HOW TO ACHIEVE SUSTAINABLE DEVELOPMENT IN THE APPAREL INDUSTRY
A COLLABORATIVE TWO-PART APPROACH

Master of International Business Capstone Project

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Abstract

The global apparel industry must work to become more sustainable. Many characteristics of the industry dis-incentivize sustainable development. These disincentives lead to human and labor rights abuses, and contribute to resource scarcity and environmental degradation. The industry’s supply chain is human capital intensive and resource intensive, heightening the impact the industry has on the global commons. Furthermore, multi-national corporations (MNCs) in the industry face significant risk if they cannot achieve sustainable development.

Because all actors within the industry contribute partially to these un-sustainable outcomes, a full solution requires the participation of all stakeholders. To understand what these solutions may be, this paper first discusses the historical context of the apparel industry and its growth over the past 50 years. Then, it illustrates the supply chain through the example of a pair of jeans and the impact such a supply chain has on the Sustainable Development Goals (SDGs). Next, it highlights the necessity of private sector involvement in achieving the SDGs and discusses the business case for corporate social responsibility (CSR) and sustainability. Finally, it evaluates three case studies of sustainability business models that exist in order to draw lessons.

This paper concludes that sustainable development will be achieved most rapidly if effective, efficient and scalable solutions are implemented. Collaboration amongst all stakeholders in the industry is the most effective way to achieve greater sustainable development. This collaboration must happen at two levels. The first level is scaling up sustainability solutions from B Corporations and small innovative start-ups to MNCs. The second level is facilitating coordination across all global stakeholders through the formation of a global coalition.
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<thead>
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<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>AAFLI</td>
<td>Asian-American Free Labor Association</td>
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<td>ATC</td>
<td>Agreement on Textiles and Clothing</td>
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<td>B Corp</td>
<td>B Corporation</td>
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<td>BCI</td>
<td>Better Cotton Initiative</td>
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<td>CFDA</td>
<td>Council for Fashion Designers of America</td>
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<td>CFP</td>
<td>Carbon Footprint</td>
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<td>COP</td>
<td>Conference of Parties</td>
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<td>CSR</td>
<td>Corporate Social Responsibility</td>
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<td>CSV</td>
<td>Concept of Shared Value</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GHG</td>
<td>Greenhouse Gas Emission</td>
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<td>GVC</td>
<td>Global Value Chain</td>
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<td>ILO</td>
<td>International Labor Organization</td>
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<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
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<td>IVC</td>
<td>Integrated Value Creation</td>
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<td>MDG</td>
<td>Millennium Development Goal</td>
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<td>NAFTA</td>
<td>North American Trade Agreement</td>
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<td>NDC</td>
<td>Nationally Determined Contribution</td>
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<td>NGO</td>
<td>Non-governmental organization</td>
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<td>NRDC</td>
<td>National Resource Defense Council</td>
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<td>NRF</td>
<td>National Retail Federation</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
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<tr>
<td>PACE</td>
<td>Personal Advancement and Career Enhancement</td>
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<td>PET</td>
<td>Polyethylene Terephthalate</td>
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<td>SAC</td>
<td>Sustainable Apparel Coalition</td>
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<td>SDG</td>
<td>Sustainable Development Goal</td>
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<td>UNDP</td>
<td>United Nations Development Program</td>
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<td>UNFCCC</td>
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<td>USAID</td>
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I. Introduction

The global apparel industry recognizes it must find ways to address its negative impact on the environment and human rights around the world and admits that the industry’s contribution to unsustainability is incontestable.¹ There remains a general assumption that the concept of apparel and that of sustainability are inherently antagonistic – “more fashion equates to less sustainability”.² However, recent initiatives by companies have proven that, despite the challenges, progress towards sustainability can be achieved.³

Many factors, including an increasingly competitive industry, price conscious consumers, fast-fashion trends, competition amongst developing nations and a fragmented industry, reinforce the current behaviors of all stakeholders within the industry and prevent it from more effectively contributing to the UN Sustainable Development Goals (SDGs). The SDGs, which came into effect in January of 2016, are “a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity”.⁴ These goals build upon the successes of the Millennium Development Goals (MDGs) and provide guidelines for all stakeholders to “make the right choices now to improve life, in a sustainable way, for future generations”.⁵ The industry has grown over the past 50 years and has positively contributed to global development and economic growth around the world. However, the current challenges the industry faces are a reminder that development can come at a cost.⁶

² Ibid.
⁵ Ibid.
The apparel industry is comprised of the clothing and textile industries and includes all gender and age segments. The supply chain of the apparel industry includes both textile and apparel global value chains (GVCs). The Organization for Economic Cooperation and Development (OECD) defines GVCs as the sum of all the production processes that are located across different countries.\(^7\)

The textile GVC is comprised of material generation and milling, and the apparel supply chain is comprised of manufacturing, shipping, distribution, sales, use, and disposal. Any GVC is complicated by the fact that often each of these steps happen in a different location across the globe. For example, an NPR Planet Money special evaluated the manufacturing cycle of a t-shirt and found that the cotton was grown in the United States, spun in Indonesia, cut and sewn in Bangladesh and shipped back to the United States for sale.\(^8\) This fragmentation of the industry greatly complicates an already complex manufacturing process which is natural resource intensive, capital intensive, labor intensive and produces significant amounts of waste.

With no single governing entity, GVCs are regulated by sub-national, national, and international laws, standards, and agencies. This fragmented regulation causes a lack of accountability for all stakeholders, and limits stakeholders’ abilities to align incentives that might help it contribute to the SDGs.


Participation in the industry’s GVC is a part of many developing countries’ economic development strategy and research has demonstrated that GVCs contribute to gross domestic product (GDP), job creation, income generation, and tax revenues. However, in the case of the apparel industry, the growth in the industry and globalization of supply chains has also led to increasing exploitation of human and environmental resources. This exploitation can be partially linked to the greater complexity and fragmentation that characterizes these specific GVCs.

Within the apparel industry, the stakeholders are numerous. They include cotton farmers, factory workers and factory owners in developing nations, governments in both developing and developed nations, multi-national corporations (MNCs), non-governmental organizations (NGOs), intergovernmental organizations, consumers, and shareholders to name a few. While there will always be debate as to who is most responsible for the poor human rights and environmental conditions that plague the industry, many stakeholders are increasingly focusing on MNCs, which are companies operating global supply chains and selling their products globally. Arguments abound that MNCs, and the private sector, must fundamentally change the way in which their supply chains affect human rights and the environment and to do so they must work with all stakeholders.

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The industry has been plagued by environmental and human rights violations for many years. The first documented instance of human rights violations happened in the Triangle Shirtwaist Factory fire in 1911 in New York City, long before the globalization of the industry. 141 young women and men were killed in the fire, most of whom were immigrants and spoke little to no English. The accident was the worst fire that New York City had seen in years and happened on the top floors of a building that had been deemed fire proof and had only one fire escape that was blocked off by flames shortly after the fire broke out. This tragedy was the first historical reference to the term “sweatshop,” which is still frequently used to describe factories with poor health and safety conditions globally.

Globalization and growth in GVCs have escalated these challenges and have moved many of the development challenges the industry faced from the United States to abroad. Governments have supported globalization through neoliberal economic and trade policies, and MNCs have embraced and reinforced these policies. Rapid growth and cost minimizing strategies by MNCs have led to a constant search for cheap labor and cheap manufacturing costs. The combination of fast growth, cost minimizing manufacturing strategies, and an increase in consumption have contributed to occurrences of violations in human rights, poor labor conditions and exploitation of the environment.

These practices have resulted in some of the worst corporate blunders of the 20th century. The Rana Plaza disaster of 2013 was “the worst ever industrial accident to hit the garment industry” and “the worst industrial accident in South Asia since the Bhopal disaster in 1984.” The building collapse, which happened during work hours, killed an estimated 1,100 workers and left thousands more injured. While the Rana Plaza disaster was the most widely covered in the news, it was not the only labor, human rights and environmental issue that the industry has dealt with in recent years. Around the same time as the Rana Plaza collapse, two different factory fires in Pakistan left an estimated 500 dead.

Many organizations including Greenpeace, the Clean Clothes Campaign, the ILO and Human Rights Watch, criticize the industry and push for change. Their work has been increasingly supported by consumers who are attentive to these issues. The development of the “slow fashion movement” and “ethical consumerism” are a direct result of consumers embracing their ability to speak out against the unsustainability of the industry. Even with these pressures, in recent years the apparel industry has lagged far behind other industries in its efforts to improve its environmental and human rights record and its contribution to the SDGs. In 2015, EcoWatch accused the industry as being the “second dirtiest industry in the world, next to big oil”.

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Sustainable development, as it is defined in the UN Report titled *Our Common Future: Report of the World Commission on Environment and Development*, “is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”[^23] The industry has many considerable positive impacts on global economic development but remains unable to facilitate sustainable development.

The SDGs are one of the main ways in which the private sector, public sector and governments can monitor progress towards sustainable development. The SDGs are a set of goals that were built to continue the agenda set forward by the MDGs, which were eight anti-poverty targets. The SDGs are a specific, interconnected agenda and aim “to end poverty, protect the planet and ensure that enjoy peace and prosperity.”[^24] In total, there are 17 SDGs that were adopted as part of the United Nations Development Program (UNDP) by 150 world leaders in September 2015 and came into effect in January 2016.[^25]

The goal of this paper is to prove that collaboration between all stakeholders is the most effective, efficient, and scalable path forward for the apparel industry to reduce its negative impact and positively contribute to the SDGs. Only through collaboration amongst the private sector and between developing and developed countries, multi-national companies, small innovative startups, NGOs, intergovernmental organizations, consumers and all other stakeholders within the industry will the goal of sustainable development be achieved.

Part II, the first substantive part of the paper, will provide a historical context of the apparel industry. It will outline the growth of the industry over the past 50 years, the factors that have contributed to that growth, including globalization and trade liberalization, and the resulting outcomes of that growth, which include increasing competition, a shift in consumer preferences and a higher reliance in the industry on developing nations. This analysis will create context around why the apparel industry has had less success than other industries in achieving sustainable development.

Part III will evaluate the current state of the industry’s contribution to the SDGs, first illustrating the product lifecycle and then the extensive human rights, labor, and environmental challenges that the industry faces.

Part IV will discuss the role of the private sector in sustainability and describe the business case to sustainability. It will begin with a discussion of the theoretical frameworks that support the business case and will then describe the incentives for the private sector to engage in sustainability. These incentives include public and NGO pressure, legal regulations, climate change, partnerships, and increased expectation of measurement.

Part V will illustrate, through case studies, three distinct sustainability business models in the private sector. The first model is the MNC. It is inclusive of companies such as The Gap Inc., Levis, H&M and Marks & Spencer, that have already expressed an interest and achieved some success in their sustainability initiatives. The second model is the B Corporation. It includes companies such as Patagonia and Eileen Fisher, that have built their business and brand identity
around the pillar of sustainability. The third model is the Ethical Innovative Start-up. It is an emerging model that is defined by new small businesses using innovation to achieve sustainability in the industry.

The three case studies discussed in this section are Gap Inc., an MNC known for its sustainability initiatives within the industry; Eileen Fisher, a women’s apparel brand that was built upon a foundation of sustainability goals; and Everlane, an ethical innovative start-up known in the industry for its innovative take on transparency. The paper evaluates each business model and discusses the success and limitations of each model.

Finally, Part VI, will propose a solution to the challenges the industry faces, arguing that collaboration between the private sector and the broader industry is necessary for the industry to increase its contribution to the SDGs. First, it will provide a framework that companies within the industry may reference as they consider how to overcome limitations of their sustainability strategies, using the collaboration between Gap Inc., Eileen Fisher, and Everlane as a theoretical example. Second, it will propose a larger multi-stakeholder model that addresses how developing and developed countries, MNCs, NGOs, academic institutions, intergovernmental institutions, manufacturers, and consumers, may work together to overcome the cyclical nature of the industry, contribute more positively to the SDGs, and finally facilitate large scale sustainable development.
II. The Global Apparel Industry

A. In General

The global apparel industry, which is inclusive of the textile subindustry, is a $1.3 trillion-dollar industry. The largest global companies in the industry are Nike Inc., Adidas Group, Inditex, Industria de Diseño Textil SA, H&M Hennes & Mauritz AB and The Gap Inc. China makes up the largest contribution to total consumer demand in the industry at 21 percent, with the United States just behind it, contributing 20 percent.\(^{26}\) Currently, the top textile exporters in the industry include China, the EU, India and the United States and the top textile importers include the EU, the United States, and China.\(^{27}\) The industry has changed over the past 50 years as globalization and trade liberalization, have led to a dramatic growth in the industry, increased competition, shifting consumer trends, and increased developing nation reliance on the industry as their main source of export income.

B. Growth of the Industry

The growth in the textile and apparel industry over the course of the past 50 years is staggering. At its peak in 1948, employment in the United States apparel industry was estimated to be over 1.3 million jobs with imports contributing to no more than 2 percent of the total domestic apparel industry consumption.\(^{28}\) In 1960, import penetration in the United States apparel industry was below 5 percent while today apparel imports account for 95 percent of the apparel consumed in


the United States. Now developing countries’ production accounts for more than 60 percent of total apparel imports and job growth in these countries has subsequently increased as well. From 1970 to 1990, job growth has increased in Malaysia by 597 percent, Bangladesh by 416 percent, Sri Lanka by 385 percent, Indonesia by 334 percent, the Philippines by 271 percent, and Korea by 137 percent. The total apparel industry now employs 57.8 million people as estimated in 2014. The apparel industry continues to grow at high rates, driven by increasing worldwide demand for clothing. By 2025, it is estimated that the global apparel industry will reach sales of $2.1 trillion, almost doubling from 2016 levels. China and India are predicted to be the largest contributors to this growth; with an expected increase from 18 percent to 35 percent of total sales combined over the same time period.

C. Growth Contributors

1. Globalization

The past 50 years have marked significant change in the textile and apparel industry as companies have expanded their operations abroad, facilitated by home and foreign governments. Globalization, which is the development of an increasingly global economy, is known to help facilitate development, by enabling countries to strengthen their economies, solve poverty

problems and increase the strength of their health and education systems.\textsuperscript{34} The apparel industry is an excellent example of this; globalization in the industry brought physical capital and technology to pair with the human capital of these countries, which is believed to be necessary to successfully achieve development.\textsuperscript{35}

The push for globalization began as early as the 1950s in the United States. During this time, foreign policy aimed to help rebuild Japan and Europe and fight communism abroad. To do so, the United States government believed that trade liberalization of the apparel industry would help achieve both goals. Trade liberalization helped rebuild Japan through economic development principles outlined by Neoliberal economists, and strengthened the ties between Japan and the United States, incentivizing Japan to remain aligned with Western agenda rather than aligning with the increasingly powerful Soviet Union and People’s Republic of China communist agendas.

2. \textit{Neoliberal Economics}

Neoliberal economists argue that global trade will lead to development as increased production leads to better jobs and higher wages.\textsuperscript{36} Development in this example refers to the broader definition accepted by policy makers and scholars that includes not only economic development but also “social, political and institutional dimensions, causes and objectives”.\textsuperscript{37} One of the

driving factors of neoliberal economics is comparative advantage. Comparative advantage is an economic theory that highlights the ability of an individual or group to carry out a particular economic activity more efficiently than another.\textsuperscript{38} In the case of the apparel industry, developing country governments began to realize that they could make clothing more efficiently and cheaply compared with the United States, so that apparel manufacturing was “a socially valuable enterprise”.\textsuperscript{39} Opponents of neoliberalism argue that it is still not clear whether this development will ultimately “alleviate the existing social disorganization and expanding inequalities, or whether the efforts [of development country governments] will only maximize profits and intensify inequality”.\textsuperscript{40}

In the 1950s in the United States, the apparel industry was still largely based in New York and unionized. East Asian countries in contrast, had a significantly larger available work force, little current development in the industry and no unionization, all qualities that contributed to their comparative advantage. These Far East countries began to adopt policies to encourage foreign investment and industrial development in the textile and apparel industry. While the United States government was supporting trade liberalization domestically through reduced tariffs and quotas, developing country governments began to support foreign investment and domestic manufacturing through subsidies, duty-free export processing zones, and tax rebates.\textsuperscript{41} This export led industrialization continued to dominate the growth of the industry through the 1980s, facilitated by both developed and developing nations.\textsuperscript{42}

\textsuperscript{40} Ibid.
\textsuperscript{41} Ibid.
\textsuperscript{42} Ibid.
Over the next 30 years, additional policies and agreements continued to push forward this export led industrialization. These included the Multifiber trade agreement, the Caribbean Basin Economic Recovery Act, the North American Trade Agreement (NAFTA), many reciprocal trade agreements, and finally the formation of the World Trade Organization (WTO) and the Agreement on Textiles and Clothing (ATC). The industry is now “governed by the general rules and disciplines embodied in the multilateral trading system” as defined by the WTO.

D. Growth Outcomes

While governments were encouraging foreign investment in their countries, apparel brands in the United States were beginning to recognize these countries’ comparative advantage and subsequent lower costs that they could attain by manufacturing abroad. Competition, first amongst firms in the United States and then globally, facilitated an “industry on roller skates” effect - a pattern of companies searching for lower cost labor, country by country. This pattern encouraged “a race to the bottom” mentality on wages between developing countries.

As developing countries began to build upon their comparative advantage in the apparel industry, companies began to move their domestic manufacturing abroad; first to Japan and Korea; then to China, Vietnam, Bangladesh, Sri Lanka, the Philippines and India and most recently, Myanmar. The biggest contributing factor of this movement was the cost of labor. Wages have a

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45 Ibid.
46 Ibid.
significant impact on the cost of a garment because technology cannot replace the labor-intensive processes of manufacturing; there is no machine that can replace the human capital needed to sew. As MNCs began to produce apparel in lower wage countries, they began to lower their price points to consumers, increasing their consumer base and their sales volume.

The first discount stores opened in the United States as early as the 1950s, and became major competitors to the department stores by the 1970s.\textsuperscript{47} Consumer buying patterns began to shift directly with the lowering consumer price points. As they noticed cheaper clothing on the shelves of their favorite brands, they began to purchase more; creating demand for cheap clothing and reinforcing the outsourcing to developing nations by MNCs.

Globalization has also increased competition amongst MNCs as each company works to reduce their ticket prices and undercut those of their competitors. MNCs routinely push manufacturers to maintain or reduce low labor and production costs, even when they cannot afford to do so while maintaining their current standards. In some cases, this has led manufacturers to keep costs low through the deterioration of working conditions, the casualization of employment, and subcontracting to circumvent labor laws, to name a few.\textsuperscript{48} The cost of labor remains one of the most significant deciding factors that determines where MNCs manufacture, even today.

The growth in fast fashion or disposable fashion, which is a trend characterized by its low cost, fast product to market pipeline and rapid consumption, was made possible because low wage


labor. The trend is based on bringing consumers trends straight from the runway, quickly and cheaply. Fast fashion is a phenomenon that was brought to market first by brands including H&M, Zara, and Forever21. This increased competition has forced all companies to reconsider their product offering, lower their price points and speed up their pipelines – all of which impact the individuals working to produce the clothing and intensify the search for low cost labor.

Many developing countries also rely very heavily on the textile and apparel industry as their main source of exports and income and compete with other developing countries for their share of the apparel manufacturing export business. In Bangladesh in 2015, for example, the apparel industry was estimated to employ 4 million workers, in 4,328 factories. The industry contributes to roughly 82% of the country’s total exports, or about $28,092 million.\(^49\) Bangladesh’s high reliance on the apparel exports motivates the government to find ways to encourage low wages even at the expense of workers so that it may remain competitive in the larger global industry.

### III. Product Lifecycle – Relevance and Impact

#### A. Product Lifecycle

The apparel industry GVC is characterized by immense fragmentation with little vertical integration across each of the steps in the life cycle. Consider an example of a pair of Gap denim. This pair of medium indigo denim, style number 110029, is a size 25 regular and was sold in stores in Spring 2016. Its tag also states: “Made in Bangladesh”.

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The lifecycle of this pair of jeans can be split into 5 distinct stages: 1) material generation, the growing or made-made process of creating the fiber; 2) milling and weaving, the process of spinning and weaving or knitting the fibers into yarn and fabric; 3) cut and sew, the process of making the jeans out of the fabric; 4) distribution, the process of transporting garments from factories to distribution centers, to brick and mortar stores, and finally to the consumer; and 5) use, maintenance, and end of life, the stage that describes when garments are worn, cleaned, and discarded by their primary user, and then donated or thrown out. The first three stages characteristically take place in different countries, and are owned and operated by independent parties. The last two involve numerous additional stakeholders including distributors, brands and consumers. Each phase in the process is more fully explained below.

I. Material Generation

Apparel is made of a very wide variety of different materials. The pair of Gap denim has a fabric content of 99 percent cotton and 1 percent spandex. Cotton is the most widely used natural fiber in apparel production. Other natural fibers include wool and silk. Spandex is a synthetic fiber. Additional examples of synthetic fibers include nylon, acrylic, and polyester. The third most common category of fibers are plant-based, cellulosic fibers. These fibers include rayon, acetate, and viscose. In the total apparel industry, the breakdown of consumption by fiber is as follows: synthetic fibers (60.1%), cotton (32.9%), cellulosic fibers (3.9%), wool (2.1%) and flax, also known as linen (1%).

Cotton is grown around the world in over 85 countries. The largest producers of cotton are China, the United States, and India.\textsuperscript{51} 60\% of the world’s cotton is estimated to be used in fabric that is turned into apparel.\textsuperscript{52} World production of cotton totaled over 105 million bales of cotton in 2016; one bale of cotton equals 500 pounds.\textsuperscript{53} Cotton is grown in areas of moderate rainfall and is susceptible to insects and weeds which can both greatly reduce the yield of a cotton field. Most cotton is grown using a wide variety of pesticides (which includes insecticides, and herbicides); only .12 percent of the world’s cotton is growing organically, without these chemicals.\textsuperscript{54}

The production of synthetic fibers varies for each fiber. Spandex is a long chain polymer that is produced by a polyester reacting with a diisocyanate. Spandex is mostly commonly used to add a stretchable quality to clothing. There are four different ways to produce spandex fibers: melt extrusion, reaction spinning, solution dry spinning, and solution wet spinning.\textsuperscript{55} Polyester, the most commonly used synthetic fiber, is a synthetic fiber made from petroleum and is manufactured similarly to other plastics. The specific name for the polyester that is used in clothing is polyethylene terephthalate (PET), which is also used to make plastic bottles.\textsuperscript{56} Polyester is increasingly becoming a substitute to cotton in clothing because it has a less water intensive manufacturing process, is inexpensive, and its production is not limited by natural

resources in the same way that cotton is. The use of synthetic fibers in apparel production is anticipated to grow to 98 percent of total fibers in the future.57

2. **Milling and Weaving**

A mill processes the raw materials and turns them into yarn and then fabric. The process of milling includes combing, ginning, spinning, weaving or knitting, and fabric dyeing. The harvested cotton is transported in the form of a bale (see figure 1) to a mill where it is combed, ginned, and spun into yarn. Combing cleans out the debris from picking and transporting the cotton and ginning separates the cotton seed from the fiber. Spinning takes the raw cotton and transforms it into a continuous thread or yarn that can be woven or knit into fabric. Figure 2 and 3 demonstrate different steps in the process of spinning. Once the yarn is complete it can be dyed and woven or knit into fabric.

The process of dyeing, adding color to a garment, may happen at three different stages in the manufacturing process. These three types of dyeing are referred to as yarn dyeing, when the yarn is dyed before its woven or knit; fabric dyeing, when the knit or woven fabric is dyed; and garment dyeing, when the cut and sewn garment itself is dyed. Denim fabric is woven together with two different types of yarn. The warp is indigo yarn dyed and the weft is a grey fabric that is responsible for the white part of denim. Indigo is the classic blue color that is characteristic of denim. Figure 4 demonstrates the process of indigo yarn dyeing for denim.

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3. **Cut and Sew**

Once the fabric is complete, it is sent to a factory to be cut and sewn (see figure 5). Garment factories are comprised of a combination of mechanical tasks such as the pattern cutting process and labor intensive tasks, such as sewing. Typically, each element of a pair of denim will be sewn on by a different worker. The panels will be sewn by one person, the pockets will be added by another and finally the buttons, grommets and tags will be added by several more. After the assembly of the garment is complete, additional details can be added such as distressing, printing, and softening. Finally, garments will be prepped for sale with price tags, and sensors, and readied for transport.

4. **Distribution**

MNCs operating GVCs have a transport time that can range from a week, if the garment is flown, to over a month, if the garment is transported by boat. Garments coming from Asia, Africa or South America to the United States most often travel by boat to a domestic port. Upon arrival, they are transferred to trucks and driven to distribution centers that are spread throughout the country. They finally reach the brick and mortar stores anywhere from three months to a year after the garment was initially designed. Depending upon the business model, stores may receive as many as several shipments in a week of new products and replenishment of popular sizes and colors.

5. **Use, Maintenance and End of life**

Use and maintenance is the consumer use stage of the product lifecycle. This stage is defined by consumer wear, wash and disposal. Consumers will wear items as few as once or up to several hundred times before disposal depending upon the consumer and intent. Fast fashion items are
often used less and disposed of quickly, while basics such as underwear, socks, denim, and t-shirts are used more frequently. Once consumers are done with a garment they will most often donate or throw away the garment. The end of life of a garment can take several paths: reuse, recycle, resale, export of second hand clothing to developing countries for reuse or disposal. To date, it is still most common for an item of clothing to end up in a landfill.

B. Product Lifecycle Impact on Sustainable Development Goals

1. Affected Sustainable Development Goals

Both human centered and environmental SDGs are impacted at every stage in the lifecycle of a garment. The SDGs that are either directly or indirectly affected by activities within the apparel industry include: (1) No poverty, (3) Good Health and Well Being, (4) Quality Education, (5) Gender Equality, (6) Clean Water and Sanitation, (8) Decent Work and Economic Growth, (9) Industry, Innovation and Infrastructure, (10) Reduced Inequalities, (11) Sustainable Cities and Communities, (12) Responsible Consumption and Production, (13) Climate Action, (14) Life Below Water, (15) Life on Land and (17) Partnerships.58

The apparel industry’s extensive use of energy, water, labor is the key factor for the inclusion of the SDGs listed above. The industry accounts for 10% of global carbon emissions.59 The combined direct and indirect carbon footprint (CFP) of an average t-shirt, measured in greenhouse gas emissions (GHGs), is 8.423 kgCO₂e.60 In 2008, the industry produced an

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estimated 60 billion kilograms of fabric. The estimated amount of energy used to produce that much fabric is 1,074 billion kWh, and water is between 6-9 trillion liters of water. Water is used in almost every step of the process beginning with cotton farming, through the milling process and finally through the consumer use stage. Human capital is also crucial to the success of the industry. Roughly 60 million people are directly employed by the industry.

2. **Material Generation**

Cotton is a water and labor intensive crop; the cotton growing process is the largest consumer of water in the apparel supply chain. High consumption of water in cotton growing impacts surrounding communities who also rely on water for domestic purposes and the diversion of water from river basins to cotton farming destroys ecosystems. Also, an estimated 250 million livelihoods are supported in the production stages of cotton.

The cotton growing and manufacturing processes use several toxic chemicals that have been linked to environmental and water pollution. Cotton uses an estimated 2.4 percent of the world's arable land but accounts for 24 percent of the world’s insecticide market and 11 percent of the world's pesticide market. These chemicals have demonstrated adverse health effects on

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individuals living in the proximity of these cotton farms.\textsuperscript{68} The heavy pollution that results from the use of pesticides and fertilizers in growing cotton also impacts the livelihoods of those living around farms, the health of the farmers and the communities, and the run-off from farms impacts the surrounding ecosystems.\textsuperscript{69}

While, cotton production is highly water intensive, manufacturing of synthetics is energy intensive and produces a higher CFP. Conventional cotton production has a CFP of 5.90 kgCO\(_2\) for every ton produced. In contrast, polyester almost double the CFP of cotton: 9.52 kgCO\(_2\) for every ton produced.\textsuperscript{70} Acrylic is roughly 30 percent higher than of polyester, and nylon is even higher.\textsuperscript{71}

3. \textit{Manufacturing}

The apparel industry employs over 40 million garment workers who work in mills and factories around the world.\textsuperscript{72} Issues relating to human rights in mills and factories include child labor & young workers, forced labor, discrimination, working hours, wages and benefits, humane treatment, freedom of association and the right to collective bargaining, contract labor regulations, occupational safety, and health. Rana Plaza is a highly visible example however, these abuses happen every day in mills and factories around the world.

\textsuperscript{71} Ibid.
Recently, garment workers in Bangladesh held strikes to speak out against many different human rights abuses. Workers were striking for better wages, to speak out against “sexual threats and abusive taunts”\textsuperscript{73}, and to call attention to the unjustness of a worker being fired for trying to form a union.\textsuperscript{74} It is theorized that disasters such as Rana Plaza and other frequent human rights abuses could be avoided if individuals had freedom of association and the right to collective bargaining.\textsuperscript{75} However, throughout the past 50 years, globalization has led to a decline in unionized labor in emerging markets, which has largely eliminated workers’ power.

The Rana Plaza building held five garment factories. Building owner, Sohel Rana, illegally built four floors above what was approved and had done so with inferior building materials.\textsuperscript{76} The day before the Rana Plaza building collapse, an engineer had evaluated the building declaring it unsafe. Rana later met with a government official who declared the building safe until another inspection could be performed. The next day, April 24\textsuperscript{th}, 2013 all garment workers were told to report to work, that the building was safe, and that they would risk losing their jobs if they failed to show up. That day, the power went out and the generators kicked in. The vibrations from the generators caused the building to begin to shake and then collapse.\textsuperscript{77}

In the Rana Plaza disaster, the structural integrity of the building had already been called into question, however, the workers were forced to work anyways and had little power to challenge

\textsuperscript{74} Ibid.
\textsuperscript{77} Ibid.
the mandate.\textsuperscript{78} The lack of unions in Bangladesh at the time of Rana Plaza prevented workers from using union power to assert their right to worker safety by not entering the building without risking their jobs. In 2012, a year before the Rana Plaza disaster, it is estimated that there were only 122 unions in Bangladesh, representing 3 percent of the total apparel workforce in the country. While those numbers have increased, in 2015, two years after Rana Plaza, unions still only represented 5 percent of the workforce.\textsuperscript{79}

The lack of a worker’s ability to unionize coupled with the fact that they often rely exclusively on their jobs to provide for their families creates a critical situation. Development has provided these workers with an opportunity to provide for their families, but they are dependent upon these jobs and unwilling to risk losing their livelihoods by speaking out against these violations or attempting to start unions.\textsuperscript{80}

Another factor that contributes to the likelihood of human rights violations is that developing country’s mills, factories, and therefore economies rely heavily on apparel industry exports. For example, large corporations may contribute up to 80-100\% of a specific garment factory’s business\textsuperscript{81}; those businesses will likely take drastic measures to ensure they keep those customers. Since the main competitive advantage for a factory is its cost, they are incentivized to remain as cost competitive as possible as a result, even if it means cutting corners to save costs,

such as forcing overtime, paying the lowest wage salaries, ignoring necessary building maintenance, preventing unionization, or employing underage workers.

Studies have shown a correlation between low wages and other human rights abuses in the industry\(^\text{82}\), a problem that exists beyond just Bangladesh. Figure 6 illustrates the monthly minimum wage of countries that manufacture apparel. Bangladesh, Pakistan, Cambodia, Vietnam, and India all have some of the lowest minimum monthly wage requirements in the industry. Other issues related to wages make matters worse; these countries often have non-compliance issues with overtime wages, paid and sick leave, and social security and other health benefits.\(^\text{83}\) If wages and benefits are compared across genders, this issue becomes significantly worse, as women rarely hold management level positions and tend to have less bargaining power than their male equivalents.\(^\text{84}\)

Corruption in government and local industry is also a significant issue in developing countries, and in Bangladesh, especially so.\(^\text{85}\) Governments often turn a blind eye to the poor business practices of mills and factories in their country and ignore NGOs calls for enforcement of human rights laws. Just recently, Human Rights Watch reported that garment workers and union leaders were facing fabricated criminal cases after the strikes that happened in Dhaka, Bangladesh in December 2016. These arrests are seen as a politically motivated abuse of police power used to

\(^{83}\) Ibid.
intimidate leaders and prevent freedom of association. The government also condones factory and mill owner’s efforts to thwart unionization.

There are also environmental impacts in the manufacturing stage of the lifecycle of a garment. The manufacturing stage is responsible for an estimated 90 percent of the GHGs of an average t-shirt, resulting from mainly energy use. Both the manufacturing and dyeing processes are also chemically intensive. Wastewater, which refers to all discarded water after the processes are over, if not treated appropriately is discarded and impacts the water that communities depend upon for bathing, cooking, and drinking. Figure 7 demonstrates what wastewater can look like before it is treated and discarded into the environment.

In Indonesia, it is estimated that 68% of the industrial facilities along the Upper Citarum river are affecting the health of the 5 million people living in that river basin. As wastewater from mills and factories pollutes the rivers, the toxic chemicals harm the people and wildlife that depend upon these rivers. At one point Greenpeace tested the water of the Citarum river concluding that the discharge was “highly caustic [and] would burn human skin coming in direct contact with the stream.” In China, this also remains an issue. It is estimated that China still discharges about 40 percent of the chemicals that it uses in the dyeing process.

89 Ibid.
90 Ibid.
4. **Transport**

The transport of cotton, yarn, fabric, and garments is a carbon intensive process. As mentioned earlier, often cotton may be grown in Texas, shipped to a mill in Sri Lanka to be spun, shipped to a factory in China to be assembled, and then shipped back to the United States to be sold. As the materials and final product are shipped across the world and back, the ships that transport them are “fueled by the dirtiest fossil fuels.”\(^{91}\) A single large container ship produces roughly the same emissions as 50 million cars and is responsible for 3.5 to 4 percent of all climate change emissions.\(^{92}\) The high percentage of exports and the fact that roughly 90 percent of the world’s traded goods travel by sea suggest that the apparel industry is in part responsible for the shipping emissions.\(^{93}\) The increase in online shopping further increases the industry’s carbon footprint. In 2015, roughly 51 percent of purchases are made online compared with 47 percent in 2013.\(^{94}\)

5. **Use, Maintenance and End of Life**

Consumer behaviors also may have a detrimental impact on the SDGs. First, the process of home washing and drying a garment is water intensive, and dry cleaning can add harmful chemicals to the environment.\(^{95}\) Consumers also keep clothing half as long as they did 15 years ago\(^{96}\) and it

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has become increasingly more common for consumers to throw away clothing after just seven or eight uses.\textsuperscript{97}

Currently it is estimated that the average American throws out 82 pounds of clothing each year which equates to 11 million tons of textile waste from just the United States alone\textsuperscript{98} and up to roughly 50 percent of all textiles that are thrown away could be recycled.\textsuperscript{99} The limited amount of recycling that happens in the industry and the oversupply of donated goods results in this waste ending up in landfills around the world. To make matters worse, in a study by Moore and Birtwistle, they found that generally consumers were unaware of the need for clothing recycling and had limited to no understanding of how and where their clothes were disposed of.\textsuperscript{100}

The garments that end up in landfills are often made of a mix of different materials; some of which could be recycled and reused, and others that cannot. For example, linen, cotton, viscose can be turned into paper pulp and wool can be re-spun\textsuperscript{101} when they do not end up in landfills and synthetics can be melted and re-spun into fiber. Conversely, when wool ends in a landfill it decomposes and produces methane.\textsuperscript{102}

Another challenge arises with clothing that is donated. Charities often have a sell through rate of roughly 50 percent. The clothing that is not sold is recycled, moved to a discount store or sent for

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\textsuperscript{100} Ibid.

\textsuperscript{101} Ibid.

\textsuperscript{102} Ibid.
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emergency relief in the best cases. In other cases, recycled clothing is exported from developed to developing countries, threatening local industries. In 2013, it is estimated that the United States exported $691 million worth of used clothing.

IV. Sustainable Development in the Apparel Industry

A. The Private Sector and Sustainability

It is widely accepted that the role of the private sector is critical in achieving sustainable development and reaching the SDGs. Ban Ki-Moon, the former secretary general of the United Nations stated that “companies must not make our world’s problem worse before they try to make them better.”

Corporate social responsibility (CSR) is the most common way in which companies achieve this objective and facilitate corporate sustainability. The common definition of CSR purports that the social responsibilities of a firm are economic, legal, ethical, and philanthropic. In other words, a company should “make a profit, obey the law, be ethical, and be a good corporate citizen.”

The adoption of CSR by MNCs in the apparel industry has been driven by a number of different motivations including the opportunity to market itself as ethical, competitive pressures, pressure from NGOs or the public, a sense of moral obligation, potential business cost reductions, or

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106 Ibid.
Historically, CSR initiatives have tackled one part of the supply chain at a time rather than the entire supply chain. To become more sustainable and overcome the negative cycle that exists in the industry, MNCs must think beyond how they’ve approached CSR in the past, since the industry is still struggling.

B. CSR, Shared Value and Integrated Value Creation

The business case for sustainability builds on the common definition and addresses the business case for why firms should engage in CSR. Michael Porter was the first academic to propose a business case for sustainability with his concept of shared value (CSV). CSV focuses on the connections between societal and economic progress and specifically highlights a need to expand the total pool of economic and social value. It “can be defined as policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates.”

The CSV model is not without limitations. The concept of CSV falls short because it ignores the tensions between social and economic goals, glosses over the complexities of value chains, does not address the problem of social embeddedness of corporations and is naïve about the challenges of business compliance. In Karnani’s Doing Well by Doing Good he critiques the CSV model, highlighting that if market interests are aligned among public interests and profits,

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110 Ibid.
there is no conflict or tradeoff. However, when business interests don’t align with public interests, there is a tradeoff between profits and public interests.\textsuperscript{112}

For example, take the challenge of unionization within Bangladesh. Currently, the low cost of Bangladeshi labor is in part because unionization is uncommon and unsupported by the Bangladeshi government. MNCs might choose to encourage unionization within the industry, however, one direct result of that unionization would be higher labor costs which would directly translate into higher garments costs for an MNC. This example demonstrates the conflict that can exist between sustainability initiatives and profits, and highlights the need for MNCs to look beyond the CSV concept in the apparel industry.

While this concept is easy to understand, it is much more challenging to achieve. Waste reduction, energy and water savings, and production efficiencies are examples of how sustainability initiatives could positively impact the SDGs and lead to cost savings for an MNC but these sustainability initiatives can have an upfront cost that makes investment a challenge. MNCs depend upon low cost prices for sales and implementing traditional sustainability measures into the supply chain only goes so far. MNCs cannot afford to simply increase the prices of their clothing to fund sustainable business practices within their supply chain. If they did so, they would likely go out of business; the job loss could have an additional detrimental effect on the SDGs.

Visser and Kymal proposed the idea of Integrated Value Creation (IVC) to address the shortcomings of CSV and other CSR models and to create a business case that goes beyond the idea of profit generation. The idea of IVC integrates CSR literature of the past 20 years building upon concepts such as Freeman’s stakeholder theory and Michael Porter’s CSV. The goal of IVC is to “help a company to integrate its response to stakeholder expectations through its management systems, and value chain linkages.”

The model argues that by building in an additional innovation step, the redesign of products and processes can deliver solutions to the biggest social and environmental challenges while also creating new value for the company. It goes beyond the concept of CSV, which highlights just economic incentives of the “win win” concept, and suggests that business benefits may also include: reduction in risk, costs, liabilities and audit fatigue, and improvement in reputation, employee motivation, customer satisfaction, and stakeholder returns.

A survey by Mckinsey&Company reinforces this idea; they found that the companies that were most successful at capturing value in their sustainability practices were focused on capturing value in three specific areas: growth, risk management and returns on capital, and going beyond sustainability as a reputation management tool. The survey also found that a long-term strategic view of sustainability was necessary to be successful.

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116 Ibid.
The business case for sustainability is essential for the apparel industry, because MNCs must find ways to provide cost neutral and like-quality options to consumers to be competitive, successful, and sustainable.\textsuperscript{118} Low cost fashion accounts for the majority of global apparel sales and the average consumer is not willing to pay more for an ethically produced garment.\textsuperscript{119} In the apparel industry, a cost neutral and like-quality solution ensures that companies don’t face the dilemma of tradeoffs between profits and public interests. Additional incentives and benefits that the IVC model speaks of include the rise of the ethical fashion movement, NGO pressure, increasing regulation aimed at improving ethical practices in business, climate change, partnership, and an increased focus on measurement.

C. Ethical fashion

In response to fast fashion, a growing movement called ethical consumerism has begun to develop and with it, ethical fashion. Ethical consumerism is defined as the rise in consumers using their purchases to stand for values. Research suggests that certain consumers are willing to report that they would pay more for ethically produced items. Ethical fashion, also termed “fashion with conscience”, “can be defined as fashionable clothes that incorporate fair trade principles with sweatshop-free labor conditions while not harming the environment or workers by using biodegradable and organic cotton.”\textsuperscript{120} While the ethical fashion movement has gained in


\textsuperscript{120} \textit{Ibid.}
momentum over the past 5 years, sales of ethical products still contribute to less than 1% of the total size of the industry.¹²¹

Ethical fashion companies and consumers have worked hard to increase their visibility within the industry, increasingly putting pressure on MNCs, criticizing them for their unsustainable business practices and encouraging them to become more sustainable. Many ethical companies use combative dialogue, to put pressure on MNCs and the media has adopted much of this dialogue, bringing it mainstream. Zady poses a question to consumers asking, “what if instead of corporations just being in the business of selling things, they were in the business of making the world better?”¹²² Their website highlights the extensive breadth of un-sustainability issues within the industry and calls for a “New Standard”.¹²³ The media often highlights the increased popularity of ethical fashion asking, “Is Ethical Fashion the New Black?”¹²⁴ and highlighting, almost monthly, the best new Ethical Brands.¹²⁵ As this movement grows, MNCs will face increasing competition and pressure to increase their sustainable business practices.

D. NGO Pressures

Stakeholders within the industry have recognized that MNCs hold the most potential to positively impact the industry and increasingly target MNCs in their campaigns. Human Rights

¹²³ Ibid.
Watch, a human rights focused NGO, has published detailed reports about the apparel industry highlighting issues such as workers’ rights in Bangladesh and labor rights abuses in Cambodia.

Greenpeace launched The Detox Campaign in 2011 and published “the Dirty Laundry Report”. The reported summarized the findings from a year long investigation into ties between MNCs and mills in China that were discharging hazardous chemicals into the Yangtze and Pearl River Deltas. The campaign successfully convinced brands including Nike, Adidas, and Puma to commit to eliminating the discharge of hazardous chemicals in their supply chain.126

One of the most notable examples of consumer activism and NGO pressure is the 1990s boycott of Nike over their use of child labor in their supply chain. The movement began with labor unrest in Indonesia, and quickly gained the attention of the global media. Soon labor reports highlighting Nike’s involvement in these issues began appearing in publications including the Far Eastern Economic Review and California Business. With further pressure from the NGO Asian-American Free Labor Association (AAFLI) and a few dedicated activists, Nike’s behaviors began to draw international attention leading to consumer boycotts at major universities. Finally, in 1998, Nike’s CEO Phil Knight, took responsibility for the company’s use of child labor and acknowledged the company’s need to change. Nike today is one of the leaders in sustainability within the industry.127

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The example of Nike showcases the detrimental business impact that NGOs may have upon their MNC targets. However, if MNCs engage often with the NGOs who are their biggest critics and invest early in sustainability strategies, they may mitigate the future business risk of boycotts and negative press.

E. Sustainability Regulations

Many governments also feel pressure from NGOs to improve the sustainability initiatives of MNCs incorporated within their borders and to monitor actions taken by MNCs manufacturing in their countries. The past 5 years have brought about a significant change in the regulatory environment of the apparel industry. New and stricter regulations address both human rights and environmental issues within the industry, and put pressure on mills, factories, and MNCs to improve their business practices or risk facing penalties imposed by government.

After the collapse of the Rana Plaza building in Bangladesh, the Bangladeshi government faced severe criticism about its role in the matter. Labor rights organizations called for reforms to the country’s labor laws, brands formed coalitions dedicated to improving worker safety such as the Alliance for Bangladesh worker safety128 and the Bangladeshi worker safety accord129, and the United States government threatened to suspend Bangladesh’s trade preferences.130 The country introduced the Bangladesh Labor (Amendment) Act in 2013.131 Among many other amendments,

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the law strengthens the health and safety requirements that factories must meet, clarifies many aspects of compensation, and makes unionizing easier.\textsuperscript{132} While no one disagrees that the 2013 amendment was a necessary step forward, though many argue that it is not enough to improve labor rights in Bangladesh.\textsuperscript{133}

In 2013, China passed an amendment to its environmental protection law, marking the first changes to the law in 25 years. The law came into effect at the beginning of 2014 and aimed to increase the power of environmental authorities and instill harsher punishments for polluters. The environmental production law matches global standards; however, critics of the law argue that there is a gap between the law and its enforcement.\textsuperscript{134}

The top importing countries of apparel have also addressed sustainability. The California Transparency Act was signed into law in October 2010 and went into effect in California in January 2012. The law requires companies based in California and of a certain size to report on their action to eradicate slavery and human trafficking in their supply chains. The law addresses the lack of transparency from MNCs and works to ensure that consumers have the information that enables them to understand more about a company’s supply chain and whether it’s well managed.\textsuperscript{135}

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Europe has also tackled many labor and environmental issues within the industry through legislation. To deal with toxic chemicals, the European Union banned imports of clothing that contains nonylphenol ethoxylates, which were responsible for some of the damage done to the Citarum River in Indonesia.\textsuperscript{136} In early 2017, the Netherlands approved a new law titled Due Diligence Child Labor. The law requires companies selling to Dutch customers, whether they are based in or outside of the Netherlands, to declare to a Supervisory Body that they have performed due diligence with regards to child labor. The law aims to ensure that Dutch customers will not purchase items manufactured with child labor. These laws are particularly interesting because they aim to govern global companies selling to EU and Dutch consumers.\textsuperscript{137}

Government regulation is increasingly being supported by MNCs’ business executives. Business leaders recognize the benefits of working with the government on regulations, especially those that facilitate and motivate a contribution to the SDGs.\textsuperscript{138} These benefits include an ability to provide input and guidance on the regulation, better anticipate lawmaking and therefore build sustainability strategies that directly address legislation before it becomes law. Michael Porter’s essay titled America’s Green Strategy supports this view; he argues that stricter regulations often enhance competitive advantage rather than hindering it.\textsuperscript{139} Furthermore, many recognize the business risks associated with not meeting the goals of the SDGs and therefore, see stricter government regulations as necessary to reduce long term business risk.\textsuperscript{140}

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\textsuperscript{139} Porter, Michael. \textit{America’s Green Strategy. Scientific American.} (1991), vol. 264 4 pg.168
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F. Climate Change

The existence of climate change is widely accepted in academic literature. Observed effects of climate change include a rising global temperature, the highest carbon dioxide levels in the air in 650,000 years, a decrease in arctic ice, and a rise in the global average sea level. Climate change is caused by a rise in GHGs and other anthropogenic factors. The Intergovernmental Panel on Climate Change (IPCC) Climate Change 2014 Synthesis Report warns of the effects of climate change which include increased extreme weather, water and food shortages, coastal and inland flooding, and periods of extreme heat; all which are estimated to have a higher impact on the most vulnerable populations in the world.

Climate change poses great risk to the apparel industry. Companies that rely heavily on cotton to produce their clothing risk increasing price volatility of the commodity as water and climate change effect the crop yields. For example, flooding caused by climate change in Pakistan in 2010 affected the livelihoods of 20 million people in the industry and directly impacted the global cotton harvest, driving up global cotton prices. Second, the industry’s high dependence on electricity, oil, water and human capital also poses risk as these resources are all estimated to be impacted by the effects of climate change listed above.

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143 Ibid.
The Paris Agreement is a treaty that was agreed upon by all member states of the United Nations Framework Convention on Climate Change (UNFCCC) at the Conference of Parties (COP21) in April 2016. The treaty works to strengthen the global commitment to combating climate change through “nationally determined contributions” (NDCs) of each member state. It entered into force on November 4, 2016 and has been ratified by 142 of the 197 parties to date.\textsuperscript{145}

The Paris Agreement has the potential to positively impact the apparel industry by motivating companies to invest in measures that will help them contribute to the NDCs of their respective countries and the countries that they operate in, helping them mitigate the business risk associated with climate change. However, it also poses business risks as countries consider implementing a carbon tax or Cap-and-Trade program to curb GHG emissions, that are designed to raise the cost of energy.\textsuperscript{146}

G. Partnership

SDG17 is focused on facilitating global partnership between governments, civil society, the private sector, the United Nations, and other actors. Target goals of SDG17 include strengthening cross border cooperation, increasing developing country access to finance, promoting technology transfer of sustainable technologies across borders, and increasing multi stakeholder partnerships.\textsuperscript{147}

In the apparel industry, partnerships between firms and NGOs have the potential to produce positive social and environment impact and business benefits. Partnerships can have greater impact than firm initiatives because firms may engage with NGOs that are better suited than the firm to implement sustainability initiatives. Partnerships can also reduce a firm’s investment in its initiatives since costs are split across several entities.148

Partnership within the industry is critical to its ability to become sustainable and positively contribute to the SDGs because it reduces potential market failures and facilitates more efficient and effective investment. There are several examples of how partnership has effectively contributed to improving the industry’s impact on the SDGs. These examples include partnerships such as the DC Fashion Incubator and Macys Partnership (DCFI), the Sustainable Apparel Coalition (SAC), and the NRDC Clean by Design program. However, these programs still continue to solve only one challenge at a time and don’t solve the negative spiral of reinforcing factors that contribute to the unsustainability of the industry.

H. Measurement of Impact

One of the first steps that must be taken for the industry to contribute to the SDGs is to create a standardized system that measures its current impact.149 The SAC has created such an index, called the HIGG index. The HIGG index, which is still only being used by a small number of business, can be used by factories, mills and MNCs to evaluate their business’ impact on the SDGs.

The index measures: energy use, water use, wastewater, emissions, chemical use, facility workplace standards, and engagement on social-labor issues.\textsuperscript{150} As the HIGG index grows in its acceptance within the industry, it will be able to provide consumers, competitors and NGOs with the ability to compare sustainability performance among all companies. Companies that adopt the HIGG index early could benefit from early adoption, and companies that lag may find themselves forced to invest heavily to catch up to the clear industry standards.

V. \textbf{Apparel Industry Case Studies}

A. \textit{Sustainable Business Models in the Apparel Industry}

Three distinct types of sustainable business models exist today in the industry. Two have existed pre- the sustainable fashion movement and the third was a direct outcome of the movement. Each of the business models address the issue of unsustainability within the apparel industry in a different way and all integrate the concept of IVC into their sustainability strategies.

The first business model is that of MNCs who are taking leading steps in the industry to acknowledge their role to contribute to the SDGs and have already made significant steps towards addressing some of the concerns. The sustainability model these companies follow closely aligns with the reasoning of CSV and IVC and they depend upon the business case to facilitate their sustainability initiatives. These MNCs are publically held companies with annual global revenues over $1M, complex GVCs, and value driven and fast fashion focused consumers. In addition, these companies have already made distinctive efforts towards achieving

the sustainable development goals. Companies that are included within this definition include Nike Inc., Gap Inc., H&M Hennes & Mauritz, Inditex, Marks & Spencer, Levis and Walmart. These companies have the most potential to create fundamental change within the industry given their size, GVCs, global consumer base and sustainability experience. In fact, taken together, the largest 10 MNCs in the apparel industry account for over 14 percent of the global retail sales in the industry.\footnote{Market Sizes | Historical/Forecast | Retail Value RSP | US$ mn | Constant 2015 Prices. (2016). Euromonitor International. Retrieved 30 March 2017, from www.euromonitor.com.} Gap Inc. will be used as a case study to further illustrate the attributes of this type of company. Conversely, they also face the most challenges with regards to achieving sustainability because they are publicly owned companies that above all have a responsibility to deliver profit to their shareholders.

The second business model is the small scale, sustainably integrated, certified B Corporation (B Corp), which includes companies such as Patagonia and Eileen Fisher. B Corps are a “type of for-profit companies that also meets rigorous standards of social and environmental performance, accountability, and transparency.”\footnote{What are B Corps? | B Corporation. (2017). Bcorporation.net. Retrieved 12 February 2017, from www.bcorporation.net.} The certification is built on the idea that business impacts and serves more than just shareholders and highlights that companies have an equal responsibility to the community as to the planet.\footnote{Why B Corps Matter | B Corporation. (2017). Bcorporation.net. Retrieved 24 February 2017, from www.bcorporation.net.} Companies certified as B Corps “meet the highest standards of verified social and environmental performance, public transparency, and legal accountability and aspire to use the power of markets to solve social and environmental problems.”\footnote{Ibid.} The B Corp certification and the private ownership of these companies allow for
them to overcome the challenge of tradeoffs between profit, and social and environmental impacts that MNCs are unable to overcome.


The companies that fall into this third business model are small companies that are focused on sustainability oriented innovation within the apparel industry. Their business motivation is the growth of the ethical consumer market and they depend upon the idea that consumers will pay more for their “ethical story” and value their differentiation within the industry. These companies include brands such as Everlane and Zady, each who reimagined the apparel supply chain, and companies such as the Renewal Workshop\footnote{Renewal Workshop. (2017). Retrieved 9 April 2017, from www.renewalworkshop.com.}, a company tackling the challenge of recycling in the industry, and Bluesign® technologies\footnote{bluesign® system. (2017). Retrieved 9 April 2017, from www.bluesign.com.}, a company working to transform the dye industry.
and reduce its negative impact, who have found innovative solutions to issues within specific stages of the product lifecycle. What differentiates these innovative companies from companies such as Eileen Fisher is the time they’ve existed within the industry (less than 10 years), their radical sustainability oriented innovations, and their intent to disrupt the status quo of the industry.

B. Case Study: Gap Inc.

Gap Inc. was founded in 1969 by Don and Doris Fisher, and has grown from a small denim and record store based in San Francisco, to a global corporation. The company owns 5 distinct brands: Gap, Banana Republic, Old Navy, Athleta and Intermix, all of which cater to different customer segments through product, price and aesthetic differentiation. Gap Inc. is a publicly traded company listed on the New York stock exchange, with a market cap of 9.66B. The company reported 2016 net sales of $15.5 billion.\textsuperscript{160}

Gap Inc. operates almost 3,700 stores worldwide, including company owned stores and franchise stores in 90 countries around the world. The company employs over 150,000 individuals across just its wholly-owned operations. Gap Inc.’s global footprint is expansive. In 2014, the company reported that it worked with 854 independent factories during the full fiscal year, in regions including China, South Asia, Southeast Asia, Africa and the Middle East, Europe, Latin American and the Caribbean, Asia, and the United States and Canada.

Gap Inc. voices its commitment to improving its impact in the industry and contributing to the SDGs on its website and actively supports investment in philanthropy and sustainability. The company operates with the belief that businesses and communities need to work together to thrive; something that is reflected in their continuous dedication to CSR since founding. The founders’ vision was to build “a business that creates many opportunities – not just for employees and partners of Gap Inc., but for the communities where [the company] does business.” This vision is supported through the Gap Foundation, the charitable arm of Gap Inc.

The Gap Foundation’s goal is to support communities where Gap Inc. does business. It is focused on engagement with the local community and global sustainability initiatives. A statement on the company website provides insight into the company’s view of the link between a company, the community and sustainability. The website states: “we believe businesses and communities need to work together to thrive, so we focus our community programs on areas that line up with our business expertise. We think we can make a difference by advancing women, teens, and young adults and supporting volunteers.”

Gap Foundation supports the company’s employee engagement program “Be What’s Possible”, a philanthropy based program. “Be What’s Possible” encourages employee engagement through incentive programs, including an employee donation matching program, team volunteer events,

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162 Ibid.
163 Ibid.
and designated time off for volunteer hours. In 2016, Gap Inc. employees donated 418,000 volunteer hours, and contributed $14 million in time and money to the community.¹⁶⁴

Gap Inc. tackles sustainability in its supply chain by investing in vendor capacity building, partnering with 3rd parties, and increasing the transparency of its supply chain. All Gap Inc.’s sustainability initiatives fall into three categories: people, the environment, and product. The initiatives address challenges to sustainability in the supply chain and directly benefit the business. A few examples of these initiatives include The Personal Advancement and Career Enhancement (PACE) program for women employed within the Gap Inc. partner factories, the Women + Water program, and the company’s Factory Rating system.

The PACE program is a factory capacity building program that was created in 2007 and is designed to teach women working in factories “critical skills for navigating life both at work and at home.”¹⁶⁵ The program is a year-long program that the factories invest in and includes training and coursework that are focused on financing skills, health and safety knowledge, and skill building. The success of the program is undeniable and has proven business benefits. Women who graduate from the program report higher self-esteem and confidence. To date more than 50,000 women from 12 different countries have participated in the program. Factories note improvement in employees’ attendance, efficiency, health, and confidence; improvements that are directly linked to cost savings. However, it is not without challenges. Implementation of the

program requires investment by factory owners and buy-in from participants which can be hard to get, and growth in the program has been slow since its start.\textsuperscript{166}

The Women + Water program is a new initiative by Gap Inc. in partnership with U.S. Agency for International Development (USAID) and the Better Cotton Initiative (BCI). The program is designed to “advance the health and well-being of women touched by the apparel industry by improving access to clean water and sanitation services.”\textsuperscript{167} The program is one of the largest initiatives taken on by the company. Its priorities include improving mill practices, building more water filtration plants, educating women who make the clothing of safe water handling practices and investing in Better Cotton. Each of these initiatives are important and hold the potential to reduce the company’s water use and improve the communities around cotton farms, mills and factories where Gap Inc. operates. The effectiveness of the program to contribute to the SDGs has not yet been proved, given its being so new, but it does offer much promise and directly ties to the 2020 goals that the company has committed to.

The Factory Rating system is designed to provide employees and consumers information about the sustainability performance of factories at Gap Inc. The program has four ratings; Dark Green, Light Green, Yellow, Red and provides ratings of factories by region.\textsuperscript{168} The program is currently limited to factories and does not address the sustainability ratings of cotton farms and mills, a significant limitation to the rating system. Transparency is one of the key pressures the


company faces from NGOs and consumers that this program is in direct response to those pressures. While it is a step forward, in the company’s 2014 Sustainability report, the Public Reporting Working Group highlights what it sees as the limitations to the strategies the company has begun to implement. First, it calls upon the company to publish a sustainability report annually rather than biannually. Second, it questions the company’s choice to report on issues within its supply chain by region rather than country. Third, it highlights the need for a section on labor recruitment in order to understand how labor is recruited by the vendors the company works with.  

The 2016 Global Sustainability report titled “Our Futures Woven Together” highlights the company’s dedication to improving its impact on sustainability in the future. The report announced the company’s ambitious goals to reduce absolute greenhouse gas emissions by 50 percent by the end of 2020, to commit to 80 percent waste diversion from landfills across United States by 2020, to expand the PACE program to 1 million women by 2020, and to provide clean water for 17,000 people in India through the Women + Water program.  

Each of the initiatives has a positive impact on the company’s contribution to the SDGs. However, their limitations highlight the challenges to sustainability that MNCs face. First, each initiative is specific to improving upon one issue within the industry at a time: the PACE program, to improve the livelihoods of the women working in factories, Women + Water to improve women’s access to clean water and the factory rating system to increase the company’s

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transparency about its factory bases’ sustainability efforts. Second, these initiatives’
contributions to the SDGs are limited to a small percentage of the total Gap Inc. supply chain.
Third, progress and scaling of these initiatives is slow. Finally, while all these initiatives are
important, the company still does not address the consumer element of the business either
through encouraging less consumption or encouraging less disposal.

Gap Inc.’s established, complex, and fragmented supply chain, and its responsibility to its
shareholders prevent it from overcoming these challenges. Cultural differences between different
countries where the company works, mean that a one size fits all approach may not be effective
for vendor capacity building programs. Therefore, time and money must be spent to scale
programs across borders. Second, mills and factories in the supply chain may already be
established and any upgrades to inefficient equipment may cost those businesses more than they
can afford.

Corporate law in the United States requires that directors and officers pursue the maximization of
shareholder profits or corporation profits.\textsuperscript{171} Gap Inc. as a publicly traded company discloses its
income statements and balance sheets. As a result, its actions may be scrutinized by the
shareholders, and elevated through the lens of this provision of Delaware, and other states’,
corporate law. It is argued that this responsibility to shareholders inhibits social responsibility
because the law does not explicitly mention any corporate responsibility to public interest.\textsuperscript{172} To

www.commondreams.org.
circumvent this legal limitation of corporate law, businesses often adopt a CSV approach to sustainability, which directly results in the limitations discussed above.

C. Case Study: Eileen Fisher

Eileen Fisher founded her namesake brand, Eileen Fisher, in 1984. The company is headquartered in Irvington, New York and is a certified B Corporation. The brand Eileen Fisher is known for its simple elegance and comfort and was inspired by the Japanese Kimono. Since its founding, the company has grown to a $400 million global brand with more than 60 stores worldwide. Since its founding, Eileen Fisher made a point to drive a purpose led business. She created the company based on three pillars – “Clothing, Mindful Business Practices, and support of every employee’s purpose”.¹⁷³

Eileen Fisher’s CSR strategy is more appropriately termed corporate sustainability. The vision of the company “is for an industry where human rights and sustainability are not the effect of a particular initiative but are the cause of a business well run, where social and environmental injustices are not unfortunate outcomes but reasons to do things differently”.¹⁷⁴ The company adopted an expansive sustainability strategy that consists of several over-arching initiatives including Vision 2020 and Social Consciousness. This strategy is comprehensive and integrated into the way in which the organization operates. All the aspects of its purpose driven initiatives are directly related to the core business of Eileen Fisher, making clothes.¹⁷⁵ These two specific

initiatives outline the company’s external and internal sustainability strategies. In addition to these initiatives, their website provides extensive information about all the types of sustainable products that they offer in their “Behind the Label” section.

Vision 2020 is a five-year plan comprised of a comprehensive set of goals and milestones. The plan was announced by the company in March of 2015 and is designed to help the company achieve 100 percent sustainability. Vision 2020 is a set of specific, measurable goals that span across eight categories: materials, chemistry, water, carbon, conscious business practices, fair wages & benefits, worker voice, and worker & community happiness.176 It focuses on offering transparency to consumers and sets a standard for others to follow in the industry. A few of the commitments the company has pledged to achieve include: all its linen and cotton will be organic, 30% of its product will be bluesign® certified for responsible chemical, water, and energy usage at their global dyehouses and its US operations will be carbon positive.177

Social Consciousness is the company’s internal program that governs the way it interacts with the community domestically and internationally. The program outlines different ways in which the company interacts with its community. These include: policy engagement, volunteering, partnerships and donations. The work the company focuses on falls into these three key tenets of the brand: women’s rights, the environment and human rights. Through Social Consciousness, Eileen Fisher supports grant programs for Women-Owned Businesses and Activating Leadership, community partnerships, partnerships with various human rights organizations, and

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other initiatives dedicated to reaching the environmental milestones the company has committed to.

Eileen Fisher currently manages partnerships with the Ethical Trading Initiative, Fair Factories Clearinghouse, Good World Solutions, and Responsible Sourcing Network, to name a few. Social Consciousness also encourages employees and customers to volunteer in the community and provides grants and donations to NGOs and nonprofits. Over time the company has contributed to companies focused on advocacy & research, child protection, climate change, community development & education, environmental conversation & restoration, human trafficking, recycling, seed security & sustainable agriculture, water stewardship, and women’s empowerment. All are initiatives that have an impact on the company’s core business.

Behind the Label describes the extensive work that Eileen Fisher is doing to achieve their Vision 2020 goals and through their Social Consciousness framework. According to Candice Reffe, the Co-Creative Officer of Eileen Fisher, “to create a truly responsive supply chain, we need to scrutinize everything we do, from the field to the factory to the landfill” and this mindset is reflected in the Behind the Label transparency. A few of the initiatives discussed on the website include Made in USA, the companies work with organic fibers, and its Fair-Trade membership. Many of these initiatives, and the transparency the company stands for, are partially for marketing and sales purposes. Made in USA and Fair Trade, specifically, are highly visible and marketable initiatives that the company can use to drive sales. However, there are also initiatives the company has adopted that prioritize sustainability over sales. In one example, when the

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company discovered the poor impact that the manufacturing process of viscose had on the environment, it made a commitment to phase out its use of viscose, even though it was one of their top selling fabrications.\textsuperscript{179} This type of decision, prioritizing sustainability over profit, is enabled by two factors: Eileen Fisher’s leadership and its B Corporation Certification.

Eileen Fisher as a leader is key to the sustainability initiatives of the company. She is a vocal proponent of sustainability within the apparel industry and has built her company and leadership style around this advocacy. One key component of her strategy is her motive for CSR. Her motives closely resemble the idea of moral motives where the company seeks meaningful existence at the individual level and has stewardship interests and high-order values at the corporate level.\textsuperscript{180} She believes and encourages personal involvement is the sustainability initiatives and her “30-year plan is for [the company] to be a powerful force for change in the world.”\textsuperscript{181}

Eileen Fisher personal dedication to the sustainability of the company and the industry is a critical component in the company’s ability to manage sustainability the way it does. Her leadership empowers all members in the organization to work more sustainably in all roles and she is a vocal supporter of sustainability in the greater industry as well. Without the strong advocacy of Eileen Fisher, the company would not likely have been able to take such a strong stance nor been so effective in achieving its goals.


Another critical attribute of the company that contributes to its strong sustainability strategy is its status as a B Corp. The company’s view of a B Corp certification is that “being a B Corp allows us to live our Purpose in a bold way with other like-minded companies.” The status of a B Corp further allows the company to overcome Karnani’s critique of CSV.

Eileen Fisher’s sustainability strategy is an extensive, measureable and industry leading strategy. While the company is a leader in the industry, its small size prevents it from being able to make a considerable contribution to the SDGs and to push the industry forward. Also, while it does provide a model for other companies to follow, being a certified B Corp is critical to its ability to overcome the potential misalignment of business and sustainability priorities; it can make sustainability decisions that an MNC cannot.

D. Case Study: Everlane

Everlane was founded in the fall of 2011 by Michael Preysman, a venture capitalist turned Entrepreneur. Everlane capitalized on the growing ethical consumer trend, highlighting its commitment to transparency. In 2015, the company earned an estimated $50 million in revenues and the company is currently valued at more than $250 million.

This innovative model has gained significant attention in the industry. It has been called the “J-Crew for Millennials”\textsuperscript{184} and is said to be “changing the face of ethical shopping.”\textsuperscript{185} The company’s business proposition capitalizes on the growing consumer desire for transparency and calls on customers to: “Know your factories. Know your costs. Always ask why.”\textsuperscript{186} The company markets its commitment to a transparent supply chain and transparent prices, working to provide its customers with information about where each garment comes from, the cost breakdown of the manufacturing process and how the final garment price was determined. It also boasts of its ability to charge consumers less by eliminating the “middle man” from its supply chain and eliminating brick and mortar store overhead costs.\textsuperscript{187}

For example, The Cotton Scoop-Neck Tee on Everlane.com\textsuperscript{188} was made at a specialty knits factory in Ho Chi Minh City, Vietnam. According to Everlane’s website, the factory has 8000 employees and is known for its “technical expertise and progressive culture.”\textsuperscript{189} The tee has a listed price point of $18 and the website highlights that “Traditional Retail” would charge $40 for a similar t-shirt. The website breaks down the cost of the t-shirt: materials - $2.17, hardware - $.65, labor - $5.10, and transport - $.16; totaling a true cost of $8.


Everlane states that it achieves such radical transparency because it seeks “the best [factories] from around the world to make [their] products”\textsuperscript{190}, ensuring that it works with only high quality factories. According to its website, Everlane currently only works with 21 factories.\textsuperscript{191} The small number of suppliers not only reduces potential risk of non-compliance that a larger factory network would create but also allows them to spend significant time finding, auditing and monitoring each factory.

This business model has limitations with regards to its ability to contribute to the SDGs. The hands-on approach the company takes to achieving transparency in its factories suggests the company invests significant time and resources into due diligence and auditing. Therefore, to scale its production, it would have to continue support those investments to ensure that its factory base is of the highest caliber.

Second, the company highlights its focus on choosing only the best factories in the world and was built on this premise. From its inception, the company chose the best factories, eliminating its need to improve poor factory performance. While this benefits the company now, there is, by definition, a finite percentage of “highest caliber” factories. A lack of quality factories would limit Everlane’s future growth, require it to invest in factory capacity building to help factories improve their business to Everlane’s standards, or to lower their factory standards.

Third, the company is frequently referred to as ethical in the press even though Everlane’s discussion about the human rights and environmental impact is notably absent from its marketed


\textsuperscript{191}Ibid.
message and its website. While transparency does ensure compliance and sustainable business practices within Everlane’s supply chain, the model works because the company is new, operates at a small scale and invests time and money into choosing the right factories. Everlane also recently announced that it is considering opening brick and mortar stores, a move that would go directly against the principles it was built upon. This would increase their fixed costs, which would drive price increases and potentially deter consumers. The ethical consumer has been slow to date to make the tradeoff between higher price and improved sustainability.

VI. A Framework for Future Success

A. The Framework

Each of these companies addresses sustainability in a different way. Gap Inc.’s strategy tackles sustainability challenge one at a time and focuses on philanthropy, vendor capacity building, and partnerships. Eileen Fisher integrates sustainability into its business model by empowering all employees to make decisions for the business and sustainability, and even supports sustainable decisions that may not have a positive impact on sales. The small and innovative Everlane introduced the concept of radical transparency to the industry. Its commitment to sustainability is possible because of its ability to choose only the highest quality factories and its innovative business model challenges the industry to be more transparent.

Each company’s approach to sustainability does contribute to the SDGs. However, the limitations they face prevent them from ensuring that their investment in sustainability is

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effective, efficient and scalable, transforming the industry, or combating the negative spiral that leads to the unsustainability of the industry.

Each may be able to overcome their limitations and more extensively contribute to the SDGs by working in partnership with one another, using each other’s best attributes to overcome their own limitations. Gap Inc. can have the greatest impact given its size but must overcome the limitations of complex supply chain and responsibility to shareholders; Eileen Fisher can offer an integrated approach to sustainability that empowers all employees and encourages sustainability at every level but must overcome its limited influence to disseminate this model to the greater industry; and Everlane can offer an innovative solution to the challenge of transparency within the industry but cannot scale its business model to impact the greater industry.

To effectively develop a working relationship these companies must each perform a thorough analysis of the industry, understand the factors that contribute to their unsustainability behaviors and evaluate their sustainability strategy and its limitations. In other words, they must follow the analysis that this paper has just done.

Once these companies understand the context in which they operate and their own limitations, they must begin a dialogue with other companies and discuss the nature of the collaboration and establish a working group that includes employees from each company. To effectively work together, all individuals must put aside their competitive and critical tendencies and recognize that if sustainability is in fact their goal, they must work together. Lastly, the working group must set goals to ensure that they may measure their progress.
A summary of the framework for private sector partnership is as follows:

1. Identify the context in which your company operates.
2. Evaluate the factors that contribute to your and the industry’s unsustainability.
3. Identify your company’s advantage to sustainability advantage and limitations.
4. Identify industry partners.
5. Create a working group that may identify mutually beneficial strategies.
6. Adopt measurement system and set goals to track progress.

It is critical to note that an MNC’s size means they have the most potential to facilitate change in the industry. They rely on the most cotton, employ the largest percentage of the workforce, produce the most clothing, sell the most clothing, have the highest number of consumers, and produce the most waste. Therefore, it is most critical that this framework be applied to the sustainability strategies of MNCs so that they may overcome the limitations of their size and complexity, learn to operate sustainably, effectively manage cost, and ensure that sustainability does not result in higher consumer price points.

B. The Framework - Applied

In an ideal scenario, Gap Inc. can offer Everlane the ability to scale its business and Everlane can offer Gap Inc. insight into how to be more transparent without risking its business. To achieve this, they could partner together to improve the quality of the mills and factories that Gap Inc. works with. Everlane would benefit from this partnership by gaining access to mills and factories that it otherwise wouldn’t work with and would reduce risk of a limited factory base. Both companies would also be positively impact the SDGs by facilitating improvement in mill and factory performance.
A partnership between Gap Inc., Eileen Fisher, and Everlane would increase the positive results. Gap Inc. can offer Eileen Fisher the opportunity to create broader impact and Eileen Fisher can help Gap Inc. learn how to integrate sustainability into all business decisions; empowering all employees to act sustainably. Eileen Fisher can offer Everlane a perspective on how to facilitate improvement in factories and can be a role model for how to engage in this improvement. Everlane can work with Eileen Fisher to build momentum on the topic of industry transparency.

Finally, the coordination of the companies’ sustainability initiatives, especially those that focus on improving factories, would ensure more effective use of investment, more efficient, scalable, and sustainability change to these factories.

While there is huge potential for progress through collaboration, there are also limitations. First, Everlane’s must re-evaluate its MNC critical business model, if plans to use the same factories as Gap Inc. Everlane’s current marketing strategy criticizes brands such as The Gap or Banana Republic that have higher markups that it boasts. Second, if Gap were to work together with Everlane on capacity building program with its factories, Everlane would need to make sure it didn’t undercut Gap Inc.’s business through its marketing campaign. Third, all companies would need to want to impact the industry at large, and integrate greater industry change into their core sustainability strategy. They would need to be able to identify where their limitations lie, and desire to overcome those limitations. Finally, this model illustrates how the private sector may more effectively, efficiently and scalably contribute to the SDGs and sustainable development but does not address the rest of the factors that contribute to the unsustainability.
C. Next Steps

For sustainable development to effectively, efficiently, and scalably become a part of the global industry, coordination between more than just the private sector must happen. All stakeholders including developing and developed countries, MNCs, NGOs, academic institutions, intergovernmental institutions, manufacturers, and consumers must work to address these issues together. These include:

1. Inefficient disposal of apparel.
2. Intense competition among countries.
3. Limited integration of sustainable business activities in MNCs.
4. Lack of consistency in global regulations.
5. No standardized industry governance.
7. Limited supply chain transparency.
8. Lack of standardized reporting.

One solution to facilitate broader coordination among these organizations would be to create a coalition that oversees the industry. The members of the coalition would need to include, but not be limited to, representatives from MNCs, textile import and export based governments, members of the WTO, International Labor Organization (ILO), NGOs, vendors, labor unions and retail organizations such as the National Retail Federation (NRF) and the Council for Fashion Designers of America (CFDA) and any other willing volunteers. The complexity of the industry would require the coalition address many aspects of the industry simultaneously: the fragmented regulatory landscape of the industry, the diverse and sometimes conflicting interests of different stakeholders, the interests of environmental and human rights activist, and consumers purchasing habits.
1. **Goal Setting**

The first task of the coalition would be to create clear set goals for all stakeholders that are complimentary to the SDGs. These goals would align interests across all stakeholders. Next, the coalition must set up systems that improve monitoring and reporting of all stakeholders and track the progress of these goals.

The success of the SAC is evidence that a coalition such as this is possible. The SAC is an opt-in membership based organization that is working “to address the urgent, systemic challenges [of the industry] that are impossible to change alone”.\(^{194}\) The SAC’s main goal is to create a standardized system of measurement across the industry and at all levels of the industry. Currently the SAC has 200 members including brands, manufacturers, governments, academic institutions and retailers. The SAC would also be a necessary partner for this new coalition because of its similar structure, however, this coalition’s goal would be broader than the that of SAC.

2. **Tax Incentives**

The coalition next must take an active role in the creation of regulations that it believes could change the current incentive structure within the industry and facilitate more rapid sustainable development. The coalition would need to strategize how to incentivize MNCs to behave more sustainably, developing country governments to enforce regulations more consistently and empower workers to speak up about conditions, and consumers to purchase more sustainably and

work with the US Government, developing country governments, NGOs and other stakeholders to create these incentive shifts.

There are several tax incentives that have been used by the United States in recent years to encourage energy efficiency, green building, and other sustainable investments in business. Studies through EY and KPMG have both clearly linked tax incentives with forward momentum in sustainability efforts, however, the incentives have all been broad and focused on all industries, which in effect limits their ability to be effective in more deeply incentivizing a specific industry.\(^{195}\)

A recent Harvard Business Review article supports the idea of tax incentives such as these, stating that they can not only facilitate better business behavior by large corporations, but can also lead to businesses incentivizing suppliers and can improve the relationship between businesses and antagonistic regulators. Through preemptive changes in the businesses, companies tend to see lower costs in the future, gain additional competitive advantages and lead the way in shaping future regulations,\(^{196}\) therefore, reinforcing the business case argument for the apparel industry.

A tax incentive for the apparel industry must facilitate additional transparency in MNC’s supply chains, encourage R&D activities that contribute to raw material innovations, incentivize water reduction processes in manufacturing and dry chemical process and encourage companies to

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work with manufacturers. These private sector tax incentives would facilitate creativity within MNCs, challenging them to re-think their sustainability strategies.

3. **Developing Country Incentives**

The coalition must also address how to incentivize developing country governments to more effectively enforce environmental and human rights laws. As a first step towards this goal, the coalition should work to facilitate the formation of unions in developing countries, which have been proven to improve working conditions and compensation for members.\(^{197}\) This first step would allow workers to have a stronger voice and speak up for safer working conditions, better hours and higher wages. The coalition could use the California Transparency in Supply Chains Act as a guide to the type of legislature that could be adopted in California or nationally. Many people argue that the WTO must push forward stronger regulation to punish large multinational companies and suppliers for non-compliance\(^ {198}\); however, WTO involvement in the enforcement of labor rights would be a much longer term goal of this coalition.

4. **Cost Reduction**

The single biggest challenge to encouraging unionization would be the rise in garment costs due to building retrofits, improved employee hours and increased wages and these increased costs could challenge the business case for sustainable development. Therefore, the coalition would need to find ways to offset these anticipated cost increases.

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\(^ {198}\) [Ibid.](http://wto.org)
The National Resource Defense Council (NRDC) in partnership with the CFDA has implemented multi-phased initiative called Clean by Design that “aims to revolutionize the way the apparel industry operates, from fiber and dye selection to fabric sourcing decisions”\(^{199}\) and effectively lowers the manufacturing costs for manufacturers. The program leverages the buying power of large brands as a way to encourage suppliers abroad to help suppliers reduce their environmental impacts. The program recognizes that “by improving the efficiency in the manufacturing processes, there are plenty of opportunities to both save money and improve the environment.”\(^{200}\)

Initial pilot programs have been effective at reducing environmental impacts and costs. In China, 33 mills participated in a Clean by Design pilot program. Initial results showed that the mills reduced coal consumption by 61,000 tons, reduced chemical consumption by 400 tons, saved 36 million kilowatts of electricity and saved 3 million tons of water. These reductions translated to a savings of an average of $440,000 in savings per million within a year.\(^{201}\)

The newly designed coalition would need to partner with this program or a similar one to expand its impact to a broader number of manufacturers that were simultaneously supporting unionization of their workforce. Currently, the program depends upon brands taking the initiative to incentivize suppliers, so the coalition must also work to garner broader support from all brands around the world.


\(^{200}\) *Ibid.*

\(^{201}\) *Clean by Design Mills Save 61,000 Tonnes of Coal and 3 Million Tonnes of Water in One Year.* (2015). Apparel Online.
5. **Consumer Incentives**

The coalition must then begin to address how to change the incentives that govern consumer behavior. Right now, many countries’ economies thrive off high volume, low price consumption. The coalition should take advantage of the slow fashion trend and encourage large MNCs to market this movement to their customers. While this movement would go against the high-volume profit structure that many companies currently rely upon, it could force companies to rethink their inventory strategies, and sell better product at a slightly higher price point. To do this it would also be important for the coalition to support the idea of slow fashion, and work to gain additional customer buy-in for the movement. Only when enough customers support the movement, will companies be able to see a significant positive impact on their business.

**VII. Conclusion**

As seen through numerous examples of human rights and labor abuses and environmental degradation, the apparel industry faces major sustainability challenges. Globalization, trade liberalization, competition, consumption, and supply chain complexity ensure the industry is on an unsustainable path. If the industry is unable to correct this path, it will continue to be unable to contribute to the SDGs and achieve sustainable development.

A failure to overcome the industry challenges would result in a resource crisis, negatively impacting the livelihoods of all those employed within the industry, would put MNCs businesses at risk, and create public relations nightmares for companies operating within the industry. CSR initiatives of companies have proven that solutions to these problems do exist; however, they are
not efficient, effective, or scalable. A two-step solution more effectively addresses all of the challenges within the industry.

First, the private sector must collaborate and work to scale sustainable solutions from B-Corporations and small innovative start-ups to MNCs. The private sector, and MNCs specifically, are a critical element to achieving sustainability within the industry. They operate the GVCs in the industry and are the link between all other stakeholders. However, this sector alone cannot overcome all the challenges the industry faces.

To overcome all these challenges, further coordination amongst all stakeholders, in the form of a coalition, must happen. This coalition would include developing and developed countries, MNCs, NGOs, academic institutions, intergovernmental institutions, manufacturers, and consumers. The role of the coalition would be to create global sustainability goals for the industry, influence global policy, and work to re-incentivize all stakeholders to engage in more sustainable behaviors. Through this coordination, the industry will contribute to the SDGs and achieve sustainable development.
VIII. Appendix

Figure 1. Cotton bales delivered to a denim mill in Ho Chi Minh City, Vietnam. 2016.  

Figure 2. Part of the spinning process at a denim mill in Ho Chi Minh City, Vietnam. 2016.\textsuperscript{203}

Figure 3. Spinning: Cotton and Lycra being spun together to create the material that will be woven into denim. Denim mill, Ho Chi Minh City. 2016.  

Figure 4. Yarn Dyeing at a denim mill in Ho Chi Minh City. 2016.  

Figure 5. Cut denim fabric at a denim factory in Ho Chi Minh City. 2016

Figure 6. Minimum Monthly Wages in the Clothing Industry in 2014.  

![Minimum Monthly Wages in the Clothing Industry in 2014](image)

* Temporary rate for industrial zones, currently under review. Source: ILO compilation based on national sources. ILO Regional Office for Asia and the Pacific/Regional Economic and Social Analysis Unit, 10 Feb. 2014.

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Figure 7. Wastewater from a Mill in China before being filtered and treated for safe disposal. Shenzhen Province, China. 2016.  

IX. References


Clean by Design Mills Save 61,000 Tonnes of Coal and 3 Million Tonnes of Water in One Year. (2015). Apparel Online.


