17) Compatibility: The project cannot prevent others from entering the market. Nonetheless, it can still operate stably because we volunteer to operate it expecting no profit.

18) Conversion cost: The enterprise' s products and services have high conversion costs.

 [Scoring chart](#)

# Make an Action Plan

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We plan to use the waste recycled in the factory to make handicrafts and then sell them in our "REB!RTH grocery stores". However, we already have the design of our grocery store and some products (including mystery boxes, notebooks, hair ties, etc.). To test our plan, we first opened a Wechat shop, selling four types of 100% handmade products. Two days after, we had sold 268 yuan, which proved the feasibility of our plan. Nevertheless, we also made two posters for educating people to do garbage classification, so people can understand the significance of doing it. In order to show this more clearly, we have made a PDF version of the design draft (including posters, booklets, and a 2D design draft of our grocery store), they are shown above. What's more, in order to show more details, we also made a video about our store, too.

 [Poster](#)

 [Grocery store](#)

 [Booklets](#)

 [Our products](#)

 [Introduction Video](#)

# Prototype and Test

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## | Prototype Design

We plan to make a prototype of our handicraft grocery store in the action plan. Our group will open a WeChat store online to be the prototype and test the feasibility of our plan, including the recycled handicraft factory and the grocery store. We will use some of the recyclable waste from our home to make a few handicrafts in order to sell in the store. So far there are already four products on sale in our online store. There are bags, necklaces, and pendants. They are all 100% handmade and are made from recyclable wastes such as used fabrics and old clothes. We also put our inspiration and the process of making our products on the selling page.

 [Prototype](#)

 [Prototype](#)

 [Prototype](#)

 [Prototype](#)

## | Feedbacks learnt from users

After 2 days of the opening of our online shop, we already sold 10 products and earned 268 yuan. All of the customers gave us 5 stars in the comments, showing their satisfactory of the products. From this we can see many people are willing to buy recycled products and like the design of our group. As a result of our prototype, we think our action plan is very feasible including the handicraft factory, the grocery shop and our shopping website online.

 [Prototype](#)

 [Prototype](#)

 [Prototype](#)

## | Improvement for next iteration

In this draft, the biggest difference we would like to make is to show what we did in terms of how we tested the feasibility of our solution by showing what the results of opening a WeChat store was like, and the designs of posters, booklets, and the



internal plans of our shop in “make an action plan” and “evaluate the solutions” as suggested in the teacher’s comment.

We also plan to make a video introducing what our group has been working towards to reach perfection. In this video, we want to put in most of the visual representation of what we plan to solve and our solution. This way, we can make it as informative as possible.

In terms of details, we hope to improve the design of our shop. The only ways we designed it was through drawing the front of the shop, the top-down view of the shop’s internal design, and some products we sell. There are two big problems in this. First is that this way of presentation can only show limited amount of details in something we planned a lot for. Second is that the original design has too many shelves, so we hope to make a model that does not make the shop feel so crowded like the first one did. Therefore, in this time, we decided to make the second attempt as a virtual 3D model of our shop. This not only enabled us to show more details, but also change some designs.

This project as been improving in every draft. First starting from researching existing methods of recycling and adding innovative ideas, and now polishing the details and making sure that we are clear on how present our solution. We really hope that this project can turn out to be as effective as we hope it to be if not more.

# Team Credits

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Nancy Wu (Leader) is responsible for writing the "Identify the Criteria" and doing background research on the topic.

Diego Zhou is responsible for writing the "Summary" & "Identify the Criteria" and doing background research on the topic.

Jasmine Chen is responsible for doing background research on the topic.

Emily Cheng is responsible for writing the "Identify the Challenges", "Identify the Root Cause", and analyzing the research about waste treatment in Shanghai.

Cecilia Bernasconi is responsible for writing the "Identify the Challenges", "Identify the Root Cause", and analyzing the research about waste treatment in Shanghai.

Abby Zhaoqing Wang is responsible for the writing and drawing in "Generate Solutions", "Make an action plan", and "Prototype and test", also making the introduction video.

Elaine Yiling Qian is responsible for the writing in "Generate the solutions" and "Make an action plan". Also the design of the posters and booklets.

Hehua Chen is responsible for the writing in "Generate the solutions" and "Improvement for next iteration", also the design draft of the grocery store and all products.

Andrew Shi is responsible for the writing in "Generate Solutions" and "Evaluate the Solutions".

# Onsite Conference File

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 Meeting\_01

# Judge Comments

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" Thank you for tackling a very complex problem – we as a society have not yet figured out how to effectively make waste more attractive, recycle effectively or upcycle to make products we use more. Kudos to the team for showing one practical way of upcycling, and go one step further to create a revenue stream from it, even if its small. Great job with the communication products as well! It shows creativity and artistic intent!

The team, through its surveys, have also highlighted some key insights which are telling of how the recycling system has not improved significantly in decades. In the most efficient places in U.S., recycling rates are in the early 20 percents, and in Europe it is marginally higher.

When working through the root causes of the state of affairs in recycling, it would also be useful to understand the economics of waste and the economics of recovery. Waste is not always zero value, it is just that the effort and money spent in recovering the waste might not be justified by the price it can obtain. I recommend that the team research and understand the market for glass and aluminum for starters in order to understand the system better. It would also be helpful to bring in the environmental benefits of the work into all aspects of the product design and marketing.

Good luck with Reb!rth! There is a future in upcycling and I encourage the team to explore it further.

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