Obermeyer's Sustainable Future;

Achieving 75 more years of Business

By: Michelle Dunn

Systems Thinking

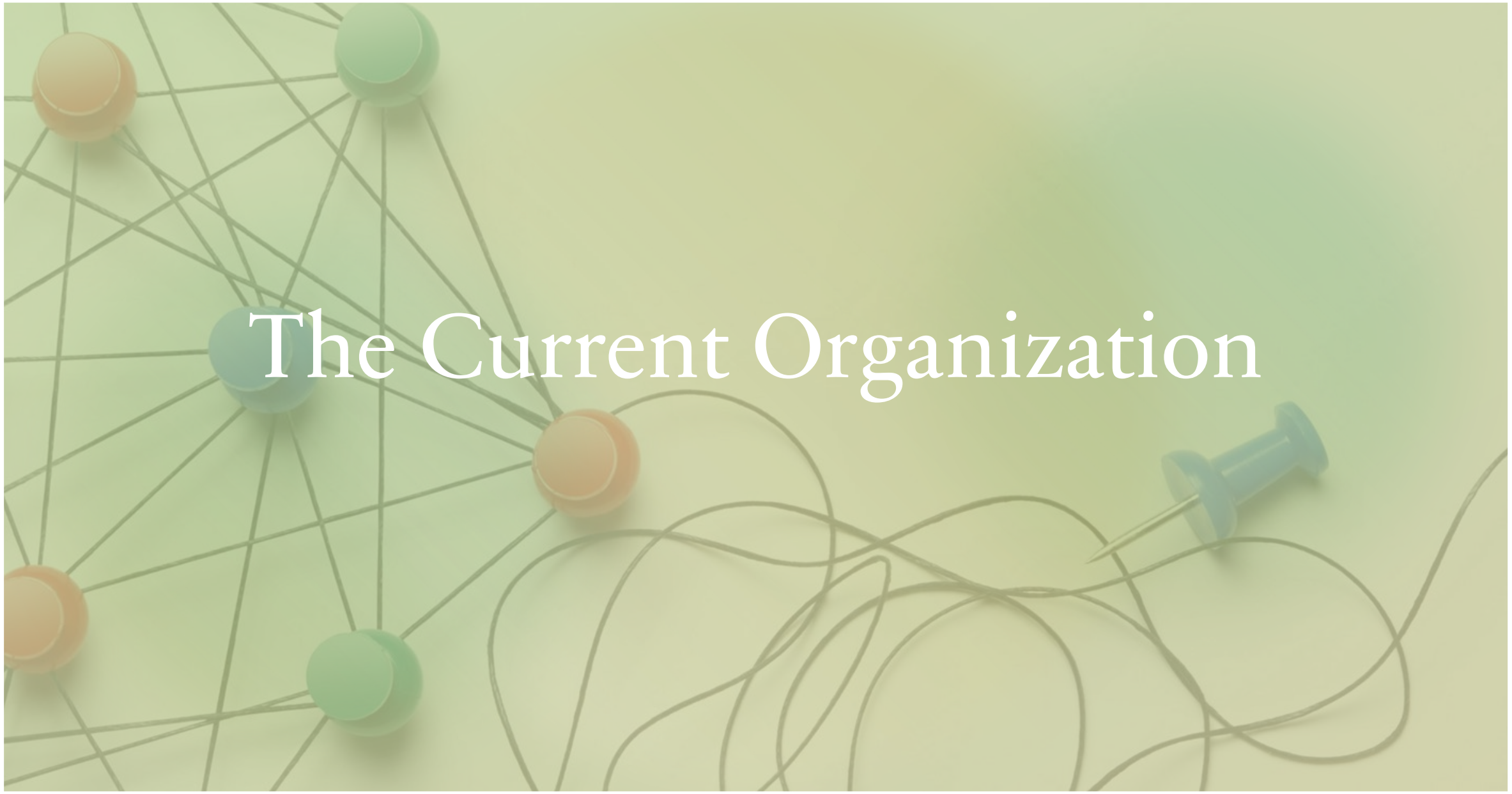
Fall 2021

“WE MUST STEP LIGHTLY ON THE PLANET, WE ARE ONLY HERE FOR A SHORT PERIOD OF TIME AND IT'S NOT RIGHT TO DESTROY SOMETHING WHICH GIVES US SUCH GREAT BEAUTY AND ASKS FOR NOTHING IN RETURN" -**KLAUS OBERMEYER**

Obermeyer Overview

Our reason for being began 74 years ago. Klaus Obermeyer founded Sport Obermeyer to make clothing for the outdoors so people would have fun and enjoy those moments of happiness and share those experiences with friends and family. We strive to be the preferred apparel resource for people who seek joy by sharing the skiing experience with friends and family.

Obermeyer exists to make skiing easier and more fun. Our intent is to develop products and customer services that make the complicated, easy; the uncomfortable, comfortable; the serious, light-hearted; the expensive, affordable; and the short-lived made to last.


The Current Organization

Multi-Point System Views

Hierarchical Process

Business

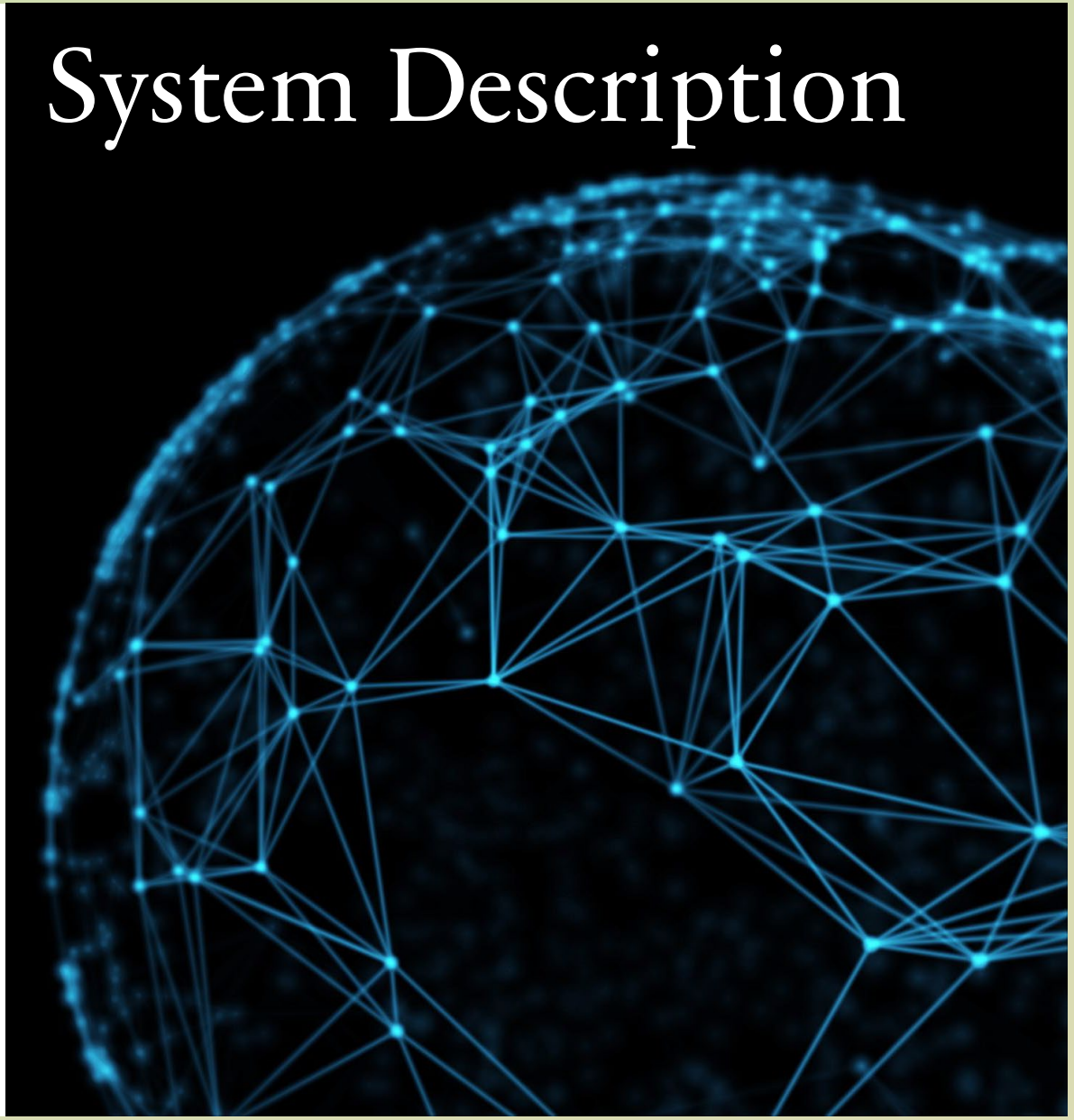
Network

Cultural

Stock & Flow

Environmental

System Description



Supersystem:

In this system, we are analyzing the overall impact of the fashion industry on the environment. Further, we are looking to analyze the outside pressures that keep the fashion industry from moving to more sustainable practices when the knowledge and technology exist for alternatives. The final boundary of the super system is the idea of consumerism, with its input of psychological pressures to "buy" happiness, and the output of detrimental effects to the planet and its people.

Subsystems (Inputs):

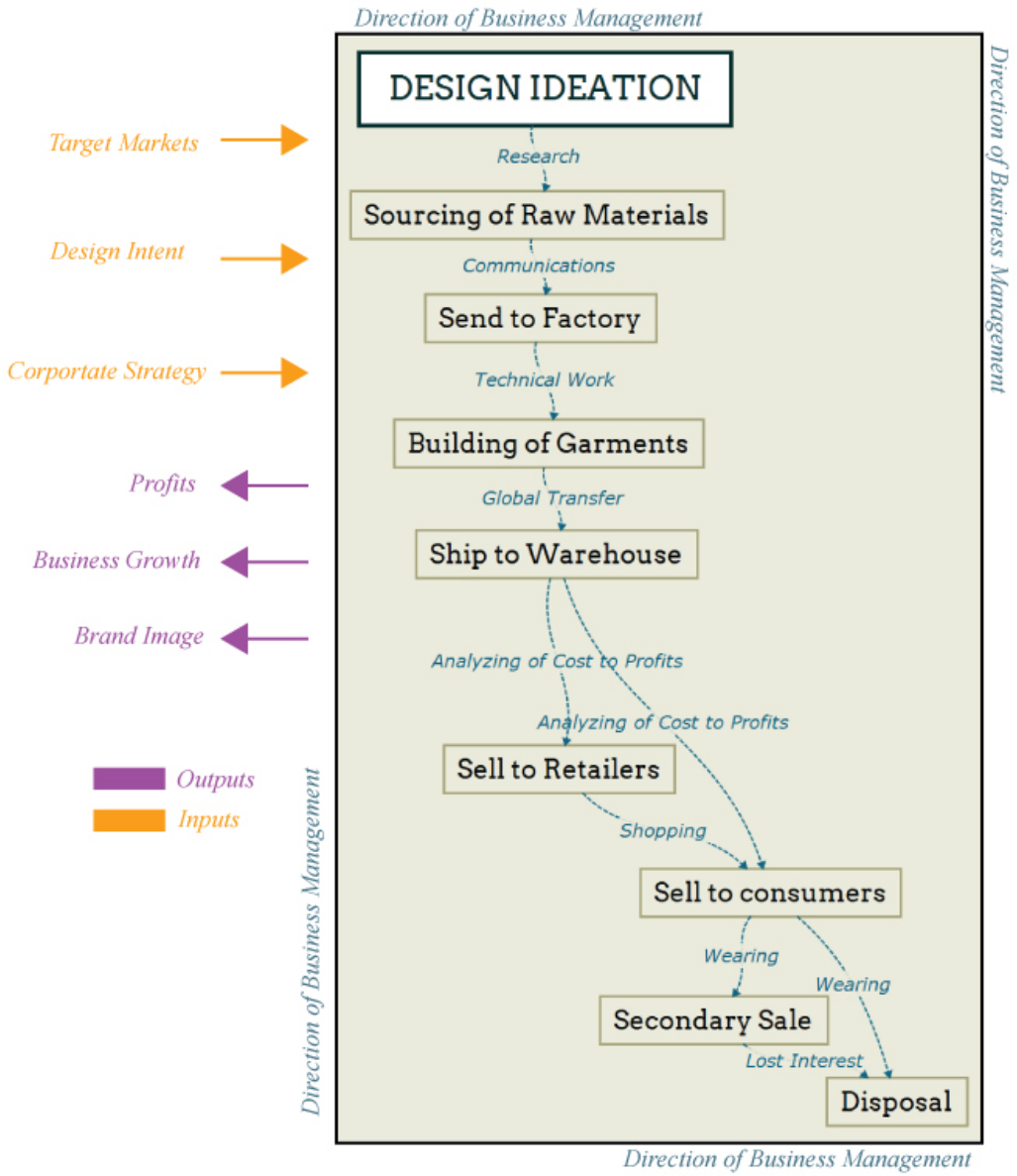
These subsystems include both the cultural views of the fashion industry, as well as a view of the fashion industry from a business perspective. We address the avoidance of sustainable fashion due to factors such as cultural demand for current trends and a psychological need to fit in. From a business perspective looking at a consumerism economy that pushes product and annual corporate profit growth.

Boundary & Outputs:

The boundary to this system would be circularity within this single industry. Other industries have their own sustainable practices to address as well. The output to this super system is improved environmentally friendly practices that aide in saving our planet. Additionally, an output would be acknowledging that environmentally friendly practices not only save the planet, but allow for a more sustainable industry, while still allowing for the core element of fashion to exist- which is allowing for freedom of personal artistic expression. Environmentally friendly practices do not have to equate to doing away with why fashion exists.

Components & Connections:

Components of this system include the practices of the fashion industry that create negative impacts on the environment, as well as looking at the positive alternative that could replace or remove these negative impacts. We connect these negative impacts to how/what/where they impact the environment. Looking at use of resources, labor impacts, carbon emissions, etc. We can see that there are several elements of pattern within this system including a hierarchy (business view subsystem), a network (cultural view subsystem), and a stock and flow (environmental system).



Description:

For this view of the fashion industry, we are strictly looking at the process for development within a company.

Boundary/Inputs/Outputs:

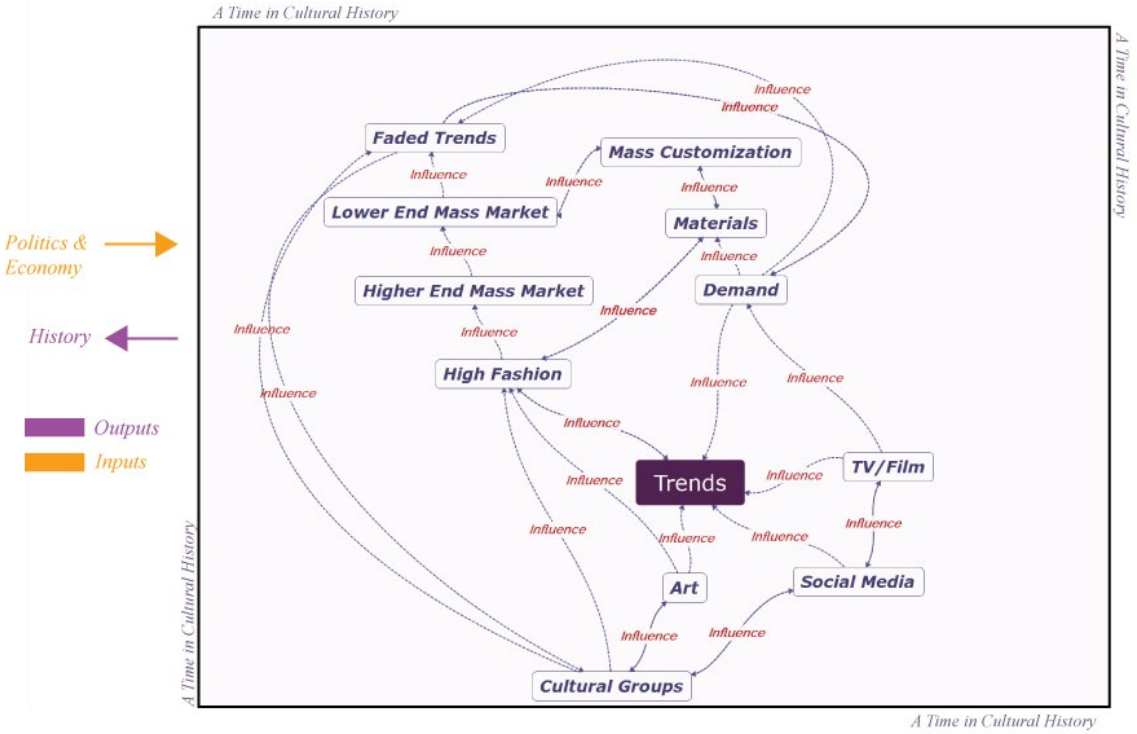
The boundary of the system is the direction from the business management. These inputs can include growth strategies, design intent, target markets, budgets, etc. The final output is profits as well as brand image of the business.

Elements:

Within this system, we move from the beginning of the development process to the end result of product to the hands of the consumer. The design ideas are created, giving sourcing direction for raw materials, which are then sent to factory for building of the garments. Garments are then shipped to some sort of warehouse, which then the product can be sold to the consumer directly, or through another retailer, which is then sold to the consumer. After the consumer is done with the garment, garment could either be disposed of, or resold into the secondary market, and then later disposed of from there.

Business View

(Hierarchical Process)



Cultural View

(Network)

Description:

For this view of the fashion industry, we are looking at the network of cultural influences that drive trends in fashion, and conversely how fashion itself also influences culture.

Boundary/Inputs/Outputs:

The boundary of the system is the general idea of fashion as an element of culture. This reflects anything that may have an influence of fashion trends. It is a place in time of cultural history. Some inputs to these cultural elements include politics and the economy. The output is a mark on cultural history.

Elements:

Within this system, there are so many elements that connect to each other, and influence other elements. For instance, trends that influence fashion can be social media, tv, art, cultural groups, etc. However, fashion trends can also eventually influence social media again, to fuel future fashion trends. This system is also built around the idea of the "trickle down theory" of fashion, where high end designers create new fashion, and then through time influences lower and lower levels of mainstream fashion.

Description:

For this view of the fashion industry, we are looking at the impact to the environment.

Boundary/Inputs/Outputs:

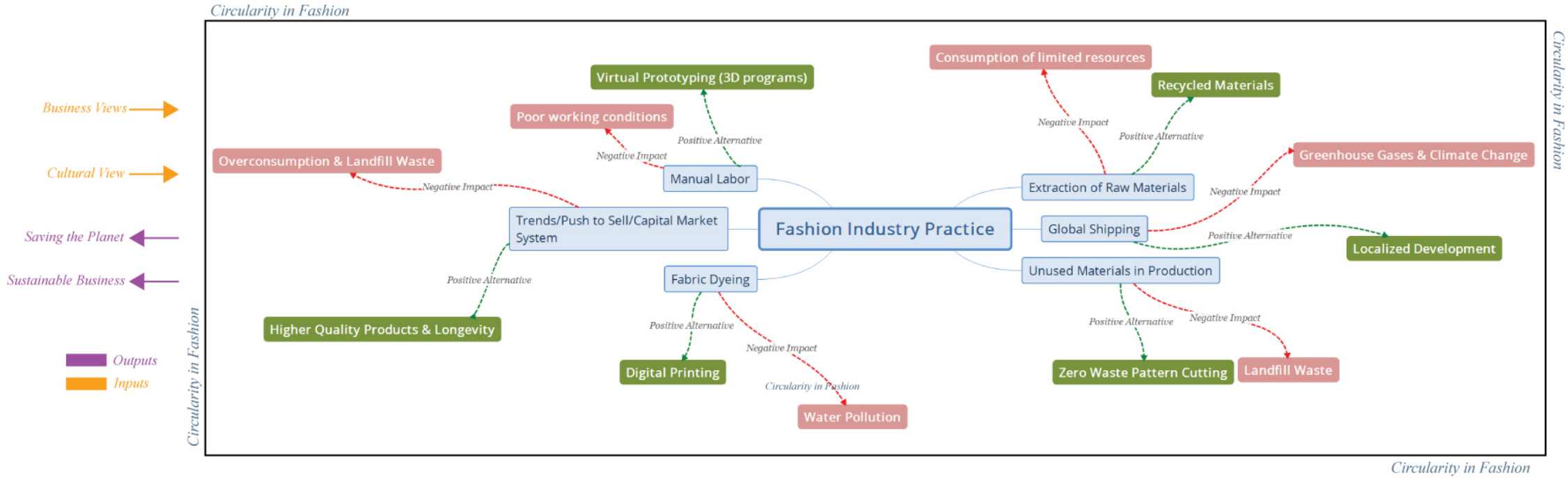
The boundary of the system is circularity within fashion (or the lack there of). The focus is calling out of an element to fashion development, its current negative impact (or output), and what could be a more positive alternative (or input) in its place for a more natural, circular practice. The inputs of this system are the impacts of business and culture that keep the fashion industry from becoming more sustainable. The output to a circular fashion industry includes saving the planet, and more sustainable business practices.

Elements:

The main elements of this system include the extraction of raw materials, shipping of product globally, material waste, the push towards consumption, and labor practices.

Environmental View

(Stock & Flow)



Consumerism

Consumerism

Saving the Planet/
Kind to the Environment

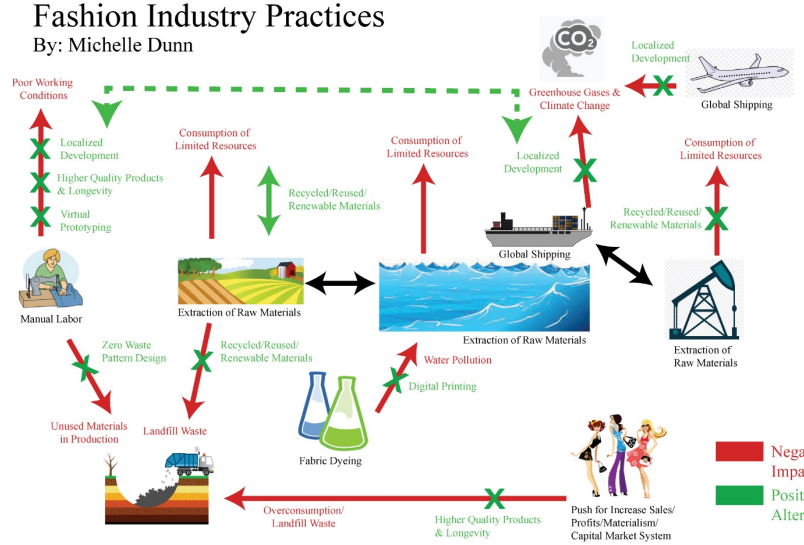
(Output)

Business View

(Input)

Circularity in Fashion

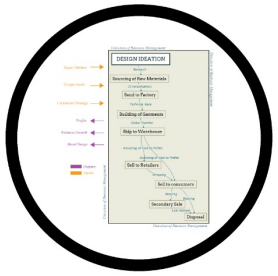
Fashion Industry Practices
By: Michelle Dunn



Circularity in Fashion

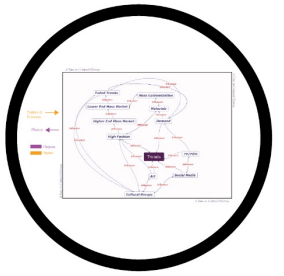
Circularity in Fashion

Subsystem



(Output)

Sustainable Business
while keeping personal
artistic expression



Subsystem

Cultural View

(Input)

(Output)

Detriment to Planet
& People

Psychological search
for happiness

(Input)

Consumerism

Consumerism

Super
System


The Future Organization

The Goal for Change

The vision for this project, is to address sustainability within the organization of Obermeyer. How do we transform a business from its current business operations to a forward- thinking sustainable future?

The company culture supports social responsibility, so what is standing in our way of operating in more sustainable business practices?

Rich Picture:

75 years more of Business

Picture Elements:

- Klaus (CEO) and what he stands for
- Sustainability overall as a concept
- Our competition's stance on sustainability from a PR perspective
- Factories and rising cost of overseas business
- Michelle & her passion for the business and the drive to make change
- Employees who are unwilling to change
- Nome (wife of CEO) and her drive for creativity

CATWOE Analysis

Customers/clients - *Who are the beneficiaries of the highest-level business process and how does the issue affect them?*

The beneficiaries of this process include both the overall business, as well as the end consumer. From a business standpoint, if a sustainable business approach is implemented well (not greenwashing PR), then it should be more cost-effective for the business overall. From a consumer standpoint, by creating product that was made with a smaller environmental footprint, they will reap the benefits of a greener future.

Actors - *Who is involved in the situation, who will be involved in implementing solutions and what will impact their success?*

The biggest actors are the company owners, the Executive team who will be making the decisions on what and how changes will be implemented. The rest of the company staff will have a large part in the actual execution of the changes. The impact to success will be determined on everyone's level of alignment with the overall goal.

Transformation Process - *What is the transformation that lies at the heart of the system - transforming grapes into wine, transforming unsold goods into sold goods, transforming a societal need into a societal need met?*

The large transformation needed here is moving away from thinking, "this is how we've always done it", to a more forward-thinking approach. The company culture already claims to care about a sustainable future. However, this feeling changes when people become fearful of uncertain change in their future. The transformation requires staff to get out of their comfort zones enough to affect real change.

CATWOE Analysis *cont…*

Weltanschauung (or Worldview) - *What is the big picture and what are the wider impacts of the issue?*

The big picture is that our business needs to keep up with the times, and ideally be several steps ahead from our competition. Our company needs to be a part of a sustainable future, because without out it, our business will not have a future. For instance, our business relies on snow, therefore a large issue such as climate change cannot be ignored.

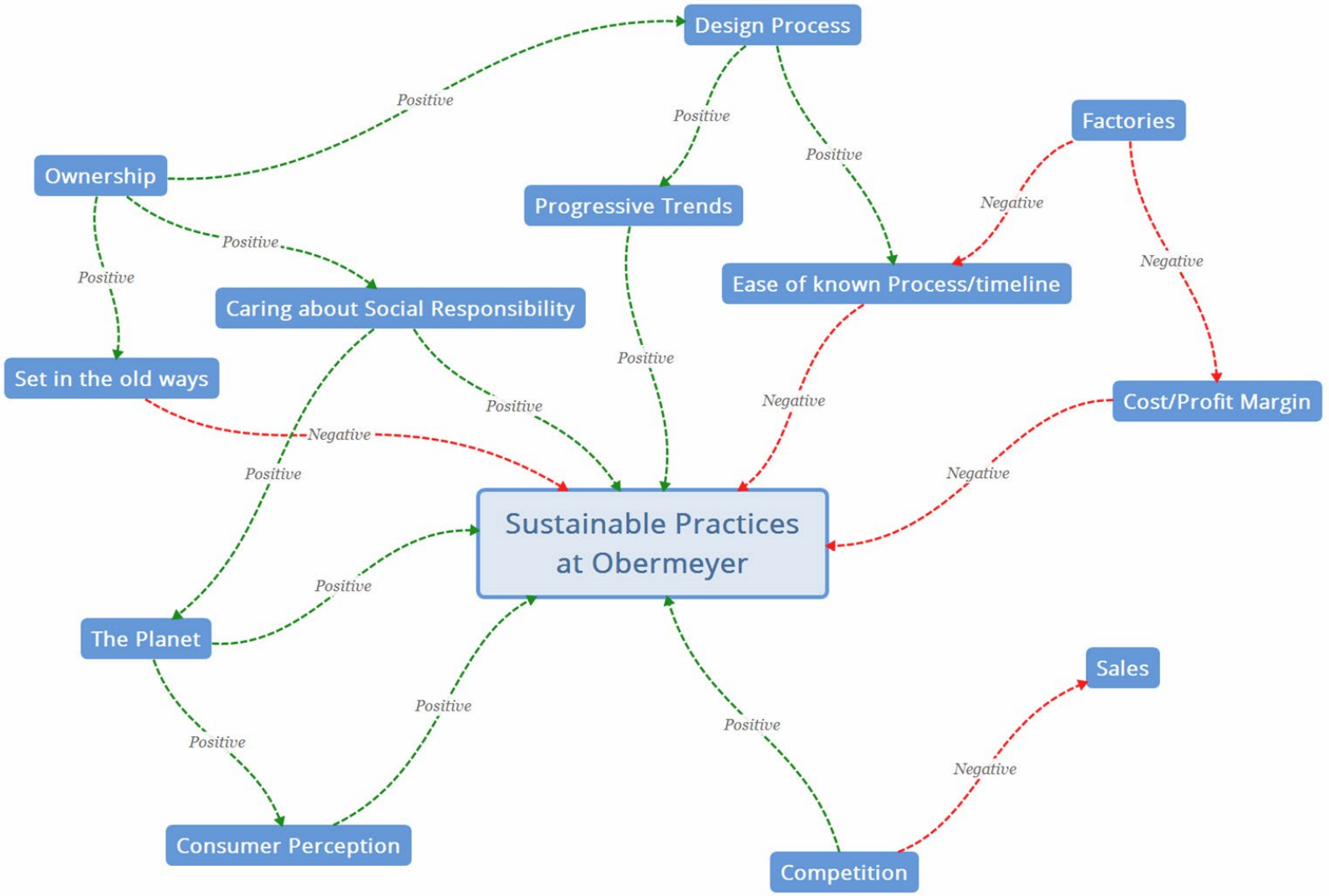
Owner - *Who owns the process or situation being investigated and what role will they play in the solution?*

Large transformational change starts from the top of the organization. The owners and the top Executive need to get people aligned on the matter. Their main role is to inspire a cultural shift, rather than bark orders. There will be resistance to change, so addressing what inspires the organization is key. This should trickle down through the ranks.

Environmental Constraints - *What are the constraints and limitations that will impact the solution and its success? How does this system impact sustainability?*

The constraints and limitations include fear of change. Another limitation is feeling that there "just isn't time" for new initiatives. Many staff members feel the business structure simply does not allow for thinking about deviating from the normal process. This negative mindset does not allow for shifting. The future cannot change without the first leap.

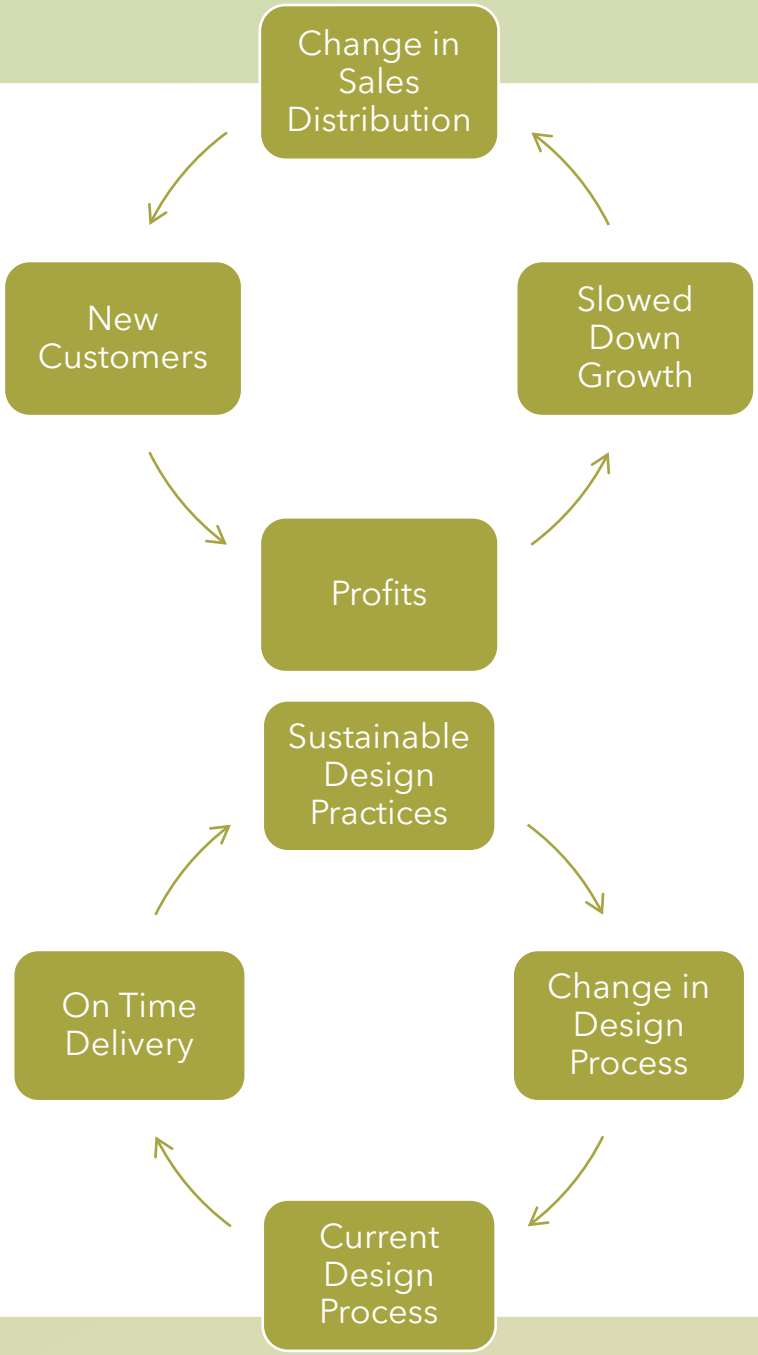
Current Influence:



System Archetype: Escalation

In this system, change to become more sustainable does not occur due to fear of changing the current process. Timeline to deliver products on time is tight, so to change the process could mean slowed down efficiency.

If development process and efficiency is slowed, then less product may be produced, therefore a loss of profits. However, if a change is to be had, then there is an opportunity to gain new customers through new distribution channels that do not rely on the current timeline and process demands.



Possible Future Sustainability Strategies

Eco-Effective Design Intention

Supply Chain Circularity

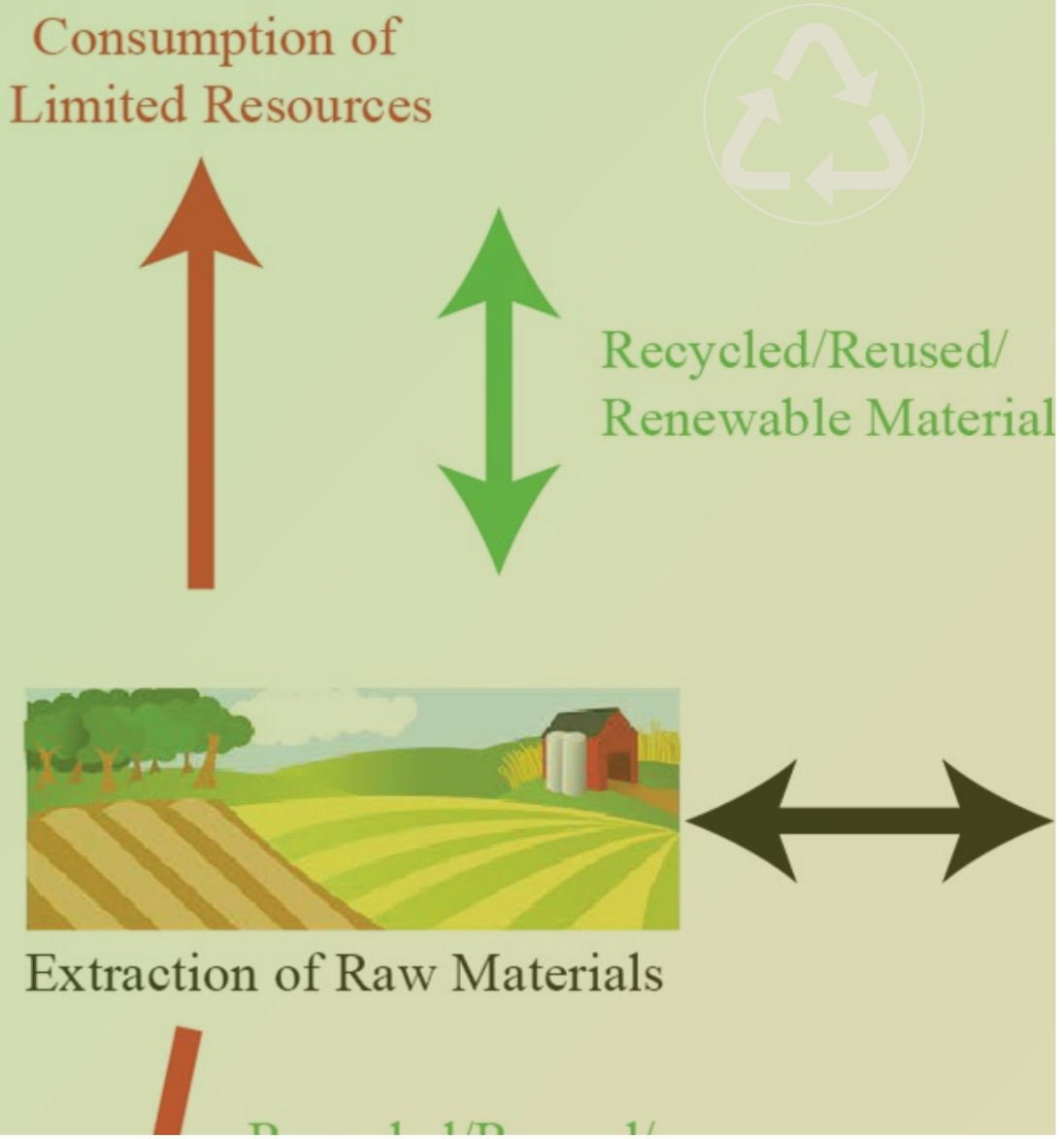
Regenerative Design Process

Sustainable Strategy #1

Eco-Effective Design Intention

Close-Up View: What's the Challenge to Solve?

- Reduce consumption of limited raw materials
- Find new sources that can be reused or recycled
- Overall taking a negative output and changing it to be a positive and/or neutral one



Biomimicry;

Biomimicry is **the science of applying nature-inspired designs in human engineering and invention to solve human problems**.

Thinner Fur Keeps Numbats Warmer

Currently outerwear jackets are insulated with either down from geese and ducks, or insulation manufactured using petroleum based fibers. The Numbat, has a thin layer of fur, that can stand up to allow the skin to absorb warmth, and then the fur traps in the heat. I had an idea that rather than creating waste from petroleum based fibers or harming animals for down, a jacket could be design with some sort of heat trapping feature. Especially in states like sunny Colorado, there could be a solar absorption feature, and a way to lock in that heat when the temperatures drop.

Hairs Prevent Evaporation in Arid Zone Plants

The way that arid zone plants use a felt like structure to trap water from evaporation and wind, preserves limited resources. In the fashion industry, water use is excessive due to the need for dyeing process. There could be a way here to some how trap and conserve water usage to limit the use of limited resources. Possibly this water could be used over again for another process?

Mucus Filters Water for Food

This function could be used to help filter out polluted water created by apparel dyeing processes. This mucus uses proteins to naturally filter out food in water for consumption. Similarly, a protein could be created to somehow separate used dye chemicals from water. Allowing the water to be reused for future dye process, and even the leftover chemicals could possibly be salvaged and reused again as well.

Proposed Example From Nature That Enhances This System

How Does the Numbat Accomplish This Strategy?

The "Numbat" Strategy

Not enough fuel from termites & fur does not insulate against the cold

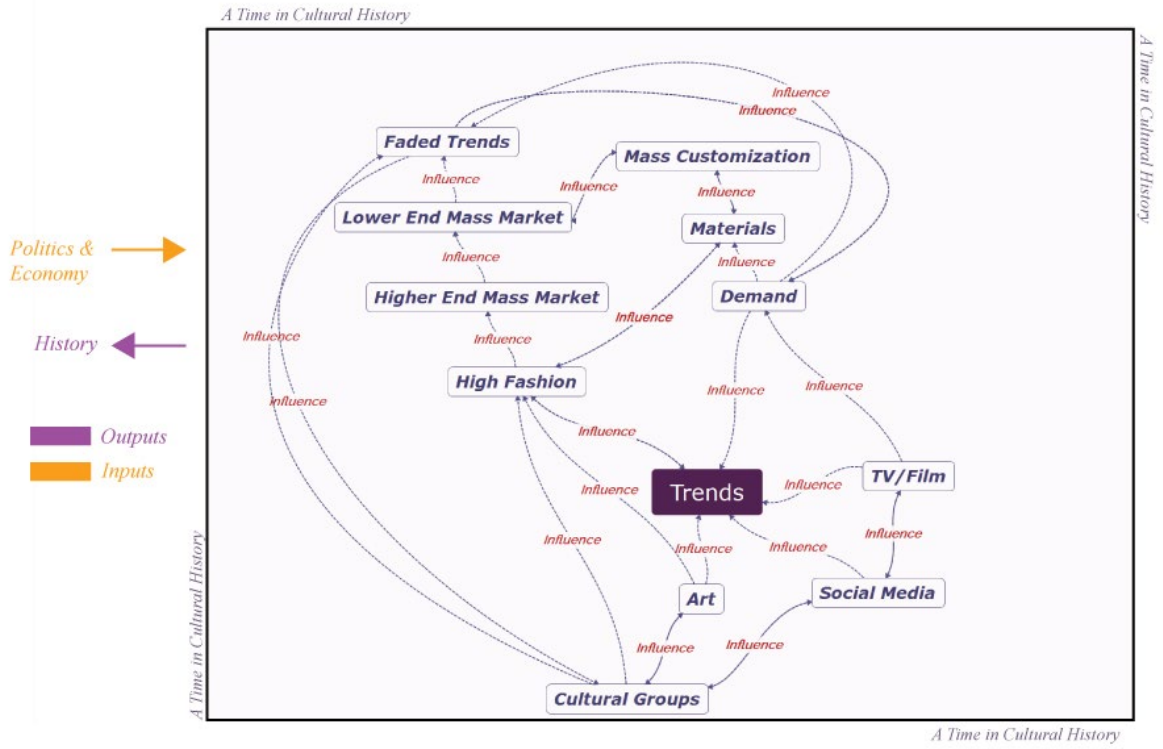
Need to get fuel from absorbing heat from the sun

Pelts have short hairs & fewer hairs per square inch, and exposes skin to the sun's radiation

Skin is exposed by making their pelt hairs stand up straight (piloerection)

Piloerection traps layers of body-heated air close to the skin surface, blocking heat loss and creating a blanket that helps insulate from cold.

Numbats can effectively regulate their heat through changing climate and environmental conditions



Revisiting Trend Influence:

We could look at what is "trending" by a newly discovered biomimicry principal instead

RESPONSIBLE DOWN SOURCING

Connection to Outerwear:

Most outerwear is currently insulated with non-renewable materials such as:

- Water-foul down or feathers
- Petroleum-based fibers

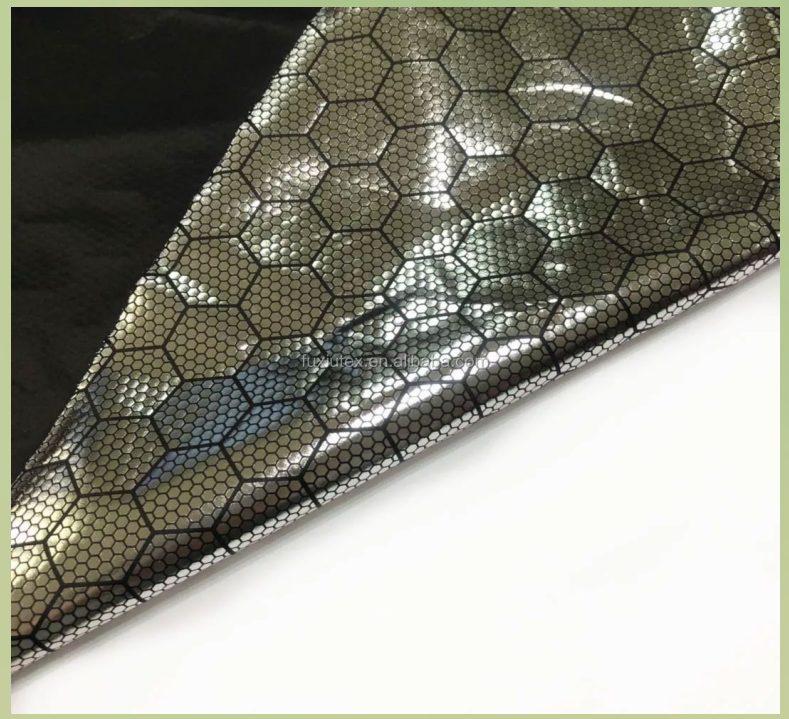
How to Implement the Strategy: Numbat Fur Biomimicry to Outerwear

In outerwear, the garment could be faced or lined with some heat absorbing material. Fabric could somehow be "lifted" with a drawcord, zipper, snap, Velcro function, where the heat could then later be trapped. This would be ideal in a high altitude area where sunlight is very prevalent, and active snowsport enthusiast actually become very hot in their outerwear. This "lifting" function can double as a way to release heat during activity that raises body temperature. This allows for a multi-function design, as illustrated in the Life's Principles diagram. There could also be a way to store the heat generated from body heat, and can be recycled to use for later use

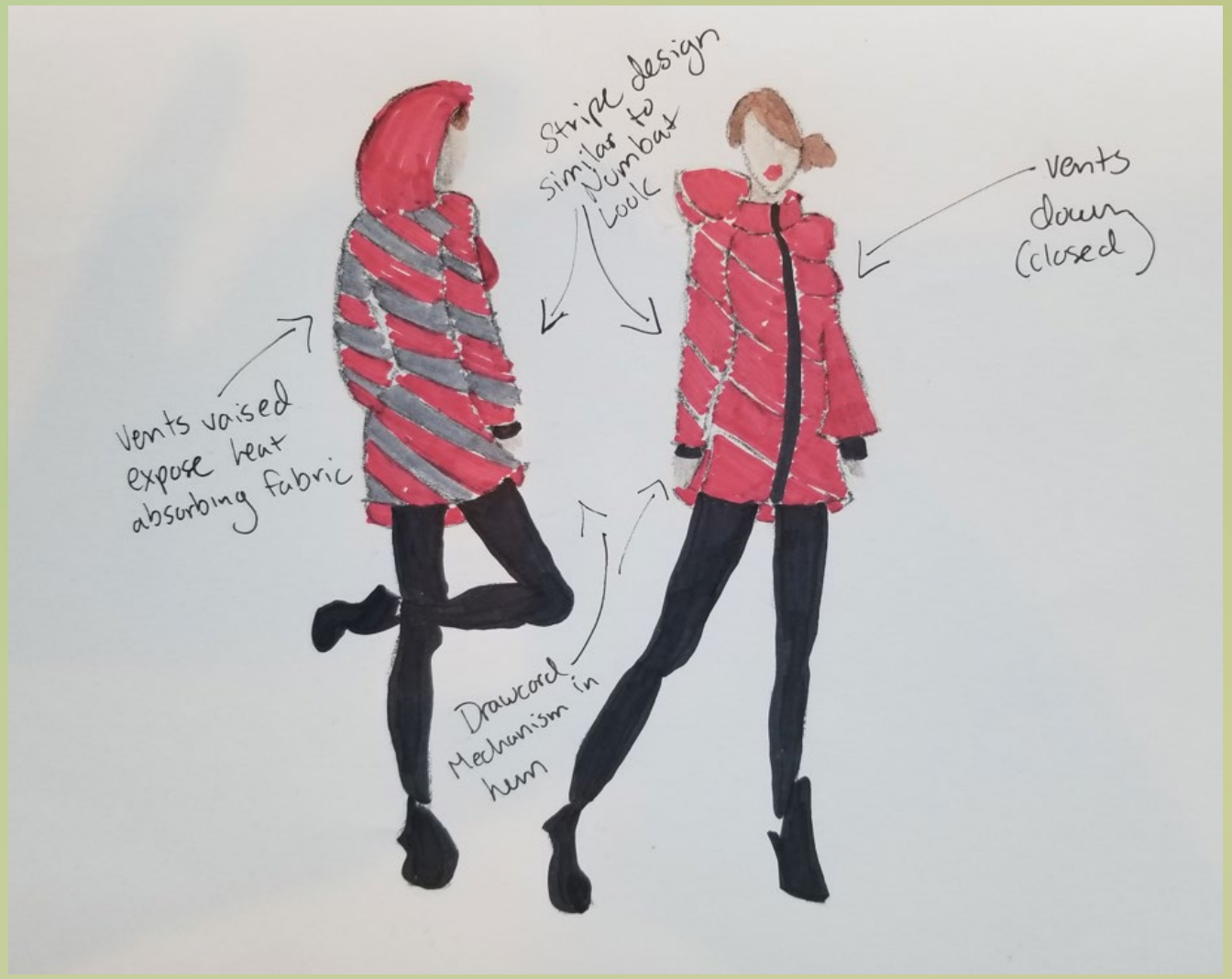
What is Prototypable?

What can be prototyped for this new design:

1. Materials that are heat absorbing
2. Garment construction that allows for "lifting" and "trapping" functions



Strategy Applied to Outerwear: Design Idea



Connection to Life's Principles: Resource Efficiency in Materials & Energy

Use Low Energy Processes:

Petroleum based fiber manufacturing uses a lot of energy in extracting the petroleum, as well as chemically manufacturing into a fiber form. Additionally, there can be damaging actions that could occur, such as chemical spills during the manufacturing process. Down plucking requires the farming of water-foul, which could otherwise be used for other forms of agriculture to help aid in solving world hunger. The down additionally needs to be washed before used as insulation, which requires large amounts of water and other chemicals for cleaning.

Use Multifunctional Design:

Through a proposed "lifting" strategy of this jacket design, heat not only will be trapped, but can be released as well. This allows for temperature regulation, while still being able to protect from the elements (instead of removing the jacket to cool down). A single jacket design that regulates temperate can be used in various different climates, such as skiing in California or Vermont. Purchasing of multiple different garment layers, or outerwear jackets with different insulation weights will no longer be necessary, and reduces overall consumption as well.

Recycle All Materials:

This new proposed design strategy will allow for reduced used in non-renewable resources. Petroleum-based fibers do not degrade naturally when disposed of. Recycling of petroleum-based fibers is possible, however uses a lot of energy to repurpose. Although feathers can regrow on water-fowl, down does not, and once plucked from the birds, it is "used". Unlike these other two sources, sunlight continues to be available. Additionally, this new proposed design can "store" the trapped heat and continue to be used while wearing.

Fit, Form, or Function:

The function of this jacket design relates back to how the Numbat traps heat. Through piloerection, the Numbat's fur "stands up" or "lifts" to absorb heat on the skin. This jacket design could have some heat absorbing fabric that is on the underside of the shell fabric, instead of insulation. These vents can be "lifted" to absorb heat from the high-altitude sun, and lowered again to trap heat. As a garment that is intended to protect against the elements, this design still allows for this, while reducing raw material use.

LIFE'S PRINCIPLES

Biomimicry DesignLens

Life's Principles are design lessons from nature. Based on the recognition that Life on Earth is interconnected and interdependent, and subject to the same set of operating conditions, Life has evolved a set of strategies that have sustained over 3.8 billion years. Life's Principles represent these overarching patterns found amongst the species surviving and thriving on Earth. Life integrates and optimizes these strategies to create conditions conducive to life. By learning from these deep design lessons, we can model innovative strategies, measure our designs against these sustainable benchmarks, and allow ourselves to be mentored by nature's genius using Life's Principles as our aspirational ideals.

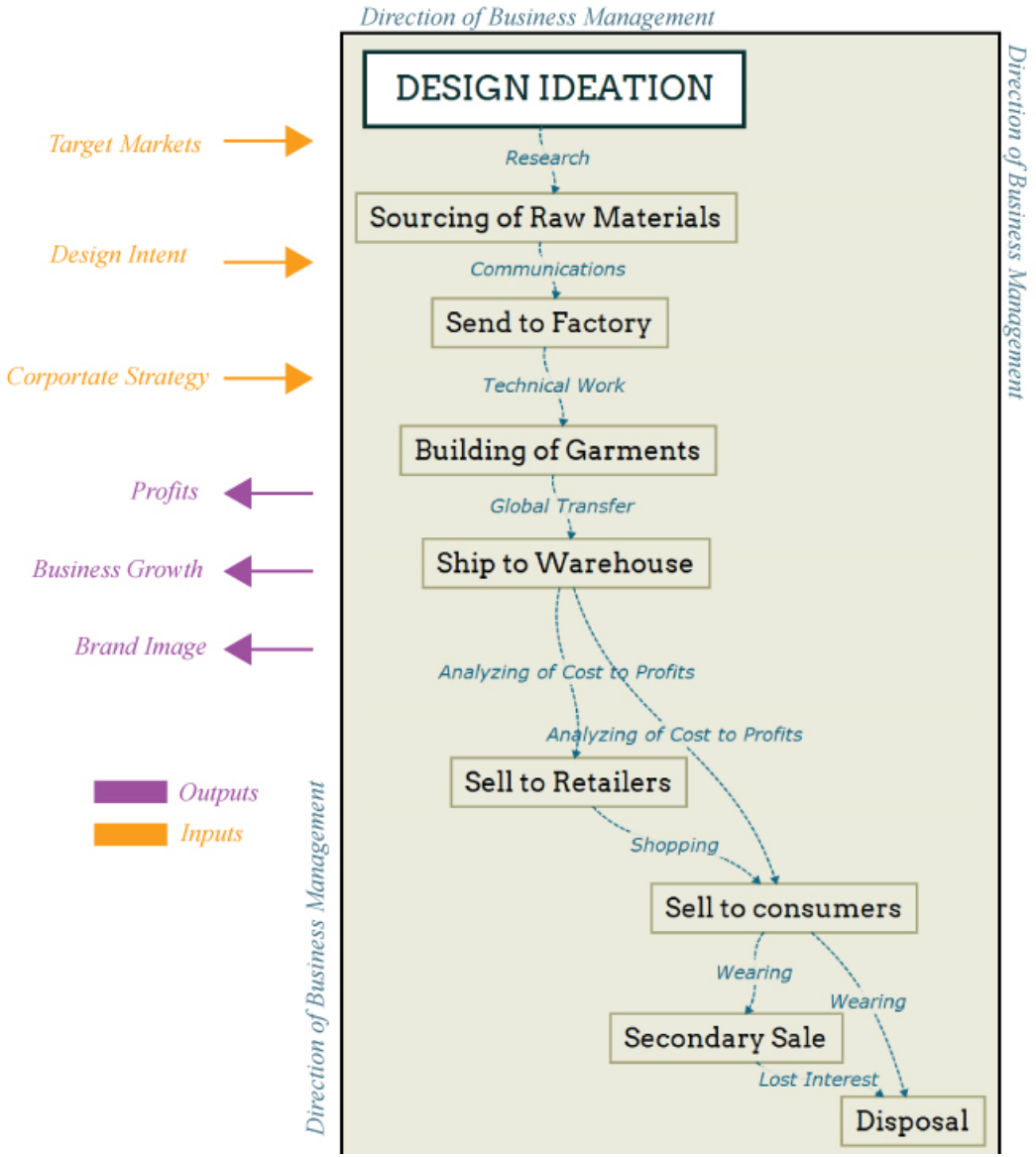
BIOMIMICRY 3.8

Sustainable Strategy #2

Supply Chain Circularity

Current Subsystem: A Linear Business View

The current business model is very linear. The company makes new product every season, and then attempts to make the case to sell to a consumer on why they need this product. While also growing in profits annually. Realistically the average consumer does not need a new ski jacket or pants every year (or even every five years). So it seems a bit of a conundrum as to how the company plans on increasing its profit growth annually. The generally accepted practice in the industry is to make products that easily breakdown (causing the consumer to feel the need to purchase another), or through psychological manipulation in the form of advertising, convince a consumer how this product will bring them "happiness".



Approach 1: Clothing Remade

Description:

If looking at the fashion industry, my first approach would be to think about how clothes can be remade and remade again into new clothes with the changing fashions. For instance, the company I work for has a lifetime warranty on our products. We "repair" jackets from the early 70's (I'm not kidding). It is actually more cost effective right now for my company to just provide the customer with a new jacket instead of figuring out how to take apart this old product to be able to repair it. But if the products were design to be taken apart this would be more feasible. For instance there is a company out there that makes sewing thread that can be melted/dissolved in order to take the individual pieces of fabric from the garment to make new garments.

Benefits:

My first approach would be to design jackets that can be taken apart and remade year after year. This way we would have a new jacket whenever we see fit. Consumer can bring in their "old" jacket, and it can easily be disassembled and pieced together to create a new product. The company could still profit, as we could charge for this "remake", but ultimately it would save the company money in labor and resources.

Approach 2: Rentals

Description:

Another approach would be to consider circularity in a clothing rental business. Since ski clothing can be expensive, and for some is a one time vacation expense. Rather than encouraging skiers to buy a new jacket/pant set up for their travels, they can simply rent this expensive gear. And therefore would reduce the amount of clothing being produced. This would also tie back to approach 1 as the clothing could be disassembled and remade after a certain number of rental uses.

Benefits:

This is a sustainable business model as it could also create a partnership with a company that has an alternate season from our brand. For instance, partnering with a rental company that specializes in tuxedo rentals. The tuxedo rental business is in the spring and summer months, whereas a snow sport apparel company is in the fall and winter months. This will allow both businesses to avoid so much "down time" in their calendar, and be less dependent on their season for operations.

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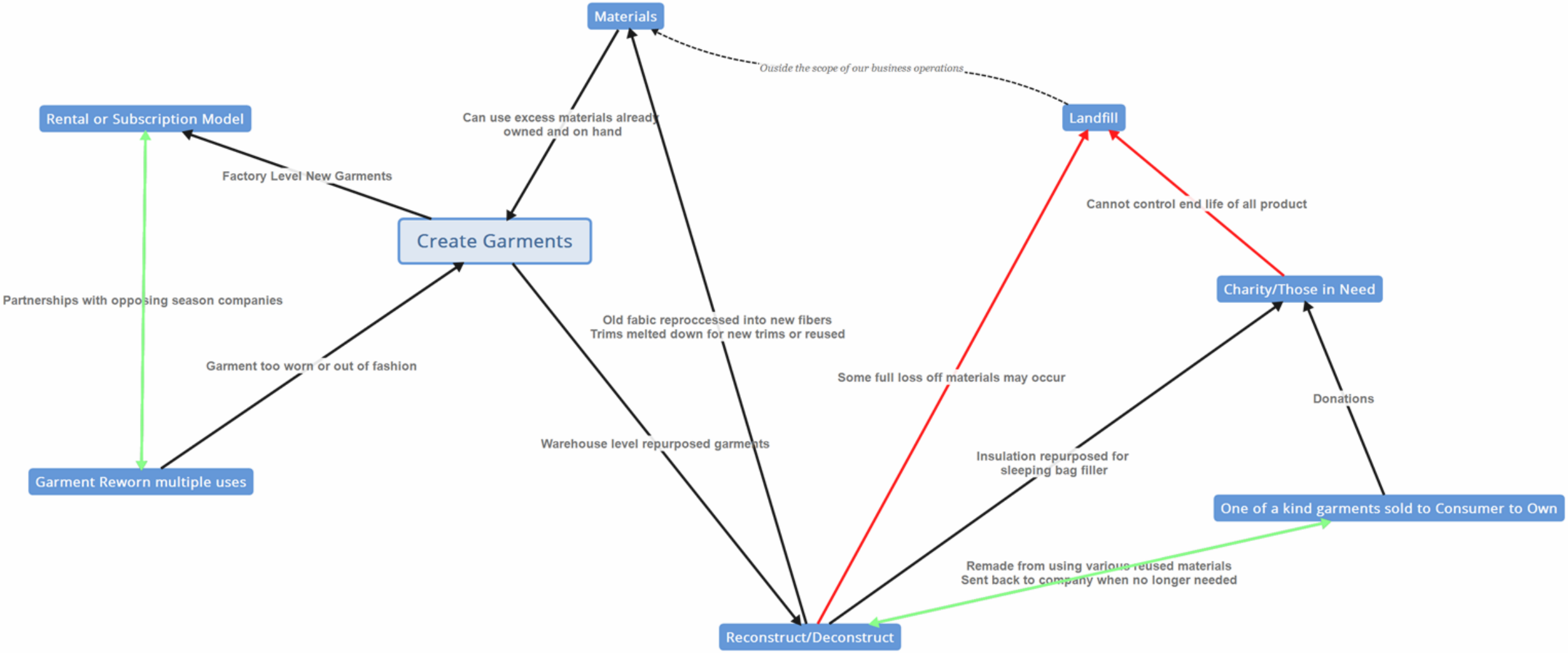
Circularity Solution

A Combined Approach



Circular Design & Business Model

System Description (Proposed Model)

Materials:

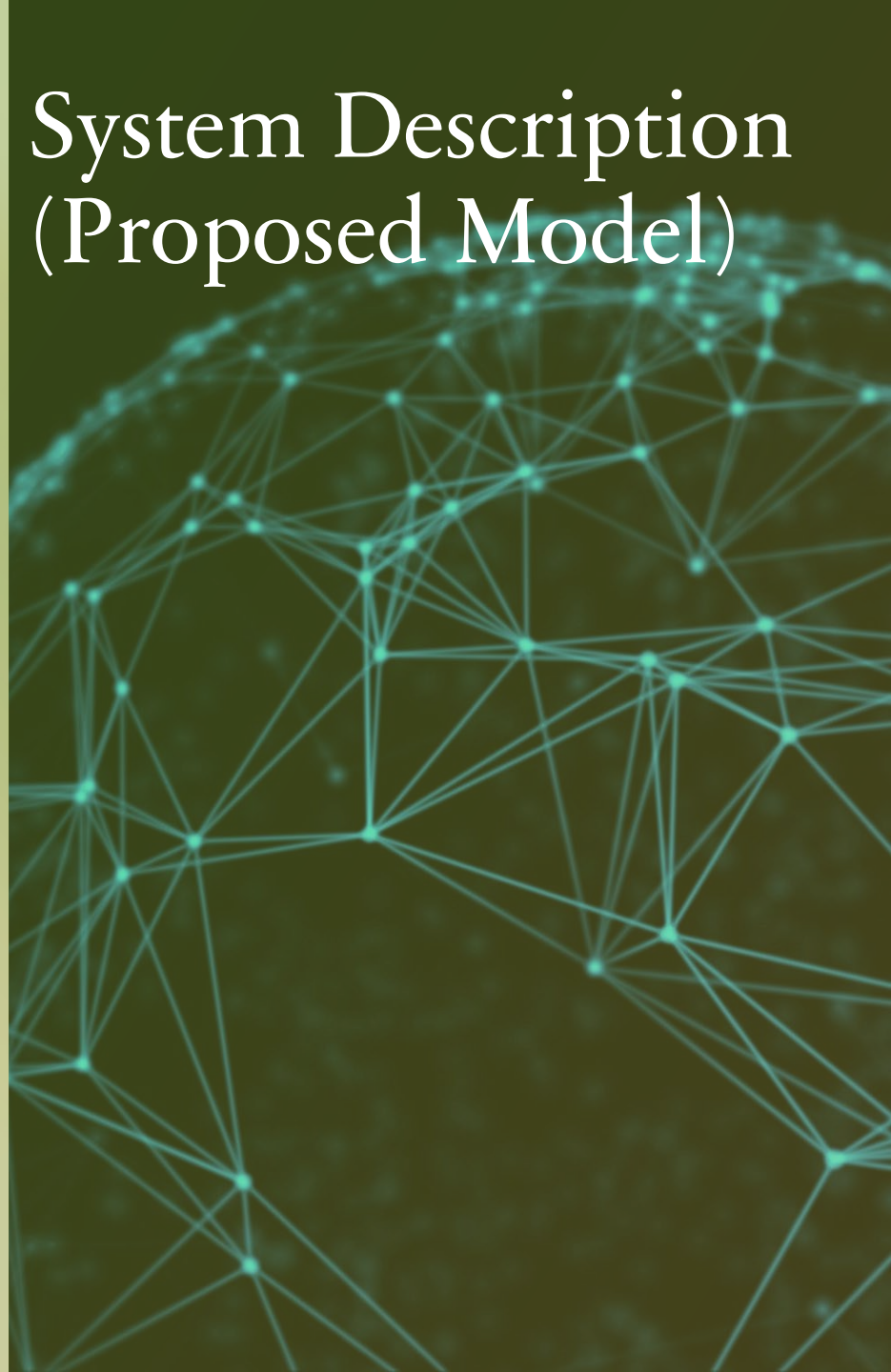
1. Some materials will still be virgin materials. In the beginning this process may not be fully circular here. b. Some materials the company will already own on hand (excess purchased materials) that we own and need to be used.
2. Some materials will come from old garments that can be reconstructed into new garments.
3. Some materials will no longer be useable for repurposed garments, and can be broken down to form new materials.
4. Some materials will end up in the landfill, and can be remade into new materials. (Note this is outside the scope of our business operations).

Garment Creation:

1. Some garments will be created new, as new design styles. However, the scope of this will be greatly reduced. The company will only make a few new styles seasonally, and will continue to be made at the overseas factory level. This will allow for more time and creativity in the prototyping process to allow for an even better quality designed product. (Noting that this still allows for job security, while also not needing to have the stress of meeting tight deadlines due to so many new products created).
2. Some garments will be made as one of a kind pieces from repurposed garments. When the product is beginning to wear or is no longer in fashion, the product can be sent to Obermeyer's domestic warehouse sewing facility. These can be deconstructed and reconstructed into new garments and sold to consumer to keep. A consumer will likely want to hold on to this product long term as it is one of a kind.

Rental or Subscription Model:

1. The new model would suggest making fewer new garments, and have the consumer wear on a rental or subscription model.
2. This would allow for the consumer to get a "new" style of jacket seasonally (or more than seasonally), allowing for freedom of fashion expression.
3. The company would also be realizing multiple transactions on a single product, rather than just one transaction, allowing for higher profits (while making less product).
4. Additionally, since Obermeyer makes product only suited for one season, there could be a mutual partnership with a company that has an alternate season (such as a tuxedo rental company). Keeping distribution channels established and employee retention.



System Description (Proposed Model)

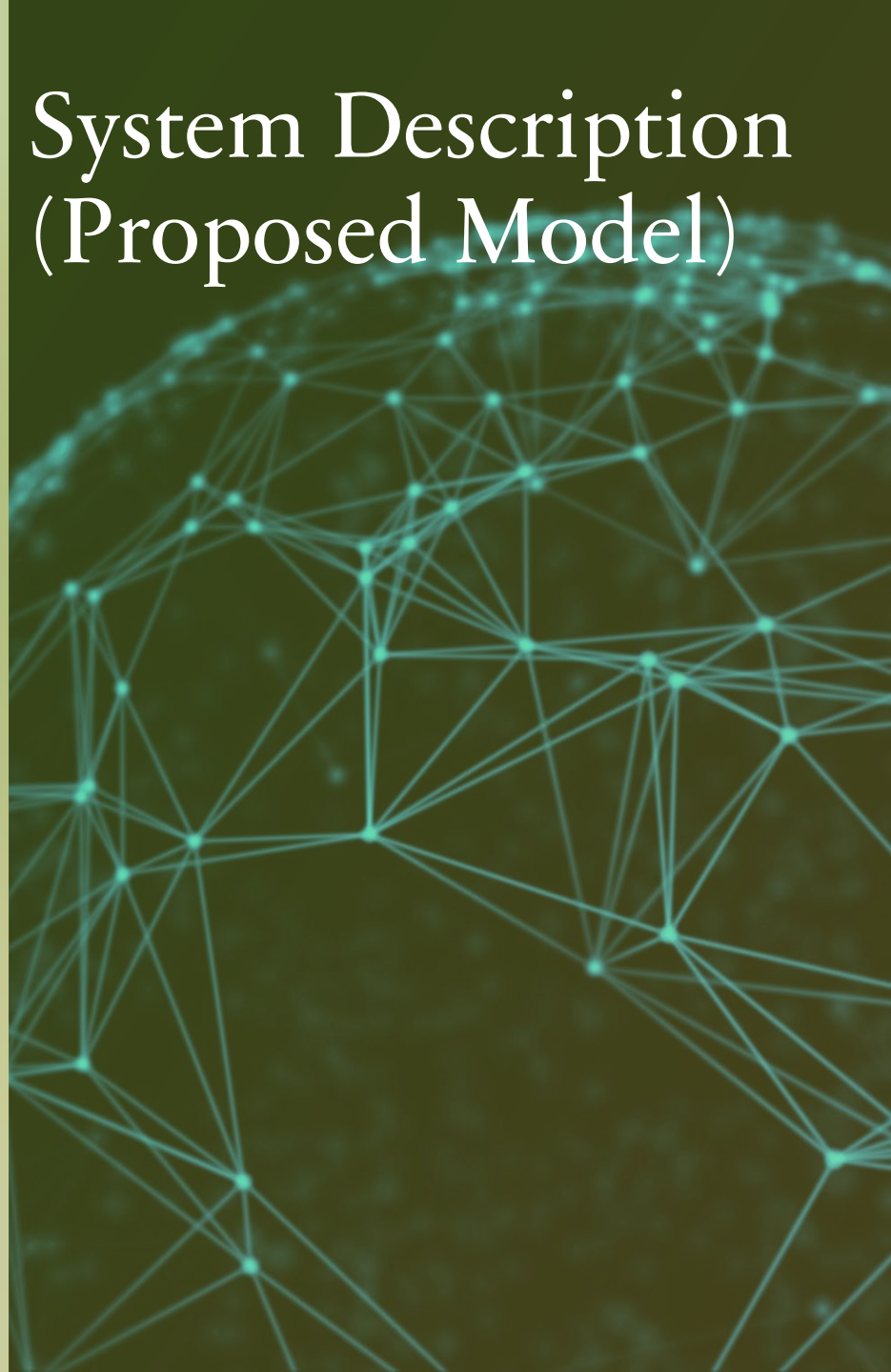
Continued…

Reconstruction & Deconstruction:

1. After the product is no longer suited for rentals (either becoming too worn, or is falling out of fashion) it will be sent to the Obermeyer domestic warehouse sewing facility to be deconstructed or reconstructed for the following:
2. Garment pieces taken apart and resewn into new garments.
3. Materials too worn can be broken down and remade for future use (such as REPREVE fibers).
4. Insulation can be restuffed into new items such as sleeping bags for the homeless

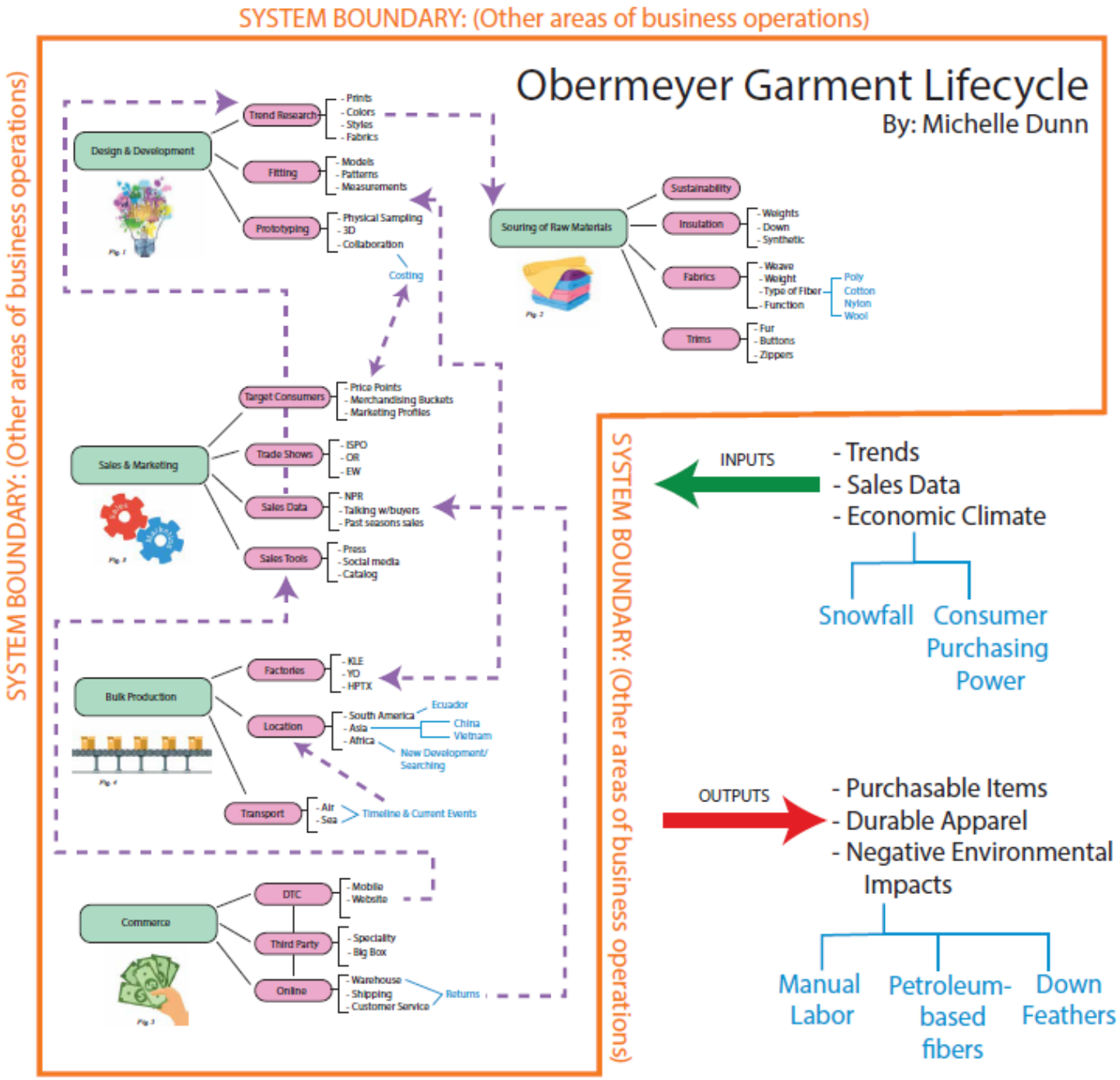
End of Life:

1. Garments from rental service will be sent to be repurposed or deconstructed.
2. After a consumer is done with their bought one of a kind piece it can be sent back to Obermeyer for reuse of materials.
3. Garments can be donated to charity, and materials can be donated for other charitable products.
4. Inevitably some products will still end up in a landfill, where the company cannot control all outcomes.



Sustainable Strategy #3

Regenerative Design Process



Current Garment Lifecycle

Current Design Process

Aggregates:

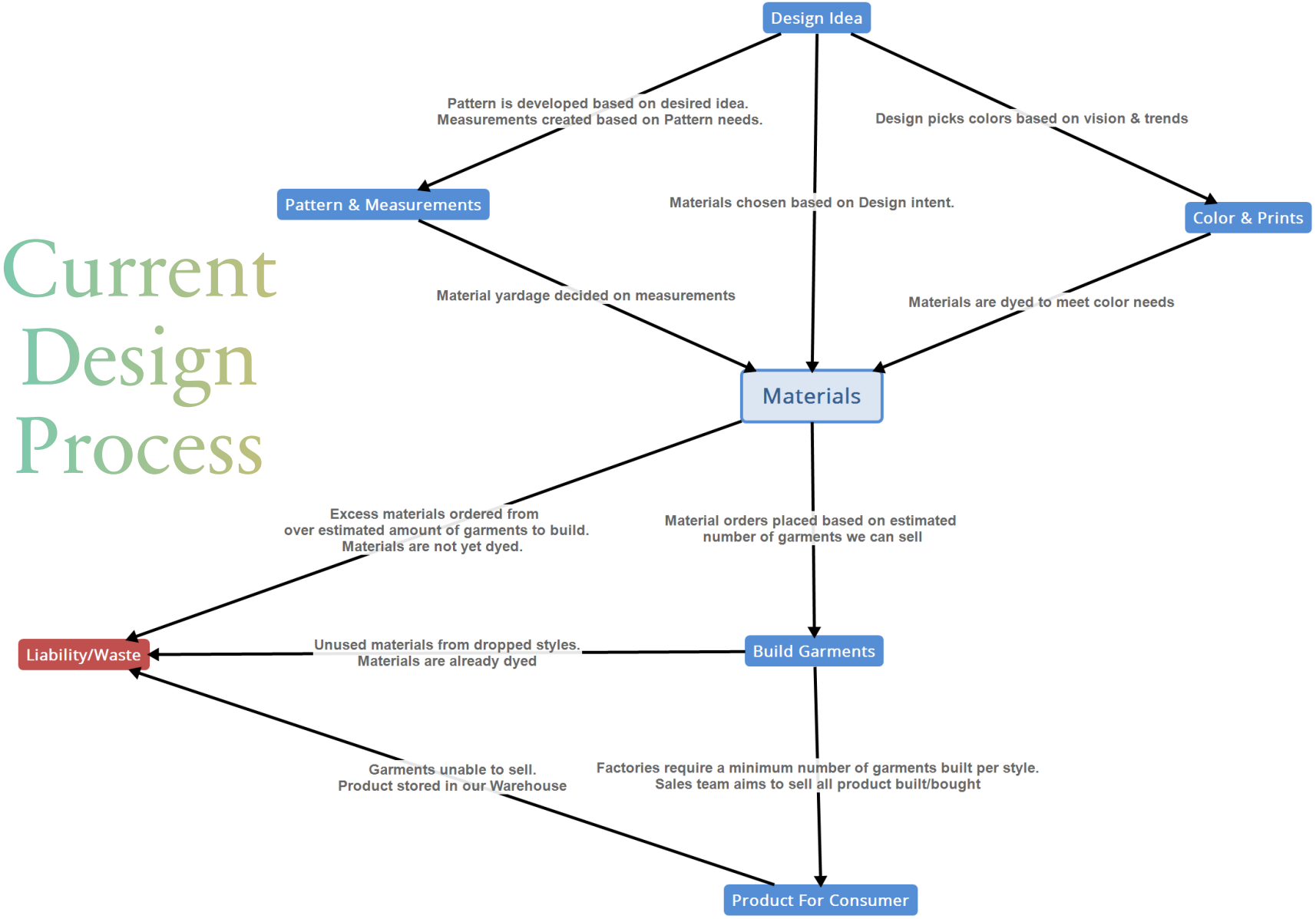
The aggregates of this CAS are the individual departments and/or functions of the development process within the business. The main focus of this CAS is the "Materials" portion of the business.

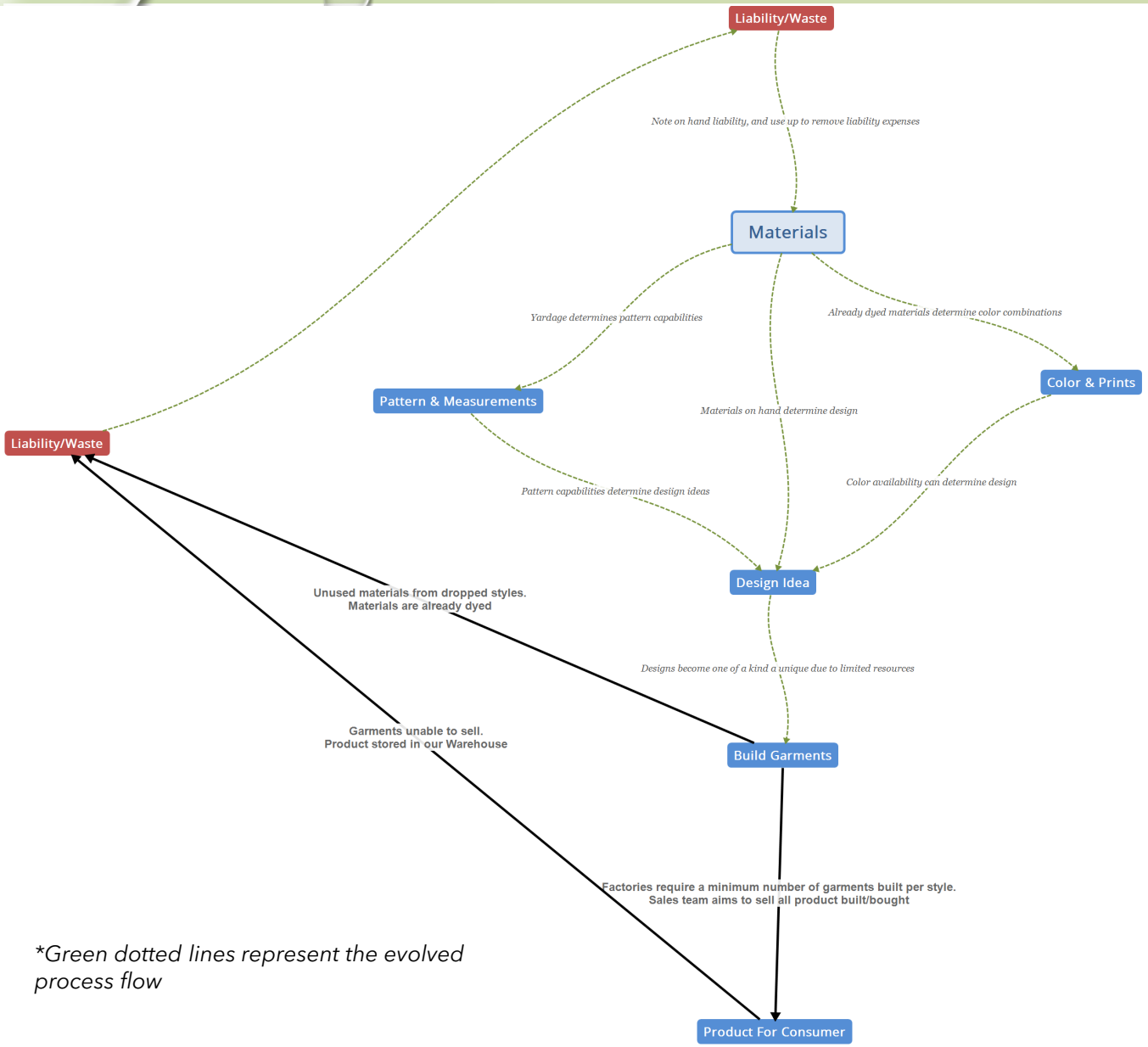
Interactions:

The interactions between these aggregates are the business goals between each department and/or function. What each unit is trying to achieve. In this current form, it is a very linear interaction and not so much a collaborative effort. It is currently a one way flow of information to the next step in the process.

Context of Communications

Between each unit and achieved goal, the main context of communication is via email. There are also several systems used to achieve these communication goals. Such as our Product Line Management (PLM) system, our Production/Warehousing system, and our e-commerce sales system that can track all of these communication processes outside of emails.





Green dotted lines represent the evolved process flow

Design Process Change Evolution

The change evolution begins with considering that the "design ideas" should not necessarily be the top of the hierarchy, producing an end result with a lot of liability and waste. Rather, the flow of information between departments and/or functions, can be more of collaboration using the strengths of each unit. By using the knowledge and resources of each unit, each unit of the process does not have to a "step" that design ideation passes through.

This communication changes overtime, as the liabilities and waste become a large expense for the company. To cut back on overall cost, the company begins to look at, "how can we eliminate this expense"? Maybe there is a different process or way of thinking or collaborating that does not produce so much leftover liability and waste? This potential to eliminate large expense, creates wave of change in the overall structure of the process.

Gaia Principle;

The Gaia Hypothesis **suggests that living organisms on the planet interact with their surrounding inorganic environment to form a synergetic and self-regulating system that created, and now maintains, the climate and biochemical conditions that make life on Earth possible.**

Our own waste output can be self-regulated. We can regenerate this into something that becomes useful to us again.

....How?

Life Cycle Assessment;

Life cycle analysis (LCA) is **a method used to evaluate the environmental impact of a product through its life cycle encompassing extraction and processing of the raw materials, manufacturing, distribution, use, recycling, and final disposal**.

LCA Example: Insulated Ski Pant

For this Life Cycle Assessment, we are analyzing the impact of developing an insulated ski pant. For this product, we will look at all the materials used in this product, including sewing thread. However, we will not consider parts of the final product when sold such as the hangtags, silicone packets, plastic packaging bags, and tissue paper. We will only be looking at the parts of the product that are worn throughout time of use.

Product: Insulated Ski Pants

- Bill of Materials (BOM)
  - Shell fabric
  - Insulation
  - Lining Fabric
  - Zippers, 7 total (fly, hand pockets, hem gussets, leg vents)
  - CF Snaps
  - Waistband & Snowcuff Elastic
  - Fleece Waistband Fabric
  - Waistband & CF Velcro
  - Sewing thread
  - Seam Sealing
  - Internal labels

Parameters

HOW LONG DOES IT LAST?

HOW MUCH DOES THIS PRODUCT GET USED?

FUNCTIONAL UNIT

6HRS X 16 WEEKS X 10 YEARS =

960 HOURS

Ecolizer Design Tool Data

Production Material Processing

Production

Component	Material or process	Amount	Indicator	Result
CF Snaps	zinc: Zinc (primary)	0.03 kg	651	18.23
CF Snaps	PUR – polyurethane: PUR, rigid foam	0.03 kg	452	12.66
Insulation	polypropylene: yarn, undeyd	0.22 kg	552	121.44
Internal Labels	nylon / polyamide: fabric, woven	0.01 kg	1879	26.31
Lining Fabric	nylon / polyamide: fabric, woven	0.22 kg	1879	413.38
Seam Sealing	PUR – polyurethane: PUR, flexible foam	0.01 kg	479	6.71
Sewing Thread	polyester: yarn, dyed	0.01 kg	1262	17.67
Shell Fabric	polyester: yarn, dyed	0.22 kg	1262	277.64
Velcro	nylon / polyamide: fabric, woven	0.01 kg	1879	26.31
Waistband Fleece	polyester: fabric, knitted	0.03 kg	1274	35.67
WB & Snowcuff Elastic	Rubber: Latex, synthetic	0.03 kg	354	9.91
Zippers	zinc: Zinc (primary)	0.01 kg	651	9.11
Zippers	PUR – polyurethane: PUR, rigid foam	0.01 kg	452	6.33
Zippers	Composites: Polyester fibre	0.03 kg	679	19.01
			Total	1300.5

End of Life & Recycling

Recycling

Material	Weight	Waste treatment	Result
fabric, knitted	0.03 kg	17 mPt/kg	0.48
fabric, woven	0.28 kg	17 mPt/kg	4.69
Latex, synthetic	0.06 kg	47 mPt/kg	2.63
Polyester fibre	0.2 kg	35 mPt/kg	6.86
PUR, flexible foam	0.01 kg	33 mPt/kg	0.46
PUR, rigid foam	0.15 kg	33 mPt/kg	5.08
yarn, dyed	0.23 kg	17 mPt/kg	3.98
yarn, undeyd	0.22 kg	17 mPt/kg	3.74
Zinc (primary)	0.15 kg	0 mPt/kg	0
		Total	27.92

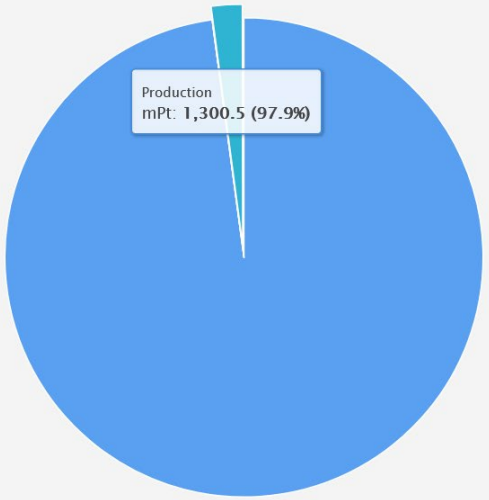
Total over all phases: 1328.42

Production	Packaging	Transport	Usage	Recycling
11 components	no components	No transport	no input	
1300.5	0	0	0	27.92

Impact

- One of the biggest impacts from this product is the polyester shell fabric. This material makes up the majority of the product, and additionally the polyester is a petroleum-based fiber using the limited resource that does not easily degrade in nature.
- Since plastics do not easily degrade in nature, we can look at how to reuse other petroleum-based plastics to create this fabric fiber. REPREVE fibers are recycled from plastic bottles, and broken down and repurposed into a polyester. This impact of this shell fabric can then therefore be reconsidered with a recycled fiber instead of virgin materials.

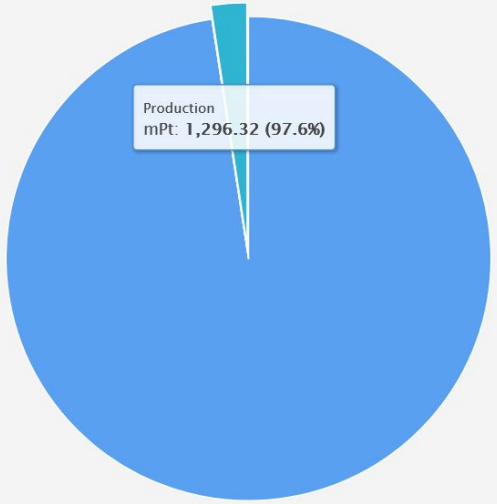
Insulated Ski Pant



Recycling

Component	Result
fabric, knitted	0.48
fabric, woven	4.69
Latex, synthetic	2.63
Polyester fibre	6.86
PUR, flexible foam	0.46
PUR, rigid foam	5.08
yarn, dyed	3.98
yarn, undeyd	3.74
Zinc (primary)	0
Total:	27.92

Insulated Ski Pant- REPREVE



Recycling

Component	Result
fabric, knitted	0.48
fabric, woven	4.69
fabric, woven, from recycled fiber	7.7
Latex, synthetic	2.63
Polyester fibre	6.86
PUR, flexible foam	0.46
PUR, rigid foam	5.08
yarn, dyed	0.24
yarn, undeyd	3.74
Zinc (primary)	0
Total:	31.88

Comparison: REPREVE Fabric

Changing a Liability into an Asset


The Message

You wouldn't throw away money

Or throw plastic in the ocean


So when It comes to our material usage

LET'S DO
WHAT WE
DO BEST

AND BE
CREATIVE


OUR LIABILTIES JUST "THROWN IN THE OCEAN"
IS NOT A SOLUTION FOR ANYONE

Solutions: A Recap

Eco-Effective Design Intention

- Design with a different purpose
- Revisiting what is “trendy”
- Reducing use of limited resources through biomimicry

Supply Chain Circularity

- Moving from linear to circular models
- New distribution partners. Ones that believe in sustainability
- Do not rely on old ways of doing business in a modern world

Regenerative Design Process

- Behavioral changes in ways of thinking and development process
- Assessment of process impact
- Turning liabilities into assets

Benefits Proposed Solutions

No loss of jobs, but less stress: **Mutualism**

Less designs allows for time of more innovation: **Design for Evolution**

Reuse of materials, less waste: **Nestedness**

Cost effectiveness of reusing what is already owned: **Value Adding**

One of a kind designs: **Design for Evolution**

Multiple transactions on a product through rental model- more profits: **Value Adding**

Can get a "new" style of jacket every season without the cost burden or "too much stuff" burden: **Work from Potential**

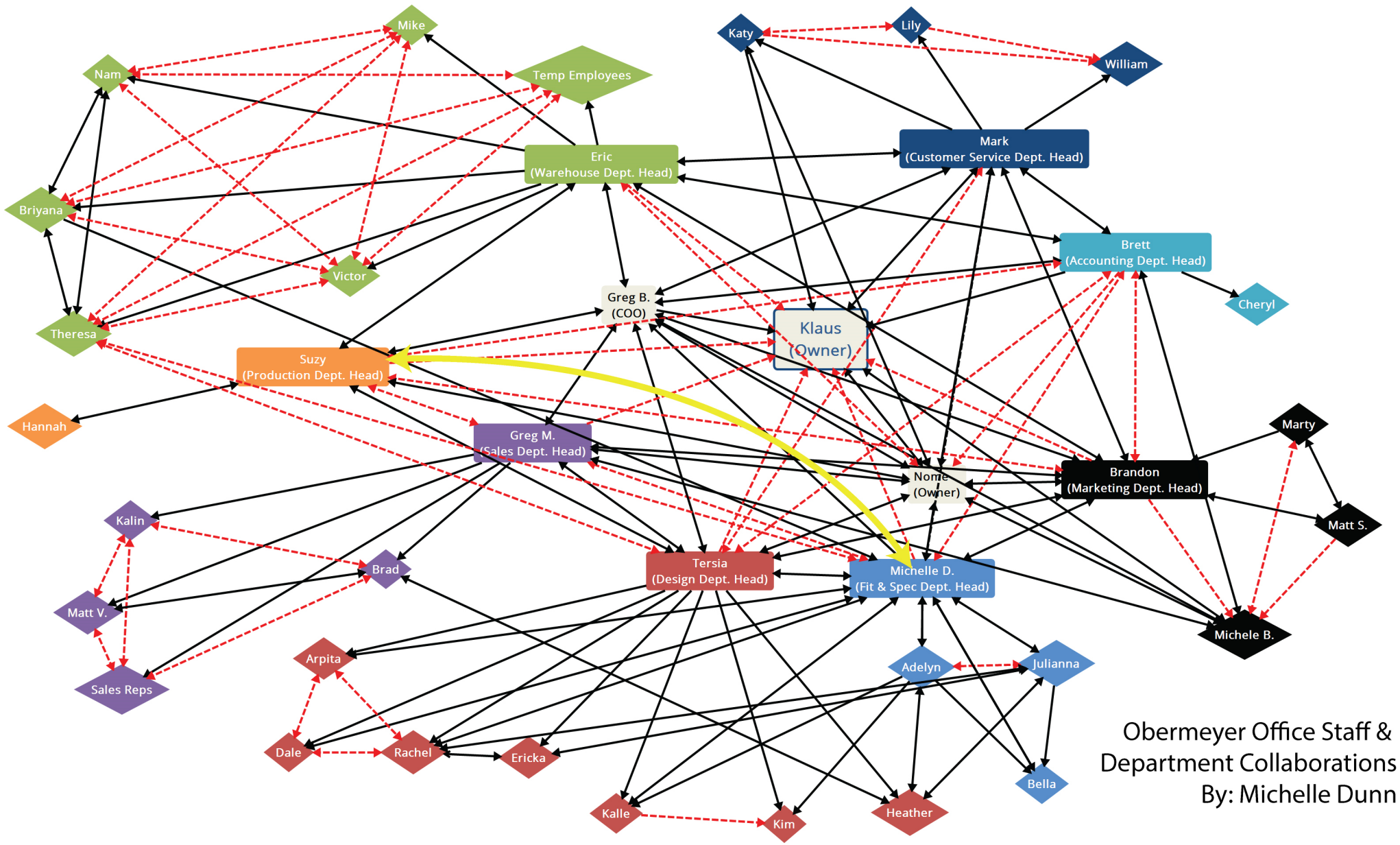
Partnerships with other seasonal companies: **Partner with Place**

End of life uses for those in need: **Partner with Place**

Current vs. Goal Internal Network

In order to be successful in all of the suggested solutions, there is a need for a stronger collaboration link between the Design & Fit Teams (already a strong link), with the Production/Sourcing Team (currently a weak link).

Currently, Design creation is central to all other business decisions. Rather, stronger links can made between all departments to create a more circular and sustainable business.


Weak Links
Strong Links
Goal Links
Mike
Nam
Temp Employees
Katy
Lily
William
Eric
(Warehouse Dept. Head)
Mark
(Customer Service Dept. Head)
Briyana
Victor
Brett
(Accounting Dept. Head)
Cheryl
Greg B.
(COO)
Klaus
(Owner)
Theresa
Suzy
(Production Dept. Head)
Hannah
Greg M.
(Sales Dept. Head)
Marty
Nome
(Owner)
Brandon
(Marketing Dept. Head)
Matt S.
Kalin
Brad
Tersia
(Design Dept. Head)
Michelle D.
(Fit & Spec Dept. Head)
Matt V.
Michele B.
Arpita
Adelyn
Julianna
Sales Reps
Dale
Rachel
Ericka
Bella
Kalle
Kim
Heather
Obermeyer Office Staff &
Department Collaborations
By: Michelle Dunn

New Solution Implementation Phases

Build Phase:	*Stakeholders:* The stakeholders to this vision build phase include the owners of the organization and the Executive team who would be orchestrating this vision.	*Links:* It would be critical to understand if the owners and Executive teams are truly on board with this vision. If not, it's important to explore why.
Use Phase:	*Stakeholders:* As initiatives are being created through the use phase, the biggest stakeholder would be any internal staff who would be affected by a change in process in their current job roles.	*Links:* Are the employees on board with this and happy with this vision? Would they need some inspiring for those resistant? Why are they resistant? What tools would they need to be successful?
End of Life Phase:	*Stakeholders:* The biggest stakeholder to the "end" of life to executing this vision would be people in the local communities, factory workers, and the end consumer.	*Links:* With more sustainable initiatives, these stakeholders should be benefited only for the good. However, it is important to evaluate if these initiatives are being executed properly and avoiding any negative actions such as greenwashing.

Reflection

Through this exercise, my biggest takeaway is a large-scale concern of the impact of consumerism on our planet. To improve sustainable practices within the fashion industry through alternative processes is somewhat of a "band-aid" of a fix. However, listed here are several solutions to improve process to get us in a closer direction. Rather, to enact large scale change, we would need to change our psychological thinking on the culture of materialism, and the emphasis people place on personal happiness through "stuff". Further addressing the idea of a market economy that pushes these psychological needs on people for the sake of increasing business profits.

Thank you

“You must be nice to your problems.
Those problems are our teachers.”

– Klaus Obermeyer