Designing for second life

Systemic design for sustainable packaging in appliance manufacturing industry

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Abstract

Rapid urbanization, improved living standards and change in consumer lifestyle has led to a boost in sale of household appliances over the recent years. With rise in concern of this carbon footprint, the short-lived packaging in which these appliances are transported needs to be holistically redesigned. This paper outlines such a case study of a systemic design project undertaken by the author for IFB Industries Ltd. in the context of washing machine packaging in India. The project is an attempt to rethink the lifecycle of appliance packaging with an ecologically responsible approach using systemic design. The process involved understanding the system, developing research driven insights and ideation. The result of this project was a set of trends and solution directions that can be used as effective inputs for further development.

Keywords: packaging waste, design for reuse, mass repurpose, sustainable packaging, circular economy, systemic design

1. Introduction

Environment and its conservation have become the crucial topic of discussions everywhere. “Beat Plastic Pollution”, the theme for World Environment Day 2018, is a witness to this. Global Impact of “Greta effect” and China's incredible single-use plastics ban detailed from recycling plants to plastic shipping tapes (Noe, 2020) are some recent examples of this. People working in all areas of the consumption cycle are now striving to build sustainable and future-proof systems. With this, role of a designer is rapidly changing. Designers have to play a vital role in transformation of the fragile world which requires more care than ever. Dominique Sciamma gives a sensible definition of 21st century designer, which is as follows. “He or she is no longer this companion of the consumer society of a 20th century by giving shape to the desires of people, he or she is a decipherer of the real problems to be solved, he or she is the reader of the complexity of the world which makes it a new essential actor in the circle of power and decision, as equals of engineers and managers, and guarantors of a shared, creative method, generous and fair.” ("Qu’est-ce qu’un designer au 21e siècle? - Tribune", 2020). Designers have to be critical in their approach and see if they are mindfully creating, catering and facilitating for a sustainable people-planet society.

Mass manufacturing is a word now most designers are thinking twice about. With the ever-growing consumerism, packaging cannot be considered as a secondary thought while designing products. Appliance packaging becomes an even more concern because of its volume and the materials used in it.

IFB Industries Ltd.

IFB Industries Ltd. is an India-based company engaged in manufacturing and marketing engineering products. IFB Home Appliances (www.ifbappliances.com) is a division of IFB Industries Ltd. which has been providing products and services across a range of appliances such as washing machines, dryers, industrial washers, dishwashers, microwave oven, air conditioners, hobs, chimneys and other cooking appliances. IFB manufactures all its washing machines at its manufacturing facility in Goa.

Every year more than 3,00,000 front load washing machines are manufactured and packed this manufacturing facility to send to various parts of India. About 1/4th of the volume of this transported freight is just packaging. After its dutiful journey from manufacturer to customer, this packaging then ends up at the customer's house from where it retires from its use to landfill. This results in 24,595 m3 volume of packaging waste generated every year which is equal to space taken by 95,854 front load washing machines (Data derived from information provided by IFB). These facts state only the impact of the packaging of IFB's front load washing machine every year. Now one can imagine the horrifying impact of the packaging of all the appliance industries. IFB wanted to explore and develop solutions for the packaging so that it can be put to alternate uses rather than just going to waste. This brief given by IFB was undertaken by the author as her graduation project which was carried out over a duration of 7 months.

2. Objective and methodology

This project is a quest to understand the entire system of washing machine packaging in India and find opportunity in it to create a positive change. Design has the power to motivate and inspire transformations. This project was a good opportunity to work with a mass manufacturer and pitch in an idea that had to work both ecologically and economically. This also came in with a lot of challenge and learning to design with constraints and available infrastructures.

The topic lies at the intersection of diverse yet connected topics like packaging, sustainability and people. The journey of packaging is interesting. Packaging in itself can be considered a product. A product whose journey aligns with the life cycle of the product it's protecting, moving through various areas from manufacturing to retail to customers to waste management and more. Understanding this entire system is crucial for this project because of its scale and impact.

Systemic Design is a powerful tool to uncover such networks in complex interconnected problems to pave path for holistic outcomes. By integrating systems thinking and its methods, systemic design brings human-centred design to complex, multi-stakeholder service systems. It adapts from known design competencies – form and process reasoning, social and generative research methods, and sketching and visualization practices – to describe, map, propose and reconfigure complex social systems ("Systemic Design Association « Systemic Design", n.d.).

The perplexity was where to start in this dispersed system of packaging. The process was asking questions. Answering these series of questions gave structure to design process. The idea was to bring in clarity to understand the levels of intervention possible through research driven insights. The objective of the project was broken down into the following 5 points.

1. To understand the whole system involved in the area and dependent on the area.
2. To understand the current situation.
3. To understand the audience and their ethnography.

4. To identify and get actionable insights.
5. To find and propose possible interventions.

The design process consisted of 3 phases namely research and analysis, synthesis and ideation. The process in each of these phases were steered by the objectives stated above. This process has been documented in detail in the following pages.

3. Research and analysis

The research started from scratch to understand the micro and macro aspects of front load washing machine packaging. Before listing one drawback of a thing, it's necessary to find its three benefits because if something is existing in the system it already works fairly. This means that even a small disruption, can change the system totally. Thus, it was imperative to get synergistic view of things. This was done though a lot of interactions, field studies, questionnaires, interviews and online research.

3.1 Packaging and its evolution

Packaging is the science, art and technology of enclosing or protecting products for distribution, storage, sale, and use. It helps to transport a product from A to B safely. The roles of a good packaging are to protect & preserve the contents, add-value to the product, inform about the product, sell the product, be environment friendly (Corrugated Box Handbook, 1999). The nature of the product like shape, weight, perishability etc. decides the type of packaging. Because of the scale of production in case of mass manufacturing, packaging becomes an important consideration for the product.

"The question is not whether the product can afford correct packaging, but whether the company can afford not to have the correct packaging (Corrugated Box Handbook, 1999)."

Over the last 150 years, product packaging has evolved considerably. These developments revolved closely around cultural phenomenon and consumer behaviours prevalent around given time periods. 1860s, 1870s and 1880s was the era of dual use packaging. The second wave of Industrial Revolution began during this time and with major developments in railroads, trade suddenly flourished. Materials and processes during this time were still expensive and laborious. During this time packaging was primarily seen as a way of storage, and reserved for only high value goods like jewellery, gift items, shoes, and premium foods. As the materials were indispensable, they were structurally designed to serve a function after product use. Thus, dual use packaging was a solution to command high price and assure ingenuity of the manufacturing quality. For instance, feed sacks and flour bags were printed with decorative patterns, so that it could be used to sew dresses, aprons, pajamas, children's clothes, and other household necessities (Mittal, 2013). Thus, reusable packaging is not a new concept.

3.2 Analysing similar ventures with eco-design strategies

An important part of the research was study of successful ventures in the domain of ecological design. In the book 'EcoDesign: The Sourcebook', Alastair Fuad-Luke talks about eco-design strategies. They can be classified into lifecycle phases: Pre-production, including materials selection; Manufacturing/Making/ Fabrication; Distribution/ Transportation; Functionality and use; and Disposal/ End-of-life (Fuad-Luke, 2006). Each category contains of comprehensive list of eco-design strategies that can employed to that particular phase of lifecycle. These eco-design strategies were used to effectively evaluate and understand similar ventures around the world. Following is an example of this study. (See Table 1.)

Venture	Description	Eco-design strategy used
Puma's Clever Little bag	Clever Little Bag is an eco-friendly packaging for footwear that is half bag and half box. The product consists of a recyclable heat-woven bag and a flat-pack cardboard tray that provides structure Called Clever Little Bag, the product consists of a recyclable heat-woven bag and a flat-pack cardboard tray that provides structure. This new packaging and distribution system saved more than 60% of paper and water annually.	• Reusable • Energy conserving • Biodegradable

Table 1. Analysing similar ventures with eco-design strategies.

3.3 Current Packaging parts

Common packaging for front load washing machine found around the world is the EPS (Styrofoam) package cushioning and stretch wrapping. Sometimes corrugated sheets are used for extra support. This packaging supports stacking of up to 8 machines. Infrastructure in a country affects the packaging of the transported goods. An interesting observation here was that the same machines are packed differently in India (for example Bosch Germany Vs. Bosch India). Packaging of Appliances in India is different from other parts of the world. The reasons are mainly:

- Roads: Indian roads have various topographical conditions and are less maintained as compared to other places of the world.
- Man-handling: Unlike other places where only forklift is used for handling, in India human labour is used to unload and load the machines.
- Extreme weather conditions: The climate of India comprises a wide range of weather conditions and it is sometimes quite unexpected.

IFB's current packaging for its front load machines include the following parts: corrugated packing box, EPS packaging cushion, PE plastic jacket and PP strap. There are 20 steps of assembly associated with packaging happening in the front load washing machine assembly line at IFB's manufacturing facility in Goa. This process involves 26 people and many automated processes.

No.	Part	Material	Function	% Part Cost (approx.)	Recycling value
1	Packing box	Corrugated paperboard	- Outer Protection for cushion and insulation. - Branding and communication	34 %	High value (> 6 ₹/kg)
2	Packing cushion	EPS (expanded polystyrene)	- Reducing shock and vibration - Increasing stacking support	60 %	No value (0 ₹/kg)
3	Plastic jacket	PE (low density and high-density polyethylene)	- Weather proofing and insulation - Tying packing cushion together	3 %	Low value (1-4 ₹/kg)
4	Strap	PP (Polypropylene)	- Fastening packing box and bottom packing cushion	3 %	Low value (1-4 ₹/kg)

Table 2. Current packaging parts.

Table 2. shows that all packaging parts fall into different categories in recycling value. In this packing cushion falls into the category of no value, while it ranks the highest (60 %) in the percentage part cost.

3.4 The bigger picture

Interacting with people involved in the system from manufacturing to the end-of-life helped to get macro and micro perspective. This helped to collect relevant and fresh information. Interviews, case studies and discussions were conducted with consumers and people dealing with manufacturing, transportation, sales, installation, disposal, waste collection etc.

End-of-life of packaging is an area that remains unseen to the customers. Meeting people working in this area was enlightening. They are the waste collectors, rag pickers, scrap buyers and recyclers. Research was also conducted with people who were working on the solutions for waste disposal. Organizations in India like Saahas Zero Waste, Daily Dump, Vrecycle and PlasticMaker's Hub are working on incredible solutions for waste disposal. Meeting and speaking to experts in this field unfolded many directions and approaches possible.

Conversions during this research triggered a lot of ideas and inspirations. Sketch-noting and idea bank helped to capture all these. (See Figure 1.)

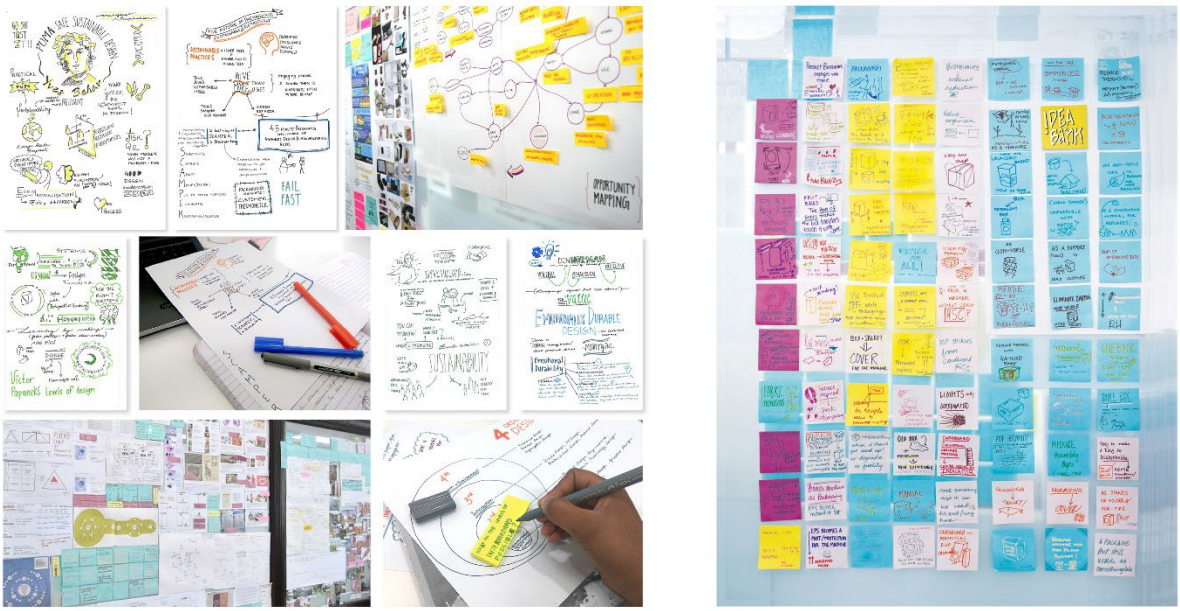

Figure 1. Sketch-noting and mind maps (left), Idea bank (right).

Sketch-noting and mind maps: Along with collecting and understanding data, it is important to analyse them. Sketch-noting and creating mind maps helps in this process. It simplifies complex data into visuals and greatly helps in communicating them during discussions for feedback.

Idea Bank: All the triggers, ideas and inspirations were collected in one place. This was done throughout the process from research to synthesis. It helped to create a rich and diverse library of ideas to start off during ideation phase.

4. Synthesis

Next phase of the project was to connect the dots. All the research data was synthesized in detail to discover true opportunities. Visual mapping of the findings helps to bring clarity and uncover hidden connections in the system. Use of design toolkits and method cards aided in this process.

The foundation of the system was the lifecycle. Mapping out detailed points of lifecycle of the packaging through journey map introduced different stakeholders of the system and their contribution to the ripple effect of things. Stakeholder map and empathy map added an additional layer of network to this data. This helped bring in point of view of each element of the system into the picture. This mapping process has been elaborated below.

4.1 Product journey map

For making the packaging circular it is necessary to rethink its linear use cycle with a beginning, middle, and end. Mapping this journey helps to identify opportunities and ensure that the packaging is staying in a useful state for as long as possible thereby adding value. Product Journey mapping worksheet from Circular design guide by Ellen MacArthur Foundation was used as a tool for this. The process is to map the use cycles of your product by asking what will happen next to the product or materials (Product Journey Mapping worksheet, 2016). All the research done before served as the reference for this mapping. This resulted in the project journey map shown below (Figure 2.).

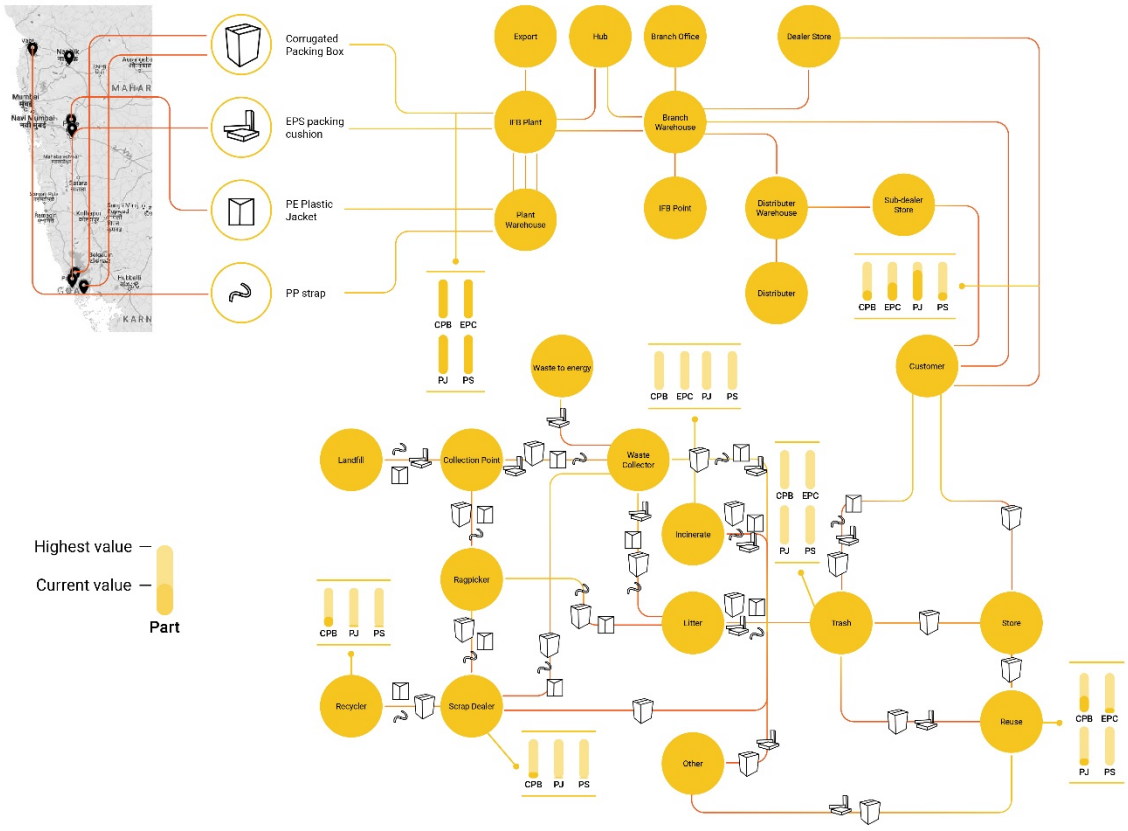

Figure 2. Product journey map.

The map shows the journey of each packaging part from manufacturing to recycling. It also shows how the value of the parts fluctuates at different stages. Key observations from this map is listed below.

- The value of parts becomes zero on reaching the customer after installation / when it is trashed and after incineration.
- Segregating for recycling increases value of packing box, plastic jacket and strap from zero. In this packing box is the only part which generates good value. Plastic jacket and straps generate value when segregated in bulk. The value of EPS packing cushion remains zero even after segregation because of lack of proper transportation and recycling facility.
- Reusing / Upcycling generates more value from these parts than recycling.

4.2 Stakeholder onion map and empathy map

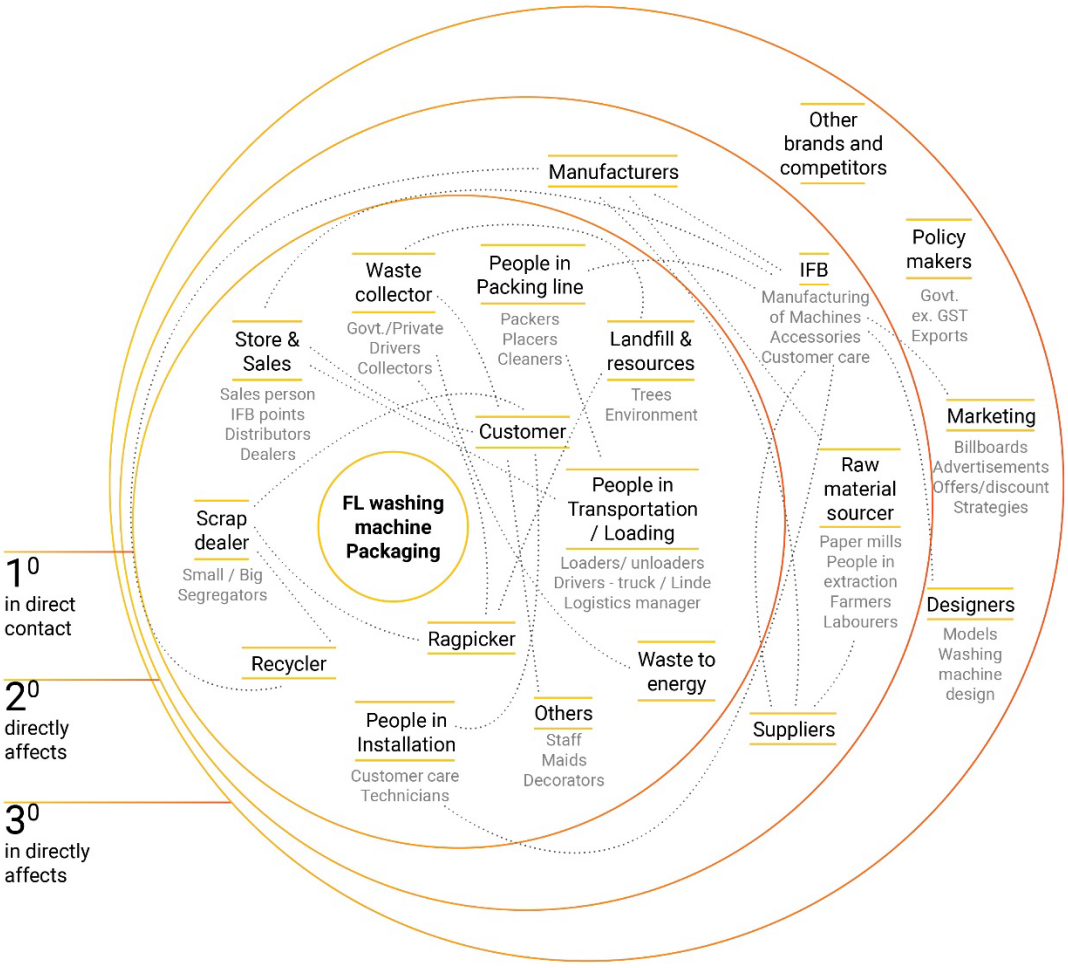

Figure 3. Stakeholder onion map.

The Stakeholder Onion map is a way of visualizing the relationship of stakeholders to a project goal (Olson, n.d.). These stakeholders were extracted from the product journey map. Figure 3 shows the stakeholder onion map of packaging. This map shows the stakeholders involved in the whole system

divided into 3 levels. They are: 1^0 - people who come in direct contact with the product, 2^0- people who directly affect the system > 3^0 - people who indirectly affect the system. For instance; manufacturer, customer, waste collector fall in the inner 1^0 level whereas the policy makers falls on the outer 3^0 level. The approach is to develop solution giving priority to the inner stakeholders and then to the outer ones ($1^O > 2^O > 3^O$).

Voice of each of these stakeholders was captured through empathy maps. The empathy map was created by Dave Gray as a tool that helps to get deeper insight into the stakeholders (Gray, 2017). This mapping was done for the core stakeholders by using all the dialogues and discussions from research data. Through this map; feelings, needs, pains and gains of each stakeholder was recorded. This resulted in uncover interesting insights for further development.

4.3 Design directions

4 key insights were derived from the synthesis maps. These insights were translated into design directions by reframing them as "How Might We" questions. The Field Guide to Human-Centered Design toolkit by IDEO was used for this. The format of 'How Might We' questions suggests that a solution is possible and offer the chance to answer them in a variety of ways. It doesn't suggest a particular solution, but gives the perfect frame for innovative thinking (The Field Guide to Human-Centered Design, 2015). These 4 directions are listed below in Table 3.

Direction	Consumer psychology	Value engineering	Ergonomics	Sustainability
Insight	Customer's experience of unboxing and using the machine is not remembered.	The material and energy of the package is not used to the fullest.	Mishandling and damages happening during the transit.	EPS ending up at landfills and polluting the environment.
"How Might We" question	How might we redesign the package to make it user friendly and emotionally durable?	How might we redesign the package so that it can be used efficiently?	How might we redesign the package to avoid any impairment to its value during transit?	How might we redesign the package avoiding use of EPS?

Table 3. Design directions.

5. Ideation

In complex systems where there are a lot of considerations and constraints to be taken care of, developing solution becomes challenging. Different tools and methods were employed to produce ideas and to navigate and filter through them. The idea bank created during research and synthesis phases served as a starting point for this process. Conversations and feedback were also a central part of this.

5.1 Ideation themes

For rapid generation of ideas, themes for ideations were made which is shown in Figure 4. These themes were created from the synthesis data and idea bank. They are subsets of the design directions defined before. For example, mono-material, easy disassembly, co-creation, emotional durability etc.

Creation of themes can help in bringing out unique and diverse ideas. Ideating on each of these themes helped in clustering and cross fertilization. More than 160 variegated ideas were generated by this method.

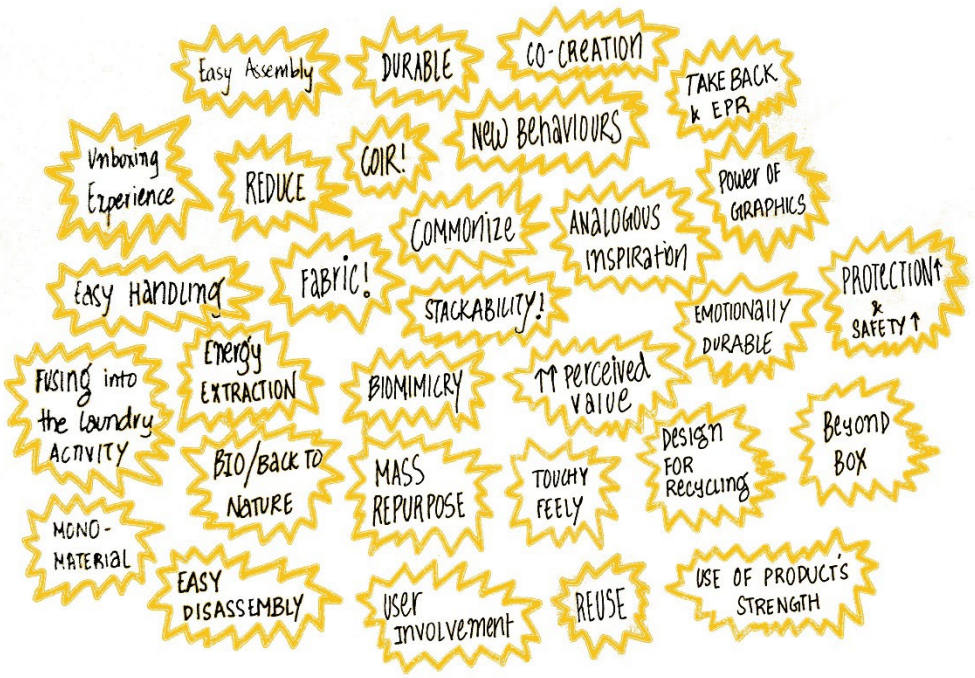

Figure 4. Ideation themes.

5.2 Bundling ideas into refined concepts

After rapid generation of ideas, it was time to combine them into robust solutions. 'Bundle ideas' from 'The Field Guide to Human-Centered Design' toolkit was used for this. Bundling ideas takes you from strong individual concepts to solutions of substance. Best parts of several ideas were put together to create refined concepts. Trying different combinations, keeping the best parts of some, getting rid of the ones that aren't working and consolidating thoughts helps in creating concepts that are ready to share for feedback (The Field Guide to Human-Centered Design, 2015). Best parts of several ideas were put together to create 6 refined concepts which are explained in detail later.

Figure 5. Bundling ideas into refined concepts.

5.3 Refined concepts

Bundling of ideas generated 6 concepts with different levels of feasibility and impact. These concepts are explained below.

Concept 1: Reuse and recycle system
A reuse and recycle system wherein after installation of the machine at home, installation technicians will take back all packaging parts to local IFB store/warehouse to segregate them into collection boxes. All these parts will have an indication about its material, facts about recycling and recommended method of disposal. From there the EPS packing cushion and plastic jacket which are not worn out will be taken back to IFB's factory for packing other machines whereas the corrugated box and straps will be sent for mass recycling directly to a trusted recycler. Some of the other features are simple visuals of the machine on all sides of packaging to indicate its orientation. This can result in better handling of the machine. A personalized message on sealed tape adds to the customer's unboxing experience. Simple yet noteworthy indication to separate different sizes of machines can greatly help in assembly line as well as in segregation after installation. Additional crease lines on box allows for folding and unpacking of box at once. EPS cushion is redesigned to be stackable so that it can interlock with each other and other packing parts to form a compact easy-to-carry shape for take-back.

Concept 2: Air-cushioned fabric packaging
This polyester based fabric packaging will have removable air cushions that can be reused multiple times. Because it is flexible, it can easily accommodate different sizes of machines in a common packaging. As it is made of polyester, it can be fully recycled at the end-of-life. As it is a single piece packaging, assembly time is reduced. In-built fabric handles makes it convenient to carry. After

installation the air cushions can be deflated, removed and taken back for reuse/recycle. The fabric cover can be repurposed as protective cover/ laundry hamper at home by customers and later recycled. Modularity of this design helps in easy replacement and repair.

Concept 3: Coir packaging with reusable bag
The packaging cushioning will be made with eco-friendly material like coir foam. It is designed to be stackable so it saves space during transportation. This coir cushioning can be reused or composted. The straps are replaced by coir ropes which doesn't break while handling. The inner protective drawstring bag protects the machine from environment and can be easily re-purposed by customer as protective cover, laundry hamper or storage bag. The outer corrugated packing box comes with a message for spreading awareness on sustainability.

Concept 4: Sensory experience-based packaging
The packaging is designed keeping in mind the senses. The packing box is made in such a way that it can be repaired and reused. The repairing can add to the uniqueness and beauty of packaging.
Crushed paper is placed on fragile areas of machine which serves two purposes. Firstly, it alarms people during rough handling of the machine with the sound of crushing. Secondly, this sound can add to the customer's excitement during unboxing. The reusable EPS packing cushioning is made of higher quality material which takes up less space and provides better cushioning.

Concept 5: Mass repurpose and sharing stories
The idea is to have a reusable and DIY packaging with a platform to share and learn. It incorporates co-creation and user involvement. Beyond its function to protect the machine, the packing box and EPS cushioning will be designed in such a way that it can be upcycled into different useful objects. It basically functions as a modular construction unit to explore reuse possibilities. The guidelines and direction on the packaging makes it easy to understand and build by everyone. This idea can be expanded into current IFB app and website. This will provide a platform for customers to learn, watch tutorials and share their reuse stories; thereby building a good customer-brand relationship.

Concept 6: Compostable packaging
This packaging consists of cushioning made of biodegradable material like coir/paper pulp. It comes with a reusable plastic jacket. The corrugated packing box can offer more by having a narrative printed on it which can build interest and awareness among customers. There will be tear lines on the box to fold and turn it into a box for storage. The straps will be replaced by coir rope which is eco-friendly and easy to handle. Compostable cushioning of coir/paper pulp will be implanted with seeds of useful plants. After unboxing, it can be broken into small units which can be planted into pots or put in the soil. High water-retention capacity of material like coir can help in growth of the plant.

All these ideas were then critically analysed with a set of questions. Circular Opportunities worksheet from Circular design toolkit served as a reference in building the questions for analysis (Circular Opportunities worksheet, 2016). This analysis is shown in Table 4.

Concept	**Concept 1** **Reuse and recycle system**	**Concept 2** **Air-cushioned fabric packaging**
Solution	Zero waste packaging system wherein all parts are reused or recycled.	Reusable and recyclable packaging that protects the machine with air instead of EPS.
Would this solution improve the customer experience?	• The 'welcome' message will add to the unboxing experience • Customers won't have to worry about disposal / storage of the packaging	• Provides reusable solution • Facilitates hassle free unboxing • Customers won't have to worry about disposal / storage of the packaging
What would this solution require that doesn't currently exist?	• A system for take-back and collection / storage • Recycling tie-ups • Reuse / repair needs	• New material • New suppliers and infrastructure • Take-back and repair system
How might this affect the business strategy and financial needs of the company?	• A 'responsible' brand image • Cost saving in long term	• One-time investment which can be cost saving in long term • Easy assembly and single size. • Improves brand relationship
Who will be the collaborators of this solution?	• Technicians, customer, segregators, collectors, recyclers, people in transportation / loading	• Technicians, customer, new manufacturers, take-back support
What's the next step to implement this?	• Redesign of packaging parts • Establishing the system	• Redesign with the new material and development • Sorting the system and logistics

Concept	**Concept 3** **Coir packaging with reusable bag**	**Concept 4** **Sensory experience-based packaging**
Solution	Replacing EPS with an eco-friendly material and promoting its use.	Unboxing experience to remember along with better protection.
Would this solution improve the customer experience?	• Giving reusable bags as accessories • Hassle free unboxing • Customers won't have to worry about disposal / storage of the packaging	• Involving senses in unboxing experience • No hassle of disposal / storage
What would this solution require that doesn't currently exist?	• New material infrastructure, manufacturing facility, take-back and repair system	• Take-back and repair system • Changes in assembly line
How might this affect the business strategy and financial needs of the company?	• Cost saving in long term • Building brand relationship • Helping in development of an eco-friendly industry	• Building good brand image • Cost saving by reusing
Who will be the collaborators of this solution?	• Technicians, Coir board, repairers, customer, people in packing line, bag manufacturers	• Technicians, customer, repairers, people in take-back system
What's the next step to implement this?	• Redesign with coir cushions and protective bag • Establishing the system	• Redesign of packaging • Establishing the system

Concept	Concept 5 Mass repurpose and sharing stories	Concept 6 Compostable packaging
Solution	Repurposing culture at customer level, spreading awareness, prolonging the useful life of materials.	Packaging that goes back to nature by involving customers in this activity.
Would this solution improve the customer experience?	• VR and gamified unboxing • Pride in making • Awareness on upcycling	• Narrative on the packaging • Tear and reuse solution • Building new behaviour and inspiring change
What would this solution require that doesn't currently exist?	• Mass repurpose sharing platform • Changes in manufacturing	• New material redesign • New infrastructure
How might this affect the business strategy and financial needs of the company?	• Building great brand-customer relationship • Building sharing platform	• Building good brand-customer relationship • Helping in development of an eco-friendly industry
Who will be the collaborators of this solution?	• Customer, technicians	• Technicians, customer, manufacturers, people in packing
What's the next step to implement this?	• Redesign of packaging with reusable solutions • Building the platform for sharing stories for customers	• Package redesign and R&D • Setting up of the new infrastructure and training

Table 4. Analysis of refined concepts.

5.4 Trends

One of the outcomes of this project was a set of solution trends for sustainable packaging. The concepts described earlier are also summarized into these trends. These 6 key trends are as follows:

1. Take-back & recycle system
2. Mono-material
3. Eco-material
4. Sensory experience based
5. Upcycle
6. Compostable

These trends can be effectively used as inspirations for developing solutions in similar systems project.

6. Discussions

The refined concepts (section 5.3) were discussed with the stakeholders of the system to receive holistic feedback. Receiving feedback from people with diverse backgrounds gave multiple perspectives on the concepts. These discussions can be summarized into three points inspired from IDEO's Human-centered design chart (The Field Guide to Human-Centered Design, 2015).

1. **Desirability (people-planet):**

It is very important to consider what reward the end user is getting from the new solution. Most of the concepts were centred on the customer. It is very important to consider levels of interaction, unboxing experience and aspiration of the customer. The concepts were directed towards building a collective

behaviour towards waste disposal and upcycling. But building behaviours takes time, so it is very important to start off with a slow and easy change. The fun, diy and story sharing aspects of the concepts can help in this transition. Also, working on desirability of the solution opens up opportunities to build good brand relationship.

2. **Feasibility (technology):**

Ideas involving the use of alternative material like coir / paper pulp were appreciated. They are aimed at replacement of the EPS in the packaging. These solutions have the potential to change the future of appliance packaging. The challenge is the research and development of these material and creation of new infrastructure. Collaborating with the other organisation with knowledge and expertise in this field can speed up this process. These kind of solutions can have great long-term results.

3. **Viability (business):**

Considering pan-India implementation of the solution, logistics plays a key role. Cost is a very important aspect of packaging design. In mass manufactured products, it is very important to optimize the packaging to communicate and protect. Customer-brand relationship is also a key driving factor for business. Adding value through innovative concepts can help to make the brand stand out. The key is to design a sustainable alternative that delivers great experience with minimum to no change to the current infrastructure.

The best approach is to build solutions that helps to achieve both, short term and long term goals. Bringing change immediately is vital even if it is a small step. Simultaneously, considerable attention should be given in the development of concepts that connect the dots and belongs to a circular lifecycle.

7. Conclusion

Over 65% of consumers are worried about climate change but they are unclear on how to engage on this critical issue. This initiative brings private, public and civil society actors together to accelerate the cultural and market shift that addresses climate change ("Consumers and Climate Change", 2020). This is going to require a lot of knowledge and expertise. Case studies like this can be of great help in guiding and providing inspiration to designers and researchers working on such wicked problems.

This project showcases systemic design as a powerful tool to navigate through wicked problems. Following a systemic design approach can help to build holistic and future-proof solution to any problem.

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