

SUSTAINABILITY IN GLOBAL SUPPLY CHAIN: A STUDY OF ACTORS WITHIN THE  
GLOBAL SUPPLY CHAIN AND THEIR EFFECT ON THE IMPLEMENTATION OF  
SUSTAINABLE PRACTICES WITHIN THE FASHION INDUSTRY

by

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Submitted in partial fulfillment of the  
requirements for Departmental Honors in  
the Department of Political Science

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Fort Worth, Texas

May 03, 2021

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## ABSTRACT

This study explores the incentives that lead an industry, specifically the fashion industry, to choose their practices, what incentivizes consumers to make their decision when purchasing, and what incentivizes government systems to support or curtail these practices. By understanding each actor's role in making supply chain choices, and thereby understanding the most successful way to frame and correct the issue, the study may help to create more sustainable industry possibilities overall.

To answer the question of how and why actors within the global supply chain, including industry, government and consumers, choose to move to sustainable practices, the paper develops a game theoretic approach that it tests using a comparative analysis of the cases of Bangladesh and Vietnam. The model and case study analysis demonstrate that the implementation of sustainable practices requires the realignment of incentives and collective action, which can be proposed through various measures such as financial incentive from government systems and education of the consumer group.

It is crucial to research and understand the impacts that various actors can have on the sustainability of the fashion industry and industries overall in order to correct these issues of social responsibility and environmental sustainability.

## Introduction

You walk into your favorite store. You buy yourself a new dress shirt. Excitedly, you return home to wash your garment so you can wear it to work the next day. You read the wash label and, upon turning it over, you find the word “Help” stitched into the tag. Your excitement fades as you slowly realize that the retailer purchased your new underpriced garments with the typically unseen cost of mistreated laborers and dangerous environmental impacts. One of those laborers took the chance of stitching a cry for help into the shirt they were preparing, most likely risking their life by doing so. The realization leaves you standing in your laundry room, horrified.

Sustainability is a concern that is steadily on the rise. Although a highly polarized topic, the environmental and social repercussions of unsustainable practices are indisputable. As the fashion industry has become more globalized, the use of unsustainable practices has grown as well. Although story highlights often emphasize places like Bangladesh, Mexico, and Cambodia, the use of these unsustainable practices exists closer to home as well, in places like the United States, United Kingdom, and other parts of Europe.<sup>1</sup> According to the document published by Fashion Revolution titled *Why We Still Need A Fashion Revolution*, “human rights abuses include cross-cutting issues such as forced and child labor, excessively long working hours, repression of trade union organizing, extremely low pay, lack of job security, gender and race-based discrimination and violence, unsafe and dangerous working conditions, and little to no access to justice for those whose basic rights are violated at work.”<sup>2</sup> Additionally, most American consumers lack an understanding of the scale of the fashion industry’s impact on the environment; however, in many countries, “clothing has the fourth largest environmental impact

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<sup>1</sup> (2020). “Why We Still Need A Fashion Revolution”. *Fashion Revolution White Paper*. 29-36.

<sup>2</sup> Ibid.

after housing, transport, and food” while “less than 1% of textiles and clothes are genuinely recycled into new textiles and clothes.”<sup>3</sup>

My study is uncommon in that it uses the fashion industry to explain the relationship between globalization of supply chain and sustainability. It examines the different actors that affect the relationship between globalization of supply chain and sustainability. The three main actors in this study include the fashion industry, the consumer, and the government system in place in each region where the clothes are produced. The fashion industry is the main stakeholder, and the consumers and government systems are two secondary stakeholders.

The role of the fashion industry is crucial in making the decisions regarding global supply chain. The consumers are crucial in holding the industry accountable through adoption or rejection of product. The consumers have the opportunity to demand certain practices from the fashion industry due to the role they play in sustaining the business. The role of various government systems is to hold the fashion industry accountable throughout the entire supply chain. Government systems often allow producers to continue these unsustainable practices; however, government systems are increasingly becoming involved in this issue.

This study explores the incentives that lead the fashion industry to choose their practices, the incentives consumers have to make their decision when purchasing, and the incentives government systems have to support or curtail these practices. Once I have completed the study, I should have identified a clear path as to how to correct these unsustainable practices. By understanding each actor’s role in making supply chain choices, and thereby understanding the most successful way to frame and correct the issue, I can help to create more sustainable industry possibilities overall.

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<sup>3</sup> Ibid.

Through this study, I seek to explain how these actors play a role in the continuous globalization of supply chain, how each actor is responsible for the sustainability of supply chain individually, and which combination of actors can most successfully implement sustainable practices. Existing research indicates the necessity for collaboration between stakeholders. Research has shown that “the success of an entrepreneurial ecosystem depends on whether multiple stakeholders effectively collaborate and whether they can co-manage and co-create an entrepreneurial ecosystem.”<sup>4</sup>

My focused research question is as follows: How do actors within the global supply chain affect environmental and social sustainability, and how do their choices affect when an industry chooses to implement sustainable practices? Focusing on the fashion industry permits a manageable study of a greater issue that plagues every industry.

In the following section, I evaluate the existing literature on sustainable practices in the fashion industry and develops the goals of this paper considering past research.

## Literature Review

As sustainability concerns continue to rise and younger generations begin to value sustainability more, “the overall objectives for business sustainability have become increasingly more important for companies, and for stakeholders of the company.”<sup>5</sup> The current lack of sustainable practices is a concern within every industry. Researchers often trace the

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<sup>4</sup> Jung, K.; Eun, J.-H.; Lee, S.-H. Exploring competing perspectives on government-driven entrepreneurial ecosystems: lessons from Centres for Creative Economy and Innovation (CCEI) of South Korea. *European Planning Studies, [s. l.]*, v. 25, n. 5, p. 827–847, 2017.

<sup>5</sup> Gabriel, R., Natalia, A., Adrian, D., & Michaela, R. C. (2018). Sustainability as Business Strategy of Socially Responsible Companies. *Proceedings of the International Multidisciplinary Scientific GeoConference SGEM, 18*, 775–782. <https://doi-org.ezproxy.tcu.edu/10.5593/sgem2018/5.3>

implementation of sustainable practices, or lack thereof, to key actors. For example, a study completed on the European dairy crisis within the agricultural sector found that the relationship of those key actors such as dairy farmers and processors is crucial to sustainability of the dairy sector.<sup>6</sup> The health care industry is also exploring sustainable practices to “assist the health sphere in diminishing its carbon footprint but also make financial savings, enhance conformity with legislation, raise adaptability, and augment quality of care.”<sup>7</sup> Sustainability is a challenge throughout all industries. Implementation of sustainable practices is on the rise. However, the current lack of sustainability throughout various industries creates dangerous situations for laborers and communities, and a dangerous, potentially irreversible impact on the environment.

One can understand the purpose, practice, and collective action toward sustainability by the fashion industry’s key players through a review of literature. Throughout this study, *collective action* refers to the cooperation between actors in order to achieve a common goal. An alliance between actors allows for a unified power to create an influential drive for change.

Throughout this paper, the term *sustainability* generally refers to practices of environmentally conscious actions and socially ethical practices. Both businesses and individuals can engage in such actions and practices, but this paper focuses on practices business can implement and on consumer involvement rather than practices of individuals. Environmentally conscious actions are actions or practices implemented in order to protect or repair the environment. *Socially ethical practices* refer to ethical practices employed by businesses and individuals that improve lives of other individuals, their communities, and the larger society.

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<sup>6</sup> Pappa, I., Iliopoulos, C., & Massouras, T. (2019). On Sustainability of a Dairy Sector in Crisis. *International Journal on Food System Dynamics*, 10(2), 130–150. <https://doi-org.ezproxy.tcu.edu/10.18461/ijfsd.v10i2.08>

<sup>7</sup> Popescu, G. H. (2015). Sustainability, Public Health, and Quality of Care. *American Journal of Medical Research*, 2(2), 211–216.

Socially ethical practices employed by businesses can include practices related to the safety of laborers or the safety of a larger society or citizens surrounding the area.

The additional factor to consider is that of economic benefit. The implementation of sustainable practices has the opportunity to add economic benefit by generating employment and new products for the benefit of citizens at large.

### *Industry Driven Sustainability*

The “triple bottom line” is a widespread phrase developed in economic theory and often used in the fashion industry to describe a company’s overall commitment beyond profit. The triple bottom line proposes that the fashion industry weigh the social and environmental impacts of goods evenly with the aspect of profit.<sup>8</sup> However, the industry generally places more weight on the profit sector of the triple bottom line rather than on the social and environmental impacts. Generally, the purpose of a company is to maximize profit; therefore, a company will often value and choose less expensive, harmful practices over more expensive, more sustainable practices. However, if actually implemented and marketed properly, sustainable practices can increase profit through an improved brand image, giving companies with a commitment towards sustainability an edge.<sup>9</sup>

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<sup>8</sup> Udeh, F. N. P.; Akporien, F. O. Triple Bottom Line Reporting Practices and Corporate Relationship with Host Communities in Nigeria (A Case Study of Niger Delta Region). *Scientific Papers of the University of Pardubice. Series D, Faculty of Economics & Administration, [s. l.]*, v. 23, n. 36, p. 207–217, 2016.

<sup>9</sup> Gupta, Anupama. “Sustainability Policies for the Fashion Industry: A Comparative Study of Asian and European Brands.” *Indian Journal of Public Administration* 65, no. 3 (September 2019): 733–48.



### *Consumer Driven Sustainability*

Consumers drive companies to make decisions regarding all aspects of business practices. Since the acknowledgement and the popularization of sustainability issues, consumers have gained both a voice and a choice in what conditions they accept or reject when purchasing their clothing. “Greenwashing” is a trend used by companies to skew the understanding of which products are actually sustainable through the use of packaging and branding design. Companies can often market their products by using certain tools to create the implication that they are sustainable when they are not.

Studies indicate that most “companies employ a very similar grand narrative focused on consumer empowerment regardless of their actual ethical track record. This suggests that most attempts, by consumers and scholars alike, to determine anything meaningful about actual corporate practices via an analysis of environmental advertising, may be largely futile.”<sup>10</sup> Despite these tactics, consumer-driven sustainability relies on the idea of consumer education increasing consumer demand for sustainable practices. If consumers demand, the fashion industry must comply. A common research theory for the inspiration for consumer demand is the presence of compassion and emotion in understanding the harmful effects of unsustainable practices.

Established findings in environmental psychological research “show the positive relation of biospheric and altruistic values as well as the negative relation of egoistic and hedonic values to environmentally responsible behavior.”<sup>11</sup> Another study “found a positive relationship between deep acting and unethical behavior via emotional inauthenticity,” which further supports

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<sup>10</sup> Jones, E.; Kennedy, E. H.; Johnston, J. Rethinking Greenwashing: Corporate Discourse, Unethical Practice, and the Unmet Potential of Ethical Consumerism. *Sociological Perspectives*, [s. l.], v. 62, n. 5, p. 728–754, 2019.

<sup>11</sup> Geiger, S. M., & Keller, J. (2018). Shopping for Clothes and Sensitivity to the Suffering of Others: The Role of Compassion and Values in Sustainable Fashion Consumption. *Environment and Behavior*, 50(10), 1119–1144.

the idea that behavior and emotion play a role in acceptance and demand for sustainable practices.<sup>12</sup> Consumers need to think they are complying ethically when making their purchases. Therefore, companies need to teach consumers that their consumption drives these unethical practices, and they need to clear their consciences by demanding sustainable practices to improve the environment and better the lives of millions of laborers and citizens otherwise affected by unethical social and environmental practices.

### *Government Driven Sustainability*

Similar to the fashion industry, government systems typically choose to play a role in the industry when it directly benefits the good of their country from an economical perspective rather than a social and environmental perspective. Since the second half of the Twentieth century, “the globalization of the textile and apparel industry has led to tremendous growth of manufacturing regions in developing countries, with low labor costs often outpacing environmental precautions.”<sup>13</sup>

Accordingly, government systems have the option to aid the sustainability efforts by using laws and regulations to either require, punish, or subsidize companies based on their practices. Although this approach can be effective, research finds “that the objectives of improving sustainability and maximizing social welfare may be conflicting.” Therefore, the government must find a balance.<sup>14</sup>

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<sup>12</sup> Hong, M., Barnes, C., & Scott, B. (2017). Collateral Damage From the Show: Emotional Labor and Unethical Behavior. *Business Ethics Quarterly*, 27(4), 513-540.

<sup>13</sup> Cao, H., Scudder, C., & Dickson, M. A. (2017). Sustainability of Apparel Supply Chain in South Africa: Application of the Triple Top Line Model. *Clothing and Textiles Research Journal*, 35(2), 81-97.

<sup>14</sup> Niu, B., Chen, L., Zhang, J., Punishing or subsidizing? Regulation analysis of sustainable fashion procurement strategies, *Transportation Research Part E: Logistics and Transportation Review*, Volume 107, 2017, 81-96.

Generally, research shows that implementation of sustainable practices is most effective when stakeholders take collective action.

According to research, change is more likely to occur when supporters of sustainable practices become more legitimate in the fashion industry by forging a collective identity; for example, “the Sustainable Apparel Coalition, which consists of big retailers, apparel manufacturers, NGOs, and government agencies, is a perfect example of an alliance between different actors.”<sup>15</sup> Additional research supports this argument by addressing the government as a system that should “implement laws for pooling the funding from the donors at the central or provincial level.”<sup>16</sup> The government would then disburse this funding to organizations involving people of the target community who would participate in all stages of development interventions. This approach is another example of the ways that governments, companies, and consumers can collaborate to ensure a more sustainable industry.

### *Summary*

In order to take collective action and achieve sustainable practices, government systems and consumers must drive the fashion industry to make the necessary change. The monetary incentives for the industry to keep its practices traditionally less sustainable, therefore increasing profit rather than moving towards a more sustainable model, are too high for the fashion industry to promote change itself. Therefore, to implement sustainable practices more effectively,

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<sup>15</sup> Ozdamar Ertekin, Z., & Atik, D. (2015). Sustainable Markets: Motivating Factors, Barriers, and Remedies for Mobilization of Slow Fashion. *Journal of Macromarketing*, 35(1), 53–69.

<sup>16</sup> Hussain, S., & Miraj, S. (2018). Community Participation and Sustainability of Developmental Programmes in Pakistan. *Putaj Humanities & Social Sciences*, 25(2).

government systems and consumers must drive the industry towards sustainable practices throughout the supply chain from both ends.

Generally, companies, consumers, and government systems have the power to enforce more sustainable practices throughout the fashion industry. However, each actor has their own incentives, some of which benefit them rather than prioritize sustainability. Of the potential options, research shows that collective action among the three actors has the highest chance of achieving sustainability. This understanding is used to analyze the effect that these actors have on the globalization of supply chain, when the fashion industry decides to implement sustainable practices, and how to implement successful change throughout the globalized supply chain regarding sustainable practices.

## **Research Design**

In this study, I use a game theoretic approach with a rational model to explain the relationship between globalization of supply chain and sustainability by looking at different actors and how they affect the implementation of sustainable practices. Then, using the game theoretic approach to explain what should be happening within the industry or propose reasons for why such results are or are not happening, I test my argument by applying cases to these findings in a comparative study and see how they either fit the game theoretic model or determine why they do not.

This study then uses a small-n comparative case study approach to study sustainability changes within the global supply chain of a given country within the past 20 years, and subsequently which actor or actors employed these changes. I framed this approach as a deductive, hypothesis testing approach. I use the method of disagreement, choosing two cases

that look similar and then use independent variables to understand differences in ethical and environmental standards. In this study, the two cases are similar in population size, developmental status, industry focus, and labor force.

I will study and compare cases set in two different countries, Bangladesh, and Vietnam, allowing for the investigation of different government systems, a different area of the fashion industry, and a different consumer population. An investigation of two cases with different independent variables can allow me to study each variable individually, allowing for the understanding of each factor individually. By understanding each factor individually, I will be able to determine specific causes.

The consumer group represents consumers of the fashion industry. The fashion industry represents companies within the fashion industry, and the industry as a whole. The government represents whichever government system is in place in the area of study.

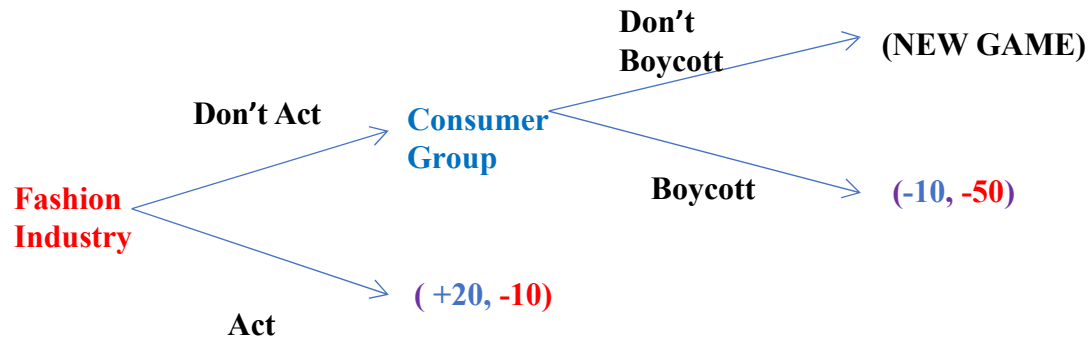
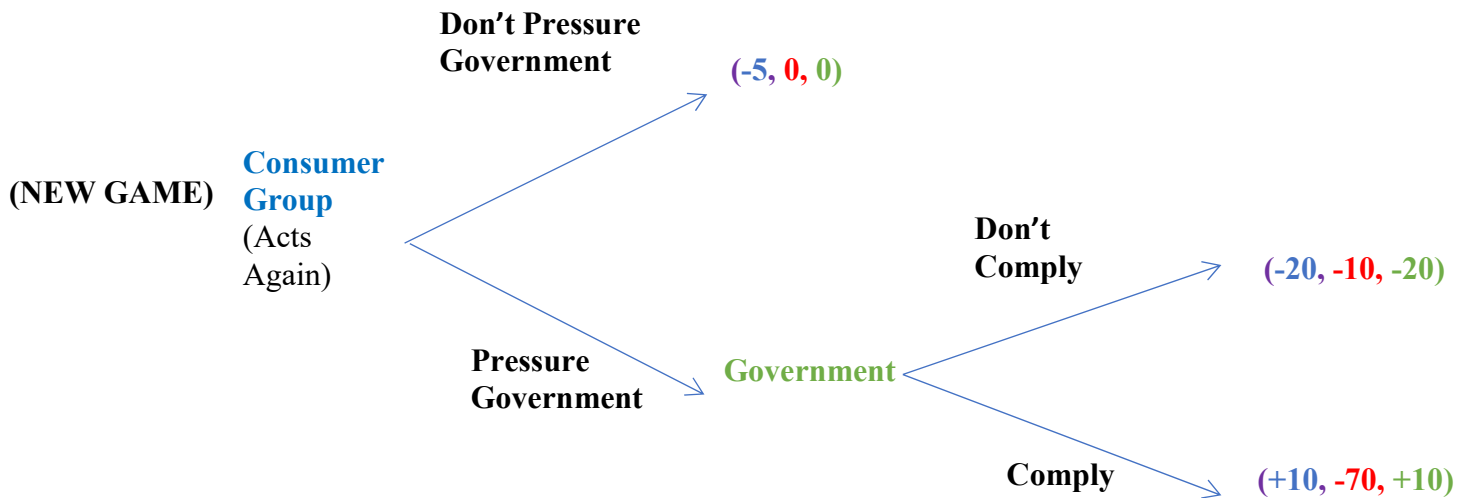
As part of this comparative analysis, I will evaluate each actor in each country: the fashion industry, the consumer group, and the government system. After understanding each actor and their effect on the global supply chain, I can determine which actor would be most successful in implementing sustainable practices throughout the global supply chain specifically within the fashion industry.

### **Game Structure**

This game serves to analyze the rational decision-making process and strategic interactions among the rational actors. I used a basic sequential move game and developed a subgame to produce payoffs for one of the branches of the game tree. A decision tree, which develops along branches and nodes, visually represents a sequential move game. A *node*

represents a point at which a player must make a decision and take action. Throughout game theory, there are three types of nodes. The initial node is the first decision made by a player. In this game, the initial node is the fashion industry, which must make the first decision. An action node represents any node where a move occurs. Lastly, a terminal node is any node where no additional move occurs. I used branches to represent the available choices that stem from each node. For example, as mentioned above, the first node in this game is the fashion industry. The branches, or choices, stemming from that node are to act (A) or not act (DA). The color-coded player names represent nodes and the blue arrows represent branches. The payoffs are color-coded to their respective players. This game assumes the consumer group has enough power to successfully implement a boycott or successfully pressure the government. This game also assumes that the government is aligned with the citizen group. I used this game to calculate the likelihood that the fashion industry will act sustainably given the payoffs for each player.

Figure 1: Game

*Main Game**Subgame*

### *Players*

Within games, players are the actors that are studied in order to understand the rational decision-making processes. The three rational actors within this game are the consumer group, the fashion industry, and the government systems. Throughout this game, these three players make choices in a sequential move manner, which leads to the demonstration of how the three actors affect the global supply chain in regard to sustainable practices being implemented. The consumer group represents consumers of the fashion industry. The fashion industry represents companies within the fashion industry, and the industry as a whole. The government represents whichever government system is in place in the area of study. This game assumes the government is closely aligned with the consumer group, which would also be its citizens.

### *Choices Available*

The choices available are represented by the blue arrows, the branches, that stem from the players, or the nodes, within the game. Throughout this game, four main choices exist. The game begins with the fashion industry being given the choice to “Act” (A) or “Don’t Act” (DA). Here “Act” refers to acting in regard to what the consumer group wants. The consumer group wants the fashion industry to implement more socially and environmentally sustainable practices throughout the global supply chain. When the fashion industry chooses “Don’t Act,” the consumer group can choose to “Boycott” (B) or “Don’t Boycott” (DB). The choice to “Boycott” would mean that the consumer group would withdraw any relations with the fashion industry in protest. The choice to “Don’t Boycott” would mean that the consumer group would choose not to boycott the fashion industry in protest, which leads to another choice for the consumer group. If “Don’t Boycott” is chosen, then the subgame begins with the choice for the consumer group to act again either choosing to “Pressure Government” (PG) or “Don’t Pressure Government”



(DPG). This choice allows the consumer group either to approach the government and pressure them to require the fashion industry to act, or to not pressure the government, which would end the game.

### *Payoffs*

A payoff represents the general payout a player receives from arriving at a certain outcome. The payoff variables in this game are numerical values relative to each other. The payoff numbers don't represent an actual value, rather, they are designed to show relative priorities based on prior research. These payoff values are intended entirely to demonstrate the relative weight that the actors have on the outcomes. In this game, the payoffs determine the likelihood that the fashion industry will act sustainably given the payoffs for each player.

In the case that the fashion industry decides to act, the payoff for the consumer group is +20, and the payoff for the fashion industry is -10. The payoff is +20 for the consumer group because the consumer group will have gained what it desired if the fashion industry chooses to act. The payoff is -10 for the fashion industry because this move requires additional cost and additional risk for the fashion industry when shifting to more sustainable practices; however, it is only -10 because in the long term the fashion industry is protecting the environment and laborers, and therefore its brand image becomes more positive when it successfully implements the practices.

In the case that the fashion industry decides not to act, the consumer group then faces the choice to boycott or not boycott. If the consumer group chooses to boycott, then the consumer group's payoff is -10 because although it is taking a stance in hopes to require action from the fashion industry, it has terminated its own access to the fashion industry, whether it be temporary

or not. If the consumer group chooses to boycott, then the fashion industry's payoff is -50 because the fashion industry has lost all of the business from the consumer group's decision to boycott.

In the case that the fashion industry decides not to act, and the consumer group chooses not to boycott, I developed a subgame in order to find payoffs for both the consumer group and the fashion industry. The subgame begins with the consumer group acting again, this time with the decision to pressure the government or not to pressure the government. If the consumer group decides not to pressure the government, then the payoff is -5 for the consumer group because it has progressed this far without the result it was looking for, but it has made the choice itself not to pressure the government. The payoff for the fashion industry here would be 0, or status quo, because the consumer group has neither boycotted the industry nor pressured the government. The payoff for the government in this situation would be 0, or status quo, as well because it has not been called upon and is therefore not affected. However, if the consumer group, acting again, decides to pressure the government, then the government faces the choice of whether to comply or not comply.

If the government were to choose not to comply, then the payoff for the consumer group would be -20 because at this point, it has put in extra time, effort, and resources, and it has not succeeded in requiring the fashion industry to act. Here the payoff for the fashion industry would be -10 because the government system investigated them to a certain degree, but it did not have to act. In this situation the payoff for the government system would be -20 because the government has now conducted some sort of investigation into the fashion industry and not found reason adequate enough to comply. For the purpose of this paper, we assume that the government system closely aligns with the consumer group, so the payoffs for the consumer

group and the government will be the same. If, on the other hand, the government system chooses to comply, the payoff for the consumer group would be +10 since the consumer group would have achieved its initial goal of requiring the fashion industry to act, although it would have taken more time, effort, and resources on the group's part. The payoff for the government system here would be the same as the consumer group, +10, because the government system and the consumer group are closely aligned. The payoff for the fashion industry here would be -70 because it has to assume the same cost and risk as posed before, but now it is also being watched and regulated by the government, which is most likely imposing more strict policies and actions required than the company would have had to abide by if it had chosen to act itself originally.

After solving the subgame, the payoffs for the original game during which the fashion industry chooses not to act and the consumer group chooses not to boycott are as follows: the payoff for the consumer group is +10 since the consumer group would have achieved its initial goal of requiring the fashion industry to act, although it would have taken more time, effort, and resources on the group's part. The payoff for the fashion industry is -70, because the solved game results in the government choosing to comply, which I noted earlier as something that would require the fashion industry to assume the same cost and risk as posed before when they had the choice to act while imposing the additional strain of more government regulations and controls.

### *Implications and Hypotheses*

Having solved both the subgame and the game through backwards induction, the outcome suggests that if the government closely aligns with the consumer group, the consumer group should not boycott, but instead choose not to boycott and choose instead to pressure the

government. If the fashion industry thinks the government system will act, it should move preemptively. Therefore, the fashion industry, if it were to see this outcome, should choose to act when given its original decision.

We assume that the government aligns with the consumer group; however, if this were to change and the government, for example, was dominated by a group that does not acknowledge or prioritize environmental or social concerns, the outcome would change. In this case, the payoffs would change, and the new payoffs show that the consumer group would arrange a boycott and the fashion industry, seeing a boycott, would act.

## **Methodology**

The game developed in this paper has shown that the consumer group holds the most power of all the actors, and in the different ways the game plays out when payoffs change within different situations, this group can always require action from the fashion industry; however, the large majority of the fashion industry has yet to adopt sustainable practices.

One explanation for this intransigence is that the consumer group is incapable, contrary to the original proposal. If the consumer group cannot impose a cost on the fashion industry, then the fashion industry would not act. However, the consumer group drives the fashion industry. The industry ebbs and flows in reaction to consumer acceptance or rejection. Without the consumer group, there is no fashion industry. Therefore, one can consider the consumer group capable and this explanation weak.

The next explanation supports the idea that consumers have values that do not align with sustainable practices. Simply, they are not interested in companies implementing more sustainable practices. However, millennials and generations following will drive the consumer

market, and a survey done by *First Insight* in 2019 reflects the majority of research on the topic, showing that younger generations prefer sustainable brands, are willing to pay more for sustainable products, and expect brands to become more sustainable.<sup>17</sup> Specifically, the study reported that “62% of Gen Z respondents prefer to buy from sustainable brands, on par with millennials, while 54% of Gen X and 44% of the Silent Generation (born 1928-45) said the same . . . while only 39 percent of baby boomers agreed.<sup>18</sup>” With research rejecting the concept introduced in this explanation, this explanation is weak as well.

The strongest explanation is the assertion that the consumer group does not recognize their power. A lack of consumer education about sustainability issues and unsustainable practices may explain this finding. Research shows “the tendency that a high degree of sustainability in the intended buying behavior is positively connected to a high degree of awareness and concerns about sustainability, i.e. perception of sustainability.”<sup>19</sup> Therefore, one can trace a lack of awareness and a skewed perception of sustainability as the cause of a lack of sustainability within consumer buying behavior. One can trace a lack of awareness to a lack of consumer education. This issue plays a significant role in the lack of implementation of sustainable practices within the industry. Uneducated consumers not only fail to understand the consequences of unsustainable practices, but they also fail to recognize their power to create change and drive action. The fashion industry exploits this lack of consumer education to take advantage of the consumer group through skewing their perception of sustainable practices.

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<sup>17</sup> First Insight. (2019). *The State of Consumer Spending: Gen Z Shoppers Demand Sustainable Retail*. Retrieved from: <https://www.firstinsight.com/white-papers-posts/gen-z-shoppers-demand-sustainability>

<sup>18</sup> Ibid.

<sup>19</sup> Johansson, E., Julianose, V., & Winroth, L. (2017). *Sustainable Chic : A cross-cultural study on Millennials' perception of sustainability and intended buying behaviour in the fast fashion industry* (Dissertation). Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:lnu:diva-65081>

Greenwashing, or “misleading advertising about the environmental features of products,” causes a skewed perception of sustainable practices by causing the consumer to perceive a product as environmentally sustainable when it is not<sup>20</sup>. Additionally, the fashion industry takes advantage of the consumer group and their lack of education by continuing to push fast fashion and unsustainable products into the market and profiting off of lack of consumer knowledge. This abuse explains the disconnect between what the solved game reveals (that the fashion industry should choose to act) and what is actually happening within the fashion industry (the majority of the fashion industry is choosing not to act). With increased consumer education leading to increased consumer action, an effective change in implementation of sustainable practices within the global supply chain is possible.

Each case study will involve an introduction to and general overview of the country, as well as an in-depth study of each actor within each country, examining the fashion industry, the consumer group, and the government systems in both Bangladesh and Vietnam.

### **Case 1: Bangladesh**

For purposes of this comparative study, the first country sampled for comparison is Bangladesh, a country located in the Bay of Bengal in Southern Asia bordering both India and Myanmar. The current country population available as of 2020 is 165,834,838 people. Although the country population continues to grow due to factors such as child marriage, low rate of contraceptive use, and high fertility rates, the growth will continue to slow, with the peak growth rate predicted to be reached in 2053 (*Bangladesh Population 2021 (Live) 2021*). Bangladesh has

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<sup>20</sup> Schmuck, D., Matthes, J., & Naderer, B. (2018). Misleading Consumers with Green Advertising? An Affect--Reason--Involvement Account of Greenwashing Effects in Environmental Advertising. *Journal of Advertising*, 47(2), 127–145. <https://doi-org.ezproxy.tcu.edu/10.1080/00913367.2018.1452652>

a country size of 57,321 miles. Known for its production and export of apparel and textile products, Bangladesh “has been striving to achieve self-containment through the readymade garments sector for the last three decades.” More recently, and more specifically after the Rana Plaza collapse in 2013 in Bangladesh’s capital of Dhaka, sustainability and sustainable labor have been a new focus for the country beyond fast, cheap production. For purposes of deducing cause and effect, this study breaks Bangladesh down into three sections for investigation which also serve as the actors from the previously established game theoretic model: Fashion Industry, Consumer Group, and Government System. Through the exploration of each actor with specific regard to the country of Bangladesh, and then by doing the same with the country of Vietnam, this study will yield a comparative analysis.

### *Fashion Industry*

The garment and textile business is the number one industry in Bangladesh, comprising 80% of the country's exports (*What makes Bangladesh*). Additionally, having spent three decades aimed at securing self-containment through the apparel and textile industries, Bangladesh is now one of the most dominant apparel exporters. As Bangladesh has focused on moving from a least developed country to a developing country, and as the textile industry has grown exponentially in Bangladesh, the garment industry has brought great economic success to the area as well as serious issues regarding sustainability and social responsibility.

Bangladesh is well-known for their aversion to safety protocols and procedures which continuously results in disaster, whether it be in the form of a factory fire, environmental pollution and degradation, or a factory complex collapse. One of the more popularized apparel manufacturing accidents, the Rana Plaza Collapse occurred in 2013 in an industrial sector in

Dhaka, Bangladesh. At the time of the collapse, the Rana Plaza building was full of laborers working in apparel production for several different companies. The collapse killed 1,135 laborers and injured many more of the 3,000 total workers. Although Bangladesh has been continuously marked by labor accidents specifically within the apparel and garment industry, this loss was immeasurable. Additionally, this loss could have been prevented. After the Rana Plaza Collapse captured the attention of the entire world, a new light was shone on the labor and workplace safety and conditions in Bangladesh. Another important distinction to make is the change that occurred in the Western consumer after this tragedy: “The image of the Western consumer was also damaged considerably at this time—at best complacent, at worst responsible for unethical purchases” (Pouillard, 2019). This is crucial in understanding the consequent gradual establishment of more sustainable practices in Bangladesh’s apparel industry because of the Western consumer’s drive behind the business in Bangladesh. The apparel industry in Bangladesh is utilized for exports for major chains such as Walmart, Primark, H&M, and more; therefore, the consumer driving production is the Western consumer. After the image of the consumer was damaged and consumer guilt set in, Western consumers developed a sense of responsibility, not only for the tragedy at Rana Plaza, but also for the general health and safety of Bangladeshi garment workers, as well as the environment.

### *Consumer Group*

The consumer group, when being discussed in terms of the garment and textile industry in poorer, less developed countries, is typically the Western consumer, who purchases garments from Western/European brands which manufacture overseas where labor costs are much lower. The disconnect between companies and their own manufacturers is often dangerous and can



facilitate the advancement of unsustainable and unethical practices in production. The disconnect between the consumer and the manufacturing process adds a further layer of anonymity, with these processes being cloaked completely from the consumer. This distance and level of separation between both the brands and their manufacturers and the consumers and the manufacturers, along with poor auditing, allows for unsustainable practices to thrive in developing countries, such as Bangladesh.

The garment industry has helped Bangladesh rise in status and GDP growth. The success of these labors, sustainable or not, contributed to building Bangladesh up to achieve a better developmental status. However, the system is inherently oppressing the laborers involved in these successes, offering scarce opportunity for individual development. The consumer group more recently has demanded a push for more sustainable practices, specifically regarding social responsibility and fair labor.

### *Government System*

The government system can play a vital role in the implementation of sustainable practices through the general success/failure and type of the systems as well as through implementation of specific laws, agreements, etc. Bangladesh provides an in-depth look at how each aspect of government systems can affect the globalization of supply chain and the subsequent sustainability of practices implemented and involved. Bangladesh operates under a parliamentary system, where a president is elected by national assembly and the head of government is the prime minister. The implementation of such system has been disturbed multiple times by coups in 1975 and throughout the 1980's, however, the parliamentary system was officially restored in 1991. Bangladesh received its independence in 1971 from Pakistan in the Bangladesh Liberation

War; however, the country has failed to create political stability, with hartals often disrupting the community, economy, and industries in various parts of the country. Hartal, a mass protest often involving total shutdown and destructive rioting, highlights the continued political instability in various Bangladeshi regions, even after independence was gained. In fact, 112 hartals were documented before independence, and from 1971-2015, 2,112 more were observed (Papon, Nabi, Parvin, 2017). Hartals are specifically problematic for the garment industry in Bangladesh due to the halt in communication and transportation that the Bangladeshi garment industry relies heavily on for production and exports. These hartals are an example of governmental failure affecting the garment industry throughout the country.

Although the United Nations has granted Bangladesh the ability to transition from a least developed country to a developing country, Bangladesh technically still holds the developmental status of a least developed country (LDC). The UN committee recommended that Bangladesh take 5 years to prepare for the transition rather than the typical three years due to the economic impact of COVID-19 on the Bangladesh economy. Therefore, until 2026, Bangladesh will continue to qualify for and benefit from duty-free market access or reduced tariff facilities to many developed and developing nations globally. These trade benefits help Bangladesh produce and export fashion goods at a high rate, in addition to several “trade deals offering Bangladesh exports a preferential treatment, like SAARC Preferential Trading Arrangement, Asia-Pacific Trade Agreement, Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Co-operation, South Asian Free Trade Area, and the Trade Preferential System among the OIC member states” (*What makes Bangladesh* 2018). Overall, the government system in Bangladesh offers power and influence over the fashion industry throughout the country by making trade

deals, signing trade agreements, and focusing on exporting goods at an economically efficient rate. The power of government in the garment industry is also seen through governmental failures, such as hartals described above that disrupt garment production and export.

Additionally, with Bangladesh, the developmental status of the country and the approaching developmental status change plays a role in the implementation of new trade policies or the reduction of trade relief. Overall, Bangladesh's government system plays a powerful role in the garment industry in multiple ways both directly, and indirectly.

## **Case 2: Vietnam**

The second country sampled for comparison is Vietnam. Vietnam is a Southeast Asian country located on the eastern Indochinese Peninsula. The country population as of 2020 was approx. 97,591,000 people. Vietnam has a country size of 127,882 mi<sup>2</sup>. Vietnam is the fourth largest exporter for textiles, garments, and clothing products behind China, the European Union, and Bangladesh, and other main exports include electronics and machinery. Vietnam's textile and apparel industry has grown steadily over the past decade and continues to flourish, harnessing the economic advantage of lower wages while the laborers absorb the hidden cost of the garment, the cost of their health, safety, rights, and well-being.

As a country, Vietnam is regarded and utilized as a stable political and safe social destination, both attractive qualities to foreign investors and businesses. For purposes of deducing cause and effect, I have broken Vietnam down into three sections for investigation which also serve as the actors from the previously established game theoretic model: Fashion Industry, Consumer Group, and Government System. Through the exploration of each actor with

specific regard to the country of Vietnam, and then by comparing results with the country of Bangladesh, this study will yield a comparative analysis.

### *Fashion Industry*

Vietnam is a country with lower wage and production costs; therefore, it is utilized as a low cost, offshore producer for several industries, including the fashion industry. As China moves up the manufacturing value chain and wages and production costs rise, Vietnam has risen as a main textile and apparel exporter. In 2020, 6.8% of Vietnam's exports were predicted to be accounted for by the apparel industry (Couillard, 2020). Vietnam's current share in global clothing exports is 6.2%. This percentage represents a continuous rise over the past 5 years as well as a more recent increase reflective of operations moving from China to less developed countries such as Vietnam and Bangladesh, followed by a stunt due to the COVID-19 pandemic.

Import competition within domestic markets continues to rise as Western brands utilize low-cost labor from countries like Vietnam, making it impossible for domestic producers to compete (Couillard, 2020). Additionally, in a study of recent sustainable trends in Vietnam's fashion supply chain, findings showed that, despite Vietnam's position as a top five exporting country of global textiles and garments, the idea of a sustainable supply chain is still a recent concept for many supply chain actors in Vietnam, raising the moral and ethical dilemma behind these low costs (Nayak, Akbari, & Far, 2019).

With 6,000 textile enterprises in Vietnam and over 11 million laborers employed in the manufacturing sector in Vietnam, an estimated 35.2 billion USD are earned annually in export turnover of clothing and textiles in Vietnam (Statista Research Department, 2020). In 2018, the textile and apparel industry in Vietnam surpasses 36 billion USD, officially making apparel and

textiles the third strongest export commodity in the country. That same year, this sector also accounted for 16% of Vietnam's GDP.

Vietnam is a wonderful example of a recent and rapidly growing entrant to the global textile and clothing industry, highlighting the ease of entry into the industry for poorer countries that lack a well-developed industrial base.

### *Consumer Group*

In the case of the consumer group, the consumer group in Vietnam is similar, if not identical to the consumer group in Bangladesh. The same method of business is being practiced in both countries, just at different scales. The consumer group that drives production in Vietnam, as in Bangladesh, consists of the Western consumer, focused on maximizing profits at the expense of the labor force, much of which consists of women and children.

While Vietnam has had notably fewer garment industry tragedies (fires, building collapses, etc.) than Bangladesh, Vietnam is facing similar pressures to reform their garment industry and implement more sustainable practices. These pressures are becoming the norm in more developed countries where the language around sustainable fashion and garment production has already begun to change. The developed countries that are receiving such pressures include the United States, Canada, and several countries in Europe. These are also the Western countries that drive the garment production industry in the less developed countries like Vietnam and Bangladesh. The leading export for market of Vietnamese textiles is the United States (Statista Research Department, 2020). This reliance on Western consumption shows the broader reliance on Western culture, mindset, and therefore more recent sustainability pushes. One main issue in harnessing this Western, modern ideal is the fact that companies often find

ways to either dismiss any ideas of unsustainable/unethical practices, keep them undiscovered in the first place, or use greenwashing to convince consumer of sustainable practices by using marketing tools that make the product look “green” or safe for the environment.

### *Government System*

The official government system in Vietnam is the Vietnam communist party. Vietnam is a one-party state, therefore the Communist Party of Vietnam is the only party legally allowed to hold power. Vietnam’s government leadership structure is based off four pillars, consisting of the general secretary, prime minister, president and chair of the National Assembly. Twice-a-decade, Vietnam conducts a power realignment. The most recent realignment occurred on Monday April 5<sup>th</sup>, 2021, with Vietnam’s legislature voting to make Pham Minh Chinh Vietnam’s next prime minister, transitioning the previous prime minister, Nguyen Xuan Phuc, to the position of president, which is largely ceremonial (Boudreau, Uyen, & Nguyen, 2021). The only position considered more powerful than president is the General Secretary of the Communist Party; however, it is possible for one candidate to hold both positions at the same time.

Vietnam’s overall legal and regulatory framework has been developed and enhanced to create a more open and stable investment environment as well as the successful development of a market economy (Report on Vietnam Textile and Garment Industry). More specifically, laws and regulations have recently been enacted to create the legal framework for the open-door policy and to comply with the integration requirements of various international agreements like the WTO agreement (Report on Vietnam Textile and Garment Industry). Government goals, such as raising the textile industry to be a key export, followed by projected growth, employment, and export turnover rates, signal dedication to the growth of the textile industry. In the case of

Vietnam where labor wages are so low, this growth may benefit the economy, but harm sustainability efforts. However, specific efforts to achieve these goals help explain the predicted effect on sustainability.

These efforts include shifting from cut, make, trim (CMT) to free on board (FOB) production. Additionally, there will be efforts towards a gradual shift from lower end market to high quality and more efficient sourcing through vertical integration (Report on Vietnam Textile and Garment Industry). Vertical integration, although not developed for this purpose, has more recently been used as a more sustainable method. It “helps companies close the loop on their products by giving them greater control over its lifecycle, from beginning to end, and even to rebirth in high value applications” (Barton, 4, 2018). Overall, the Vietnamese government’s goals for economic growth in the textile and apparel industry signal potential for cheap labor exploitation with mass growth; however, some efforts are simultaneously being implemented to counteract these potential sustainability failures. Additionally, the steady economic growth and politically stable government system that aligns with success of the textile and apparel industry allows for success and continuous projected growth.

## **Conclusion**

Throughout this comparative analysis of two cases, Bangladesh and Vietnam, information about the impact of each actor on implementation of sustainable practices throughout the global supply chain highlights the intricacies of the industry in each country. Overall, Bangladesh and Vietnam are both lead exporters for the textile and apparel industry, and they both heavily export fashion products. However, Bangladesh is completely dependent on the fashion industry, whereas Vietnam exports other goods such as electrical machinery and

equipment. In Bangladesh, as of 2020, the textile and apparel industry accounts for 80% of the country's exports, whereas in Vietnam, in 2020, 6.8% of Vietnam's exports were predicted to be accounted for by the apparel industry (Couillard, 2020). Additionally, Vietnam is unique in that China is forwarding business to Vietnam, aiding Vietnam with support from a more established powerhouse while Bangladesh has long been trying to secure their own safety and success through the garment industry. Both Bangladesh and Vietnam are currently considered developing countries, and therefore both profit from trade benefits regarding their developmental status.

Regarding sustainability, Vietnam has had fewer major tragedies than Bangladesh. However, Vietnam practices similar low-cost wage labor and has a history of poor working conditions as well, just with less notable collapses or factory fires like Bangladesh has experienced.

When studying the consumer group for each country, the consumer group is similar; both countries cater to Western brands, mainly in Europe and the United States. However, the disconnect between these consumers and the production sites in Bangladesh and Vietnam is far too large, and therefore the passion of the consumer, even if it is strong, often falls short of any actual change overseas. The distance is too far, and the disconnect between consumer and production too deep. In fact, there is often too much distance and disconnect between the brand and their own manufacturer overseas for any real auditing to be done or change to be made. Additionally, since there is a degree of separation, there is an easy excuse for companies to abuse these policies and take advantage of unfair labor practices. When a company in the U.S. sources from Bangladesh and a scandal surfaces about labor exploitation, heads turn but there is an understanding that ethical lapses like that happen in countries like Bangladesh, and that the



otherwise innocent U.S. brand must have had no idea. This intentional evasion of responsibility allowed by the degree of separation highlights the need for aligned incentives.

Throughout these case studies, we see the use of incentives. The fashion industry is incentivized by its ability to make profits. The consumer group is incentivized by factors such as price, their inclination to garments, and more recently the focus has shifted to their personal understanding of their ethical part in the global supply chain, largely driven by Western consumer guilt, discussed above. The government system is incentivized by the ability for the textile and apparel industry to act as a machine for the developmental boost of an infrastructure and economy in an otherwise less developing country. Although all three actors currently have incentives, there is currently no available outcome where all actors share incentives.

Through the comparative study of Bangladesh and Vietnam, findings suggest that each actor can exert extreme power and influence over the global supply chain in various ways. Government systems can create change through trade laws, and overall failure or success of government system, the consumer group drives brands to create and act based on consumer wants and needs, and the fashion industry is responsible for the design, development, and production of all products.

Now it must be determined how to align incentives for each actor to achieve sustainability advancements in this regard. This study confirms my hypothesis that the most successful implementation of sustainable practices throughout the global supply chain will come from multi-action among all actors, sharing common incentives. In order to incentivize all actors similarly, sustainability must be the priority for each actor, rather than profits for companies versus climbing the developmental ladder for government systems versus various consumer demands, which have most recently turned towards a demand for sustainability. An aligned focus

on sustainability tackled simultaneously by the fashion industry, the consumer group, and the government system can provide safer and fairer labor conditions for garment workers, while also affecting environmental sustainability.

### *Specific Solution Possibilities*

This research paper suggests specific ways to alter incentives to collectively prioritize sustainable practices. One option is for the government system to provide some sort of financial relief, whether that be in terms of tax cuts or monetary incentives like bonuses to companies that meet certain sustainability guidelines, such as fair wage agreements, sustainable sourcing methods, and reduced footprints. These guidelines help tackle sustainability as a whole, both in terms of environmental sustainability and social responsibility.

Additionally, these efforts of collective action can be aided by educating the consumer group about unsustainable practices and sustainability in general. This can counteract the distance and disconnect between the most powerful actor determined by the game theoretic model (the consumer) and their ability to create change. By dissolving phenomena such as “greenwashing” and fast fashion through educating consumers about the sustainability of practices used, a barrier is removed in the process of collective action – collective action requires a collective understanding, and therefore collective truth.

Sustainability, particularly sustainable fashion, is an immense business that is becoming more and more valuable to the consumer; and this means it is also an equally immense business opportunity - an opportunity for each actor to harness this tool as a means to boost them towards their own individual goals as well.

In conclusion, my findings suggest that the most effective implementation of sustainable practices among actors in the global supply chain involves the realignment of incentives and collective action. This research paper also suggests specific ways to alter incentives to lead to more sustainable practices, such as the implementation of monetary incentives by the government and increased consumer education overall. By understanding each actor's role in making supply chain choices, and thereby understanding the most successful way to frame and correct the issue, this research can be used to help create more sustainable industry possibilities overall. Additionally, it is crucial that we research and understand the impacts that various actors can have on the sustainability of the fashion industry and industries overall in order to correct these issues of social responsibility and environmental sustainability.

Companies are frightened and intimidated by sustainability because they know it is much more expensive and they know their competitors will outperform them if the competitors choose the less sustainable, cheaper option when they are choosing the more sustainable, more expensive option, but the solution isn't competing for the lowest cost to succeed. Instead, the fashion industry, the consumer group, and the government systems should work together to use sustainability as a tool to boost our economies, our industries, and our collective social growth and welfare. If actors are able to align incentives and work towards collective sustainable development, competition specifically regarding sustainable practices can be reduced in order to allow for the prioritization of sustainability.

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