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TRANSCENDING BOUNDARIES - DESIGN EDUCATION FOR SOCIAL INNOVATION.

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**KEYWORDS | TRANSDISCIPLINARY, DESIGN EDUCATION, PEDAGOGY, SOCIAL INNOVATION,
CLIMATE CHANGE**

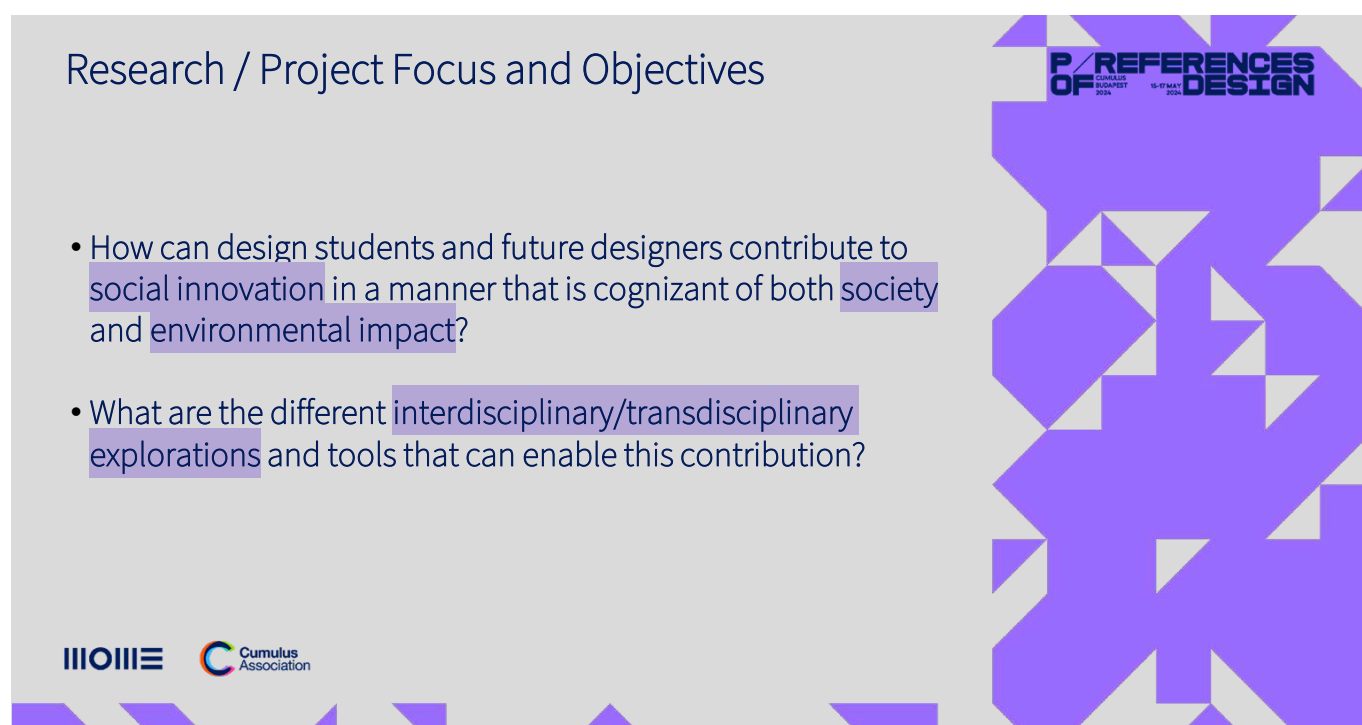
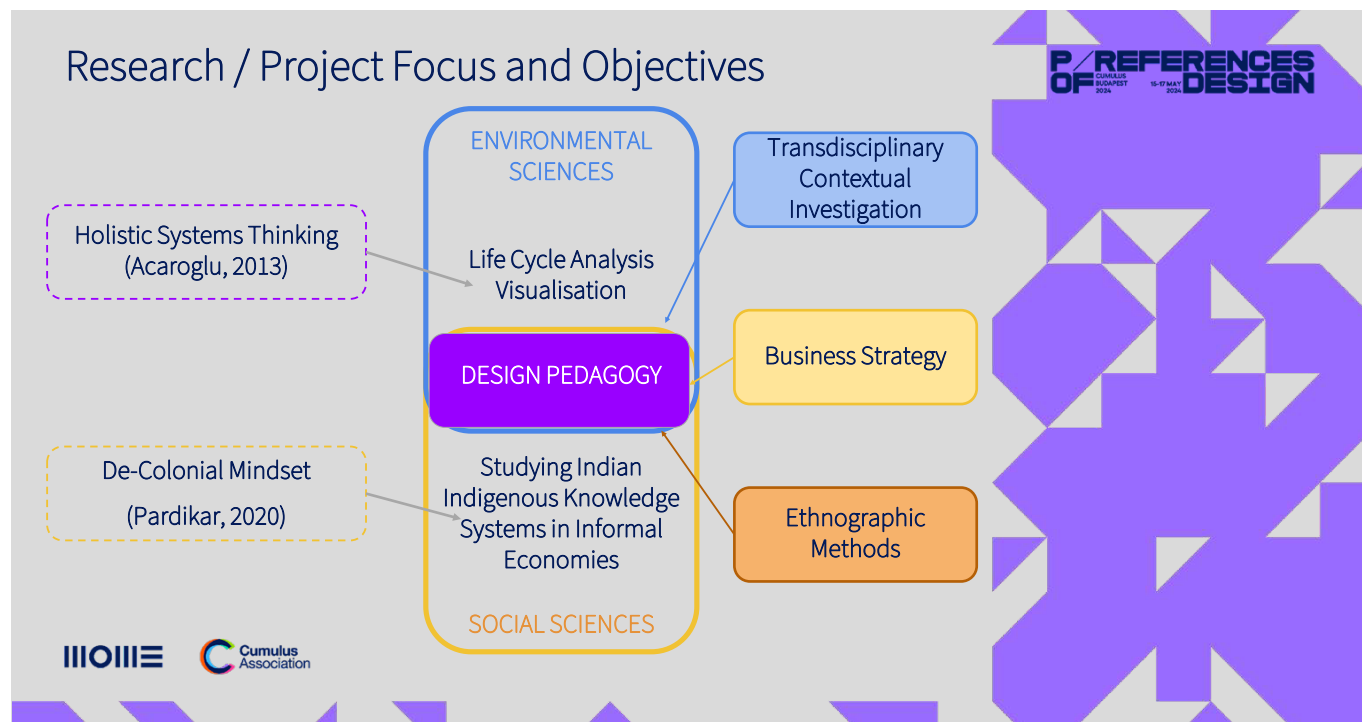
ABSTRACT | With exponentially growing global concerns about climate change, the responsibility of mitigating climate change is an emergent focus area in design studies. Thus, there is a growing critique of hyper-specialization and disciplinary education in design (Bremner & Rodgers, 2013). Acaroglu (2013) highlights the dangers of this silo-sized, disciplinary design thinking without understanding holistic systems, which can lead to a huge environmental impact. Additionally, while countries in the Global South are most impacted environmentally and socially by climate change, they are underrepresented in mainstream literature (Pardikar, 2020). Research on the nascent wisdom and extensive knowledge within informal economies of countries like India are also under-represented (Ohnsorge & Yu, 2022). This paper proposes a pedagogy that departs from these norms and advocates a radical reframing of design pedagogy by integrating systems thinking transdisciplinary, and social consciousness for sustainable social innovations. In line with the track “Converging Bodies of Knowledge,” it positions design education as a bridge between Life-Cycle Assessments (LCA) from environmental sciences and the study of social networks and community well-being, situated in social sciences and sociology. It answers the following important questions:

1. How can design students and future designers contribute to social innovation in a manner that is cognizant of both society and environmental impact?
2. What are the different interdisciplinary explorations and tools that can enable this contribution?

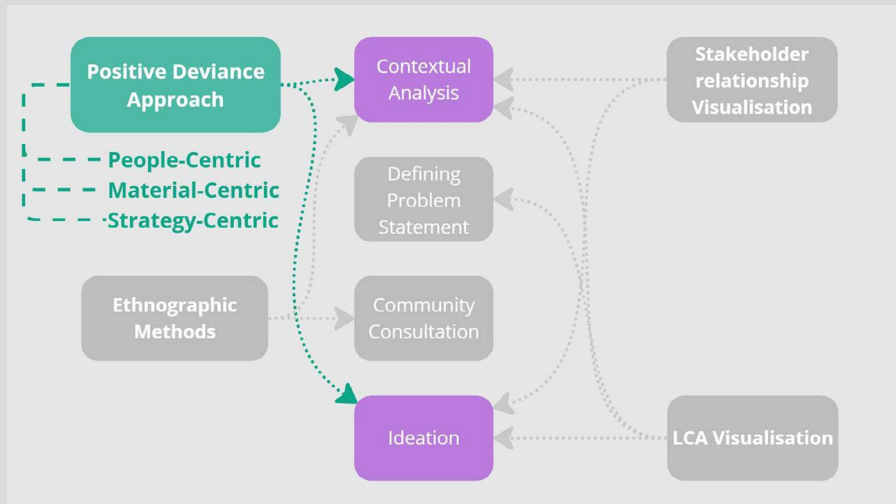
The pedagogy presented here is a composite framework comprising methods from two studios facilitated by the authors, namely “Managing Waste” and “Making That Matters” at Srishti Manipal Institute of Art, Design & Technology, MAHE, Bengaluru. It employs a four-pronged strategy to achieve its objective.

1. LCA Visualisation - Tools for visualizing LCA research papers as diagrams that can be used to easily identify opportunities for design contribution and intervention. This also promotes interdisciplinary collaboration and understanding.
2. Stakeholder relationship visualization - Existing models of stakeholder diagrams do not sufficiently visualize stakeholder networks, power relationships, and stakeholder-to-process relationships. An extensively detailed methodology to cover these gaps is introduced.
3. Interviews and ethnographic methods - Methods such as photo elicitation and interviews are encouraged to understand relationships and social networks. The importance of social networks, especially in informal economies for which they serve as an important driving force, is primarily recognized in sociological studies (Lomnitz & Sheinbaum, 2004). This perspective is brought into the design studio.
4. Positive-Deviance Approach or Ideation Through Observation - As appreciative inquiry (Cooperrider & Whitney, 2005), students are encouraged to identify positive outliers and build or scale them up (Baxter & Lawton, 2022). These positive deviances are categorized into three groups - people-centric, material-centric, and strategy-centric.

The paper presents student work from the two studios to demonstrate the strengths of this pedagogy. This resultant pedagogy can be applied in interdisciplinary design research studios at different levels of education. Additionally, one of the studios rooted in real-world issues and the physical context of Bengaluru, India, offers two more directions for this research, namely the decolonization of social innovation studies in the Global South and the possibilities for applications of this pedagogy by system designers in their practice. The paper also provides tools for applications of this pedagogy.

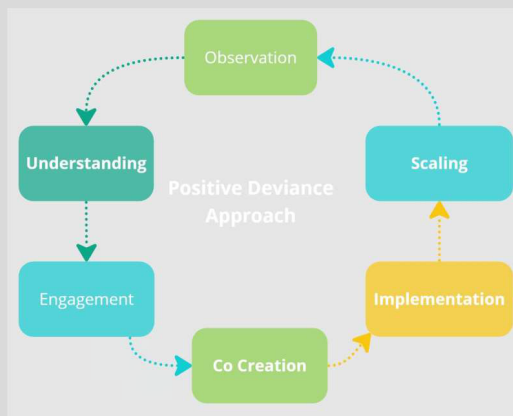


Pedagogical Framework



Positive Deviance Approach

- The positive deviance approach is a method that focuses on finding and amplifying beneficial behaviors and practices with the goal of producing positive outcomes for the community as a whole.
- This cyclical process that was utilized in the studio at critical stages of the design process - research, ideation and validation.



Positive Deviance Approach

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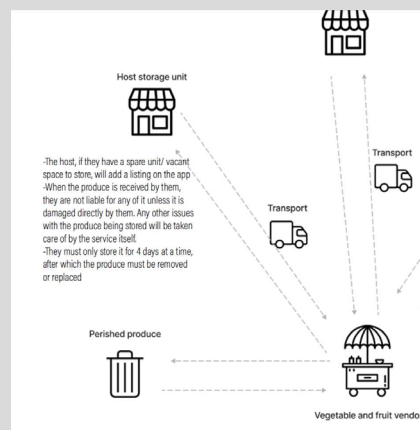
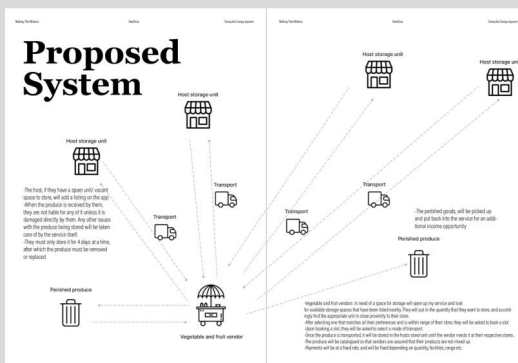


Student Work - by Samyukta Jayaram, Srishti Institute of Art, Design & Technology



Positive Deviance Approach: Solutioning

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Positive Deviance Approach

Positive Deviance



Tejal Keyur Textiles

Uses sarees to make products

Old and torn sarees out to make yarn

They make crocheted bags out of scrap fabric

Women of the village who are predominantly skilled in the art of crochet help with the making of the bags



Oh Scrap! Madras

Uses tailor waste to create products

They make garments, toys and jewellery out of Scrap fabric

They train women to make their products and help them generate revenue for themselves

Most of the women are either already skilled in the basics of sewing



Joy at Work

They upcycle tetra packs and scrap fabrics to make products

Gives women work opportunities and trains them to make their products

They aim to earn their beneficiaries out of the business and use materials that cost less



Let's Save AS

They use tailor waste to create patchwork garments

They have their own tailors that help them create a closed looped system with the scrap fabrics

They aim to Make all of their garments with zero wastage and take their brand forward with that motto



Joy at Work

They upcycle tetra packs and scrap fabrics to make products

Gives women work opportunities and trains them to make their products

They aim to earn their beneficiaries out of the business and use materials that cost less

Student Work by ALVITA ANUSKA FERNANDES, Srishti Institute of Art, Design & Technology



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Positive Deviance Approach: Solutioning

Final Prototyping

Patchworks are symphonies made from really interesting pieces of fabric. I planned to develop a product line once I had finished the patchworks. I decided to use the final 4 iterations and 2 yardages by Mr. Tabreez to create clothing because I have a keen interest in fashion and sewing. I considered creating zero waste clothing using the 40" by 40" patchworks we created because the project is focused on scrap fabric. I learned a lot through this process. Even though there were ups and downs and frequent adjustments, it was all worthwhile in the end.

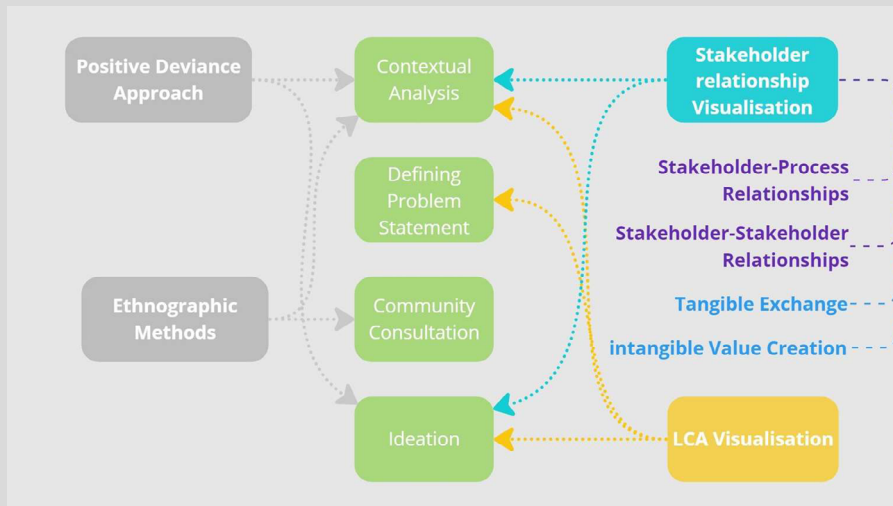


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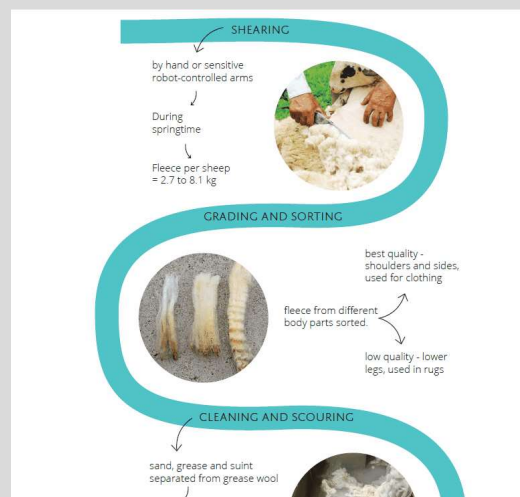
Pedagogical Framework



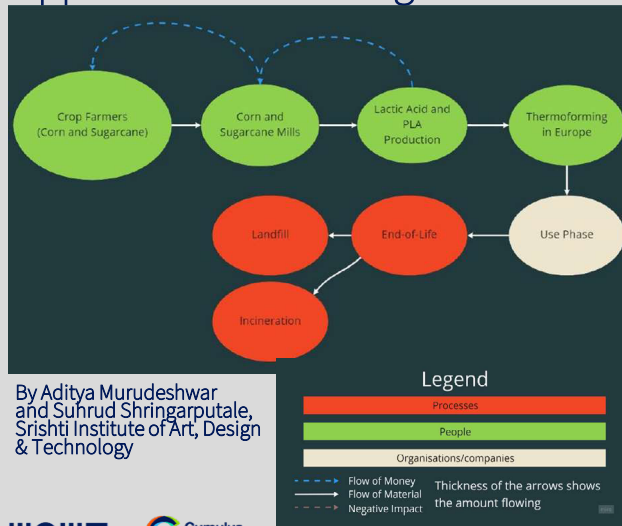
LCA Visualisation as a Tool to Identify Opportunities for Design Intervention

Tools for visualizing LCA research papers as diagrams that can be used to easily identify opportunities for design intervention. This also promotes interdisciplinary collaboration and understanding.

By Kasturi Pathak, Srishti Institute of Art, Design & Technology

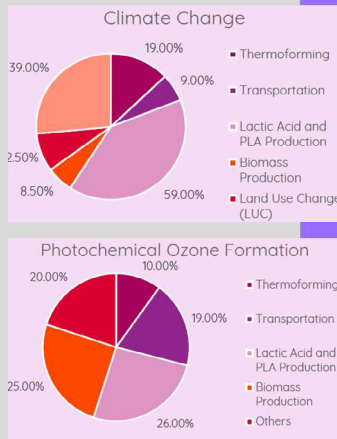


LCA Visualisation as a Tool to Identify Opportunities for Design Intervention



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Aditya Murudeshwar and Suhrud Shringarputale's LCA understanding clearly depict the harmful effects of various parts of the product's lifecycle (such as thermoforming, disposal etc.) on the environment through visualisation of "impact categories" such as climate change and Photochemical Ozone Formation.



LCA Visualisation as a Tool to Identify Opportunities for Design Intervention



Student Work by Aditya Murudeshwar and Suhrud Shringarputale, Srishti Institute of Art, Design & Technology

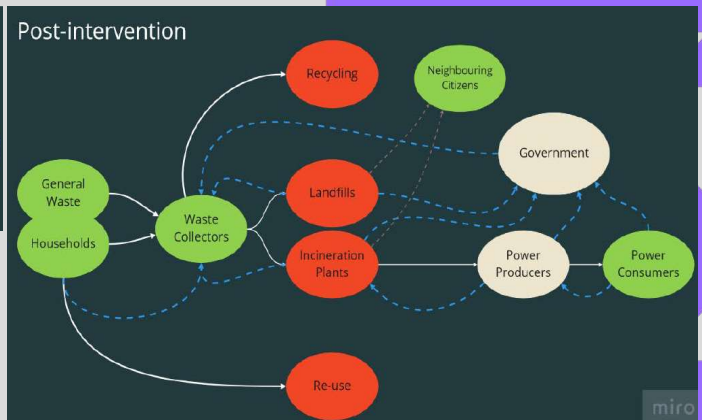
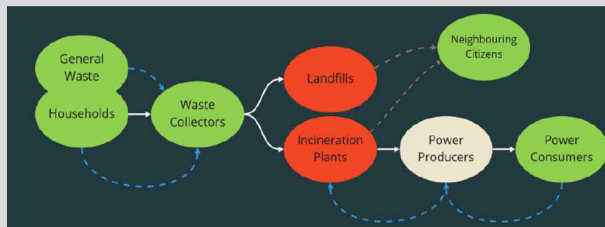


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Aditya Murudeshwar and Suhrud Shringarputale's then analysed the environmental impact of alternative material "NOTPLA" to demonstrate how it did away with harmful processes such as thermoforming and incorporated biodegradation as a end of life process.

LCA Visualisation as a Tool to Identify Opportunities for Design Intervention

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Student Work by Aditya Murudeshwar and Suhrud Shringarputale, Srishti Institute of Art, Design & Technology featured above highlights how government taxation changed the whole system of waste disposal surrounding PLA cups



Evolution of Stakeholder Visualisation Techniques

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Existing models of stakeholder diagrams do not sufficiently visualize stakeholder networks, power relationships and stakeholder-to-process relationships. An extensively detailed methodology to cover these gaps is introduced.

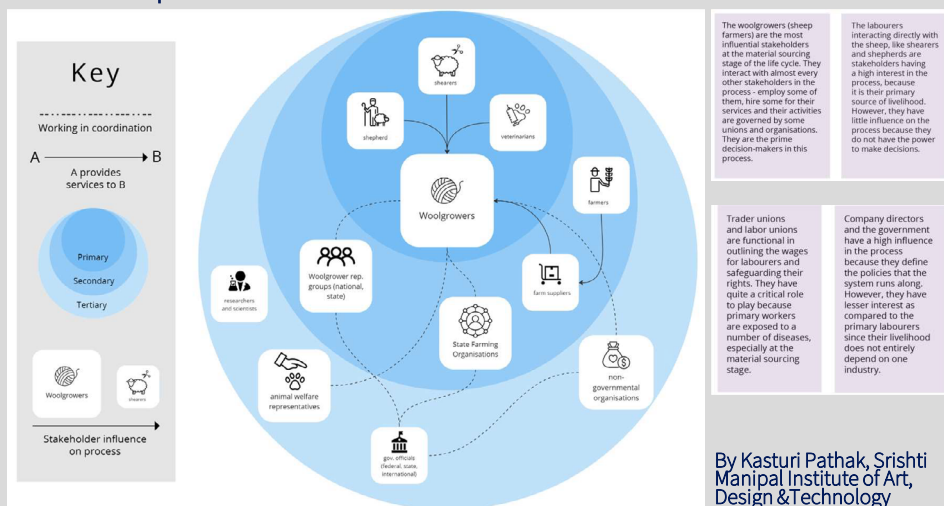
	Primary/Secondary/Tertiary	Processes?	Relationship to Process	Stakeholder Impact on Process	Process Impact on Stakeholder
Stakeholder 1					
Stakeholder 2					
Stakeholder 3					
Stakeholder 4					

Stakeholder mapping framework by Lakshmi Srinivasan

	Stakeholder 2	Stakeholder 3	Stakeholder 4	Stakeholder 5
Stakeholder 1				
Stakeholder 2	X			
Stakeholder 3	X	X		
Stakeholder 4	X	X	X	



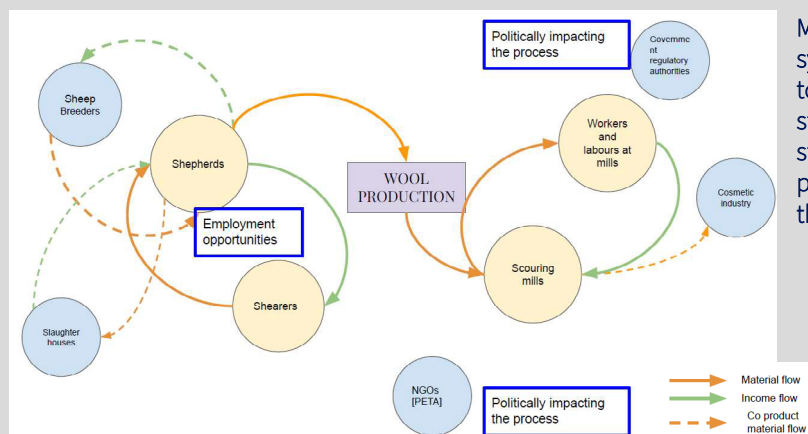
Evolution of Stakeholder Visualisation Techniques



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Future Directions

Expansion to Global South contexts:

Further investigation and adaptation of the pedagogical framework to address environmental and socioeconomic concerns specific to Global South countries, taking into account their distinct circumstances, informal economies, and various cultural landscapes.

Decolonization of Design Education:

Learn more about decolonization efforts in design education, particularly in the Global South, by focusing on indigenous knowledge, views, and practices for addressing sustainability and social innovation challenges.

Integration of Indigenous Wisdom:

Indigenous wisdom and traditional ecological knowledge are incorporated into the pedagogical framework, acknowledging the importance of local traditions in supporting sustainable solutions and community resilience.

Enhanced Community Engagement:

Improving community engagement tactics within the educational approach, encouraging closer collaboration with local stakeholders, grassroots groups, and marginalized populations to co-create solutions that address their particular needs.

Scaling and Dissemination:

Investigate strategies for expanding and disseminating the pedagogical framework beyond academic institutions, such as collaborations with government agencies, non-governmental organizations (NGOs), and industry stakeholders, to apply the approach in real-world contexts and amplify its impact on long-term social innovation.



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Speculative Perspectives
The Power of Immersion
The Future of Well-being
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