

# Thesis Proposal

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Thesis Project Proposal (Updated)  
MCAD MA in Sustainable Design

# PROBLEM STATEMENT

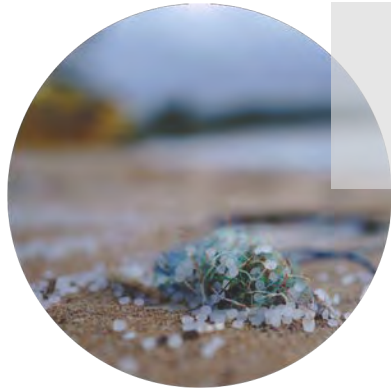
Synthetic fibers from the apparel industry have contributed to some of the highest levels of pollution in the global ecosystem in recent decades. Microplastics<sup>1</sup> from these textiles, predominantly polyester fibers, are not only found in our waterways, but they are also in our soil, food, and the air we breathe.



Illustration – Yann Bastard for NY Times

# SUSTAINABILITY CHALLENGE

Small plastic particles called microplastics are building up in the world's oceans. These tiny pieces of synthetic material come from degraded plastic from a variety of man-made sources.



“35%  
of microplastic  
pollution in the ocean is  
derived from the textile  
industry”<sup>2</sup>

In the past decade more data has been collected on the sources of these microplastics, many of which are introduced to our waterways through laundering clothing. From loss of marine life to the warming planet, the apparel industry has had a significant effect on our planet.

There is a range of organizations that offer solutions to curb fast fashion and the pollution that is derived from the apparel industry. Fashion Revolution is global fashion activism organization based in the United Kingdom that emphasizes equity and environmental impact, Fibershed in the United States focuses on land regeneration through equitable fiber and dye systems, and the group Hechos por Nosotros based in South America focuses on sustainable practices through textile research in the camelid fiber value chain. These organizations are important to the narrative, but the responsibility of material choices lies with the apparel brands.

Innovative solutions are presented every day by start-ups and by large corporations alike, many of which target the problem downstream, placing responsibility on the consumer and the way we wash our clothes. Laundry bags for clothing that trap microfibers, filter attachments for washing machines, and high-tech AI washing machines, like brainchild of Patagonia and Samsung that utilizes Samsung's Ecobubble™ feature along with sensors that optimize water and energy usage<sup>3</sup>. While innovative, these ideas do not target the main issue: synthetic fibers are polluting the biosphere.

“2/3 of all textile fibers are  
synthetic, and more than half are  
made from oil-based polyester”<sup>4</sup>

Before Allbirds released their *Sustainability Lifecycle Analysis* tool in 2021<sup>5</sup> and Nisolo launched their *Sustainability Facts Label* in 2022, so much of the textile and fashion industry has been overshadowed by proprietary information, secrets, and competition. It's time for more industry leaders (not just startups) to challenge the status quo and encourage transparency coupled with smarter, more sustainable decision-making *earlier* in the design process. It is the responsibility of brands to make these important changes, not consumers.

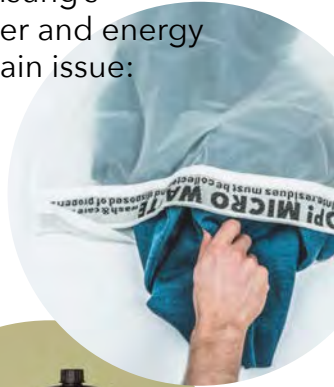
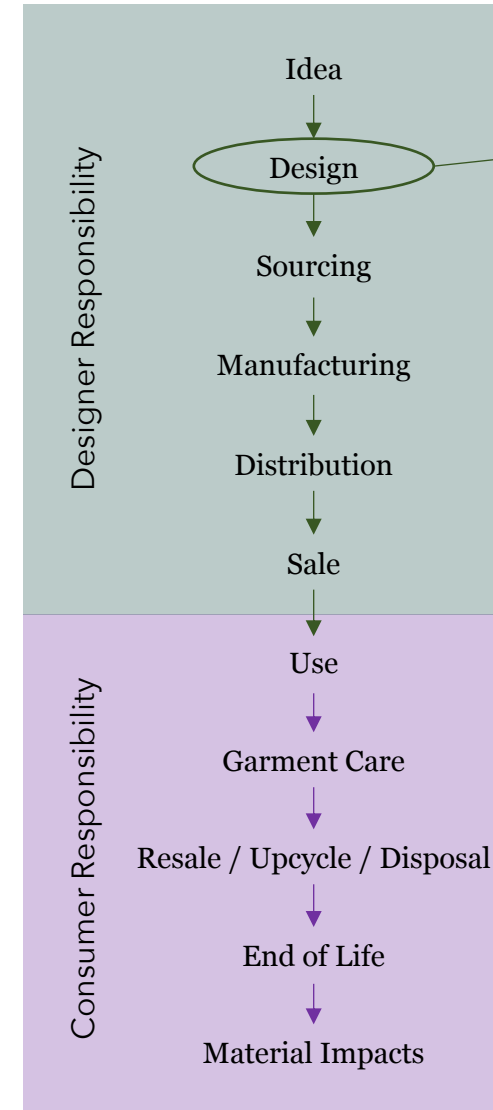


Image Sources: Soren Funk via Unsplash (left), Guppy Friend (top right) & Girlfriend Collective (bottom right)

# THESIS STATEMENT

Specifiers make the decisions that impact the growing levels of microplastics entering the biosphere with each wear and wash of clothing; a better, shared understanding of material impacts and accessibility of natural fiber options can mitigate this impact.



Making responsible design decisions early in the process can alleviate the environmental impacts at the products end of life.

# IDEA, STRATEGY, IMPACT

## IDEA

This researcher has identified specifiers as the targeted audience for this research. Specifiers are the individuals and teams who make decisions that impact consumers, telling consumers what products to buy and more importantly, deciding what those products will be made of. Unfortunately, the full lifecycle of material choices is not always considered when these decisions are made.

Using this research, an educational “explainer” video will be created to describe a lifecycle comparison of synthetic and natural fibers to be shared with specifiers. Within this video, there will be a call to action and pledge for “No New Polyester” where brands will commit to transitioning away from virgin synthetic materials with this first step to 100% natural fiber options.

## STRATEGY

Research will begin by reaching out to specifiers across the apparel industry to understand their motivations for the material choices they make. Taking a closer look at natural fibers, specifically our current domestic infrastructure and supply chain and determine if a shift toward more naturally-derived and regenerative practices in apparel product development could ease the burden of the overproduction of synthetic materials.

With our current environmental crisis and quickly rising costs in global markets the goal of this research is threefold: to research the effects of using synthetic fibers, understand specifiers motivations for their material choices, and create a campaign to encourage specifiers to make better materials choices earlier in the design process. It's these early decisions that make a lasting impact.

## IMPACT

Specifiers will reflect on their design process while filling out the initial survey. They will then view the explainer video and have an opportunity to commit to reducing the synthetic fibers used in their design work, ultimately on a path to full circularity. Data will be quantified based on an initial survey to specifiers and a survey following the viewing of the video.

By changing how we design clothing, we can impact more than sales, we can alleviate the pressure we are putting on our environment, on the relationships we have with our clothing, and on the relationships between specifiers and consumers.

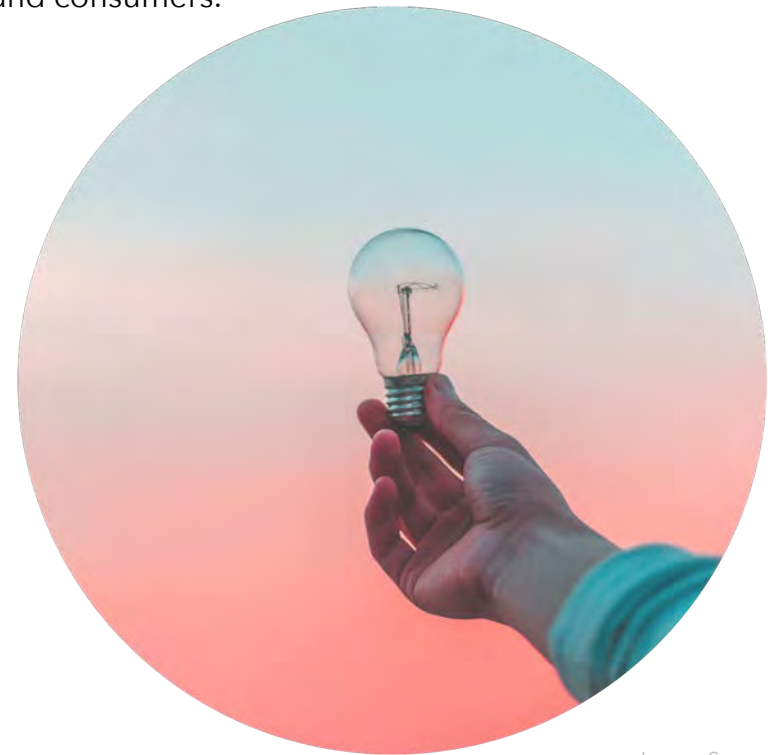


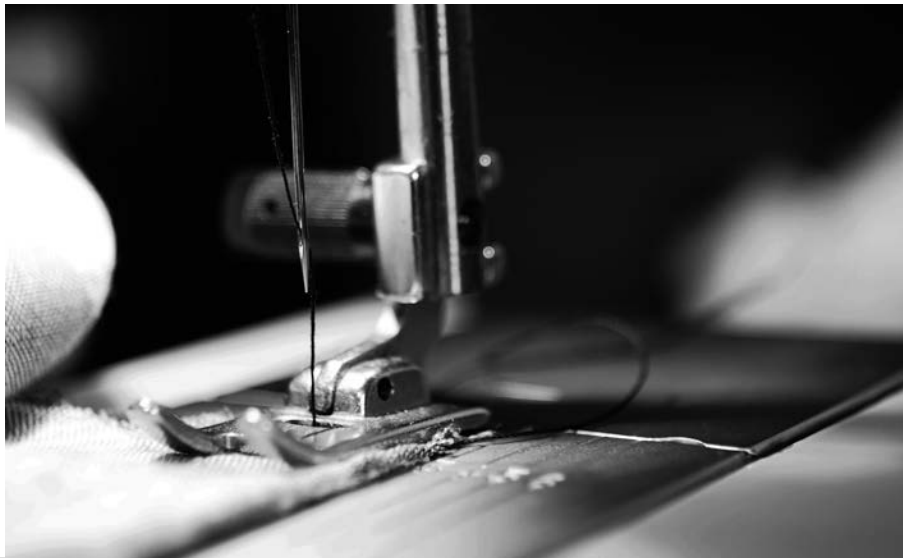
Image Source: Diego PH via Unsplash

# SCOPE & PROFESSIONAL GOALS

This project will focus on the need to shift toward using natural fibers and away from synthetic fibers such as polyester. The scope will be specific to the apparel industry, looking both at large corporations and small, “sustainable” brands.

This research will focus on the lifecycles of synthetic versus natural fibers and serve as an educational tool with a call-to-action component. This research will not focus on policy or the manufacturing of textiles outside of the of the apparel industry.

The goal is to encourage specifiers to make material choices with fiber lifecycle and long-term environmental impacts in mind and encourage a shift in the design process to a fully circular process.



As a soft goods product designer and sustainability leader, I aim to educate designers in responsible materials choices. The impact of a product begins at the initial concept, so it's important to truly understand the impact of those choices from the beginning of the design process.

My goal is not to instill fear for the impacts we have already accumulated, but to empower designers to course-correct and design in a way that provides better options to consumers, with the goal of becoming fully circular. Offering better choices will instill confidence in consumers that designers are looking out for them and their future, while providing a basic need for accessible clothing.

Throughout my career, I have found myself drawn toward leading others, connecting with nature, and sharing information in order to drive meaningful change. I see myself diving deeper into innovative materials, natural fibers, and working to build stronger connections between farmers and designers in order to strengthen the supply chain and domestic infrastructure. In order to do that, connectedness and education are paramount.

Image Source: J Williams via Unsplash

# Works Cited

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1. Laura Díaz Sánchez, "The Invisible Threat: Microplastics from Your Clothes." Plastic Soup Foundation, March 3, 2021, accessed July 29th, 2021, <https://www.plasticsoupfoundation.org/en/2021/03/the-invisible-threat-microplastics-from-your-clothes/>.
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5. "Don't Hide Your Pollution. Label It." Allbirds, accessed July 29th, 2021, <https://www.allbirds.com/pages/carbon-footprint-calculator>.