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Miriam Bodenheimer

Transition towards Socially Sustainable
Behavior?
A Comparison of Cases from the
Smartphone and Garment Industries

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1 Introduction

Globalization in the production process of consumer goods has led to the creation of intricate global production networks (GPNs), whose early stages are often characterized by poor working conditions and other social sustainability issues (SSIs). The changes needed to move towards more socially sustainable consumer products are not only complex, but also difficult to implement in highly competitive industries with powerful incumbent actors and often poor institutional conditions in producing countries. The resulting change processes can be conceptualized as emerging sustainability transitions in the sense of the Multi-Level Perspective (MLP), where incumbent actors make up the current regime and innovative alternatives emerge in niches (Geels and Schot 2010). While the MLP has traditionally had a strong focus on technological innovation, sustainability transitions often require a change in behavior instead. To reflect this stronger focus on changes in behaviors, practices and decision-making processes, this paper uses the Model of Behavioral Transitions to Sustainability (BTS), a combined approach of the MLP with the Cyclical Dialectic Issue Lifecycle (C-DILC) model and two behavioral models (Bodenheimer 2018a).

This paper is part of a larger series and compares the results of three in-depth case studies of GPNs, two in the garment and one in the smartphone sector, which examine the ongoing transition processes in these industries towards more socially sustainable GPNs from 1990 to 2016.. An in-depth description of the theoretical underpinnings can be found in Bodenheimer (2018a); the smartphone case study is described in detail in Bodenheimer (2018c) and the two garment cases are documented in Bodenheimer (2018b). In this paper, with regard to industry-specific framework conditions, we will treat the two garment sector cases as one, whereas with regard to transition dynamics, we will often analyze the European and US garment sectors separately, alongside the smartphone sector.

In the following chapters, we will compare the case studies from the perspective of each of the components of the BTS model. Chapter 2 provides a brief summary of the theoretical background and BTS model. In Chapter 3, we will examine how the dialectic issue lifecycles have developed historically in each of the case studies and whether or not they have exhibited cyclicity thus far. We will pay particular attention to similarities and differences in those factors that moved each sector forward and/or backward between the different C-DILC phases.

Next, we will sum up and compare insights regarding consumer and corporate behavior in the case studies in Chapter 4. With a view to consumers, we will place a particular focus on the question of why consumer demand is generally unlikely to play a significant role in moving the transition towards greater social sustainability in GPNs forward, although the degree to which this is true differs between the smartphone and garment sectors. With regard to corporate behavior, we will highlight the key similarities and differences between the two industry sectors, both with regard to the level of progress of the transition in each sector and the difficulties that still remain.

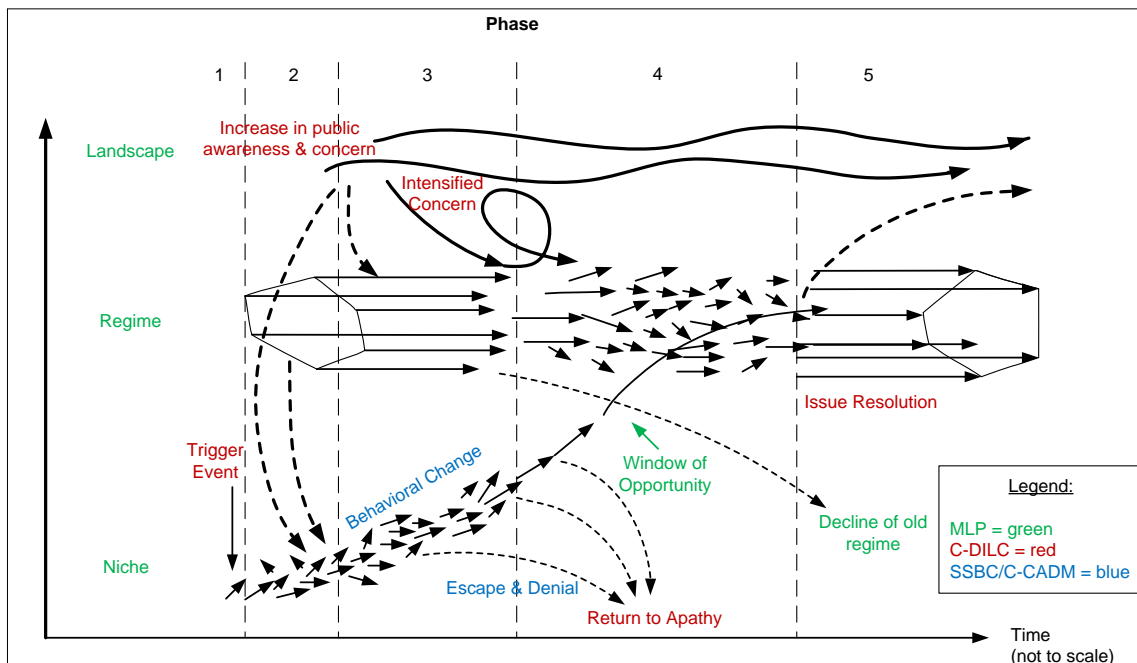
Finally, in Chapter 5, we will take on a more macro-level perspective of the behavioral transitions in the case studies by analyzing interactions between each of the three MLP-levels and assessing which type of transition pathway each industry is most likely to follow if the transition is successful in the long-term. Chapter 6 concludes.

2 Theoretical Background

The case studies were conducted using the Model of Behavioral Transitions to Sustainability (BTS), a heterodox and heuristic approach shown in Figure 1 below. In this chapter, we will provide only a brief overview of specific aspects of the model that form the basis of our case study comparison. A more detailed description of the BTS model and prior literature can be found in the first working paper of this series (Bodenheimer 2018a).

The foundation of the BTS model is the Multi-Level Perspective (MLP), which describes the process of socio-technical transitions over time with a focus on three separate levels: landscape, regime and niche. The regime is usually characterized by a high degree of stability resulting from path dependence factors, such as economies of scale, sunk costs, market structures and established networks, all of which favor the continuation of the regime (Zundel et al. 2005). Nevertheless, regimes can become destabilized when they experience significant pressure from the landscape, leading to a window of opportunity for niche innovations to move into, change or replace the regime. This process is referred to as a transition.

Figure 1: Model of Behavioral Transitions to Sustainability



In contrast to the traditional analysis of socio-technical transitions, the focus of the BTS Model is on behavioral transitions to sustainability, which are normatively driven changes in a conglomerate of structures, culture, norms and prac-

tices that are a key element of long-term transitions towards greater sustainability. It expands the operationalizability of the Multi-Level Perspective (MLP) by combining it with the Cyclical Dialectic Issue Lifecycle (C-DILC) model (Bodenhimer 2018a; Penna and Geels 2015; Geels and Penna 2015) and incorporating two behavioral models. The C-DILC model describes the development of public attention and concern to a specific trigger event or issue and how this in turn affects the actions of corporate and governmental actors. The dialectic issue lifecycle is divided up into five phases (Figure 1):

- Phase 1: problem identification and definition by early activists
- Phase 2: social movement formation and defensive industry/regime responses
- Phase 3: public discussion and framing, formation of a market for moral consumption and defensive industry/regime hedging
- Phase 4: dramatic increase in public attention, industry/regime split between early-mover incumbents and those actively fighting changes
- Phase 5: issue resolution and new or adjusted regime

Dialectic issue lifecycles can be, but are not always linear and continuous, i.e. they do not always move steadily from phase 1 to 2, 2 to 3, and so on, especially when the resolution of the issue at hand requires a large-scale or long-term transition. Instead, the development of the dialectic issue lifecycle can be cyclical, meaning that it moves repeatedly both forward and backward between the different phases, before eventually reaching some type of issue resolution.¹ While different cycles can be separated by periods of public apathy to the issue, each subsequent cycle builds upon its predecessors, since the public, media, industry and political apparatus have already been primed by prior cycles. This cyclicity can therefore be an important factor in propelling a transition forward if a single trigger event is not powerful enough to open up a window of opportunity for a transition. Note that cyclical dialectic issue lifecycles, like transition, can take place over several decades.

The C-DILC perspective was used to supplement the transitions approach described by the MLP by allowing for the creation and analysis of specific empirical indicators based on the C-DILC phases. The two behavioral models (stage model of self-regulated behavior change (SSBC)) (Bamberg 2013) and corpo-

¹ Note that the term 'issue resolution' simply denotes the end of the issue lifecycle, not necessarily an outcome in favor of those who raised the issue in the first place.

rate comprehensive action determination model (C-CADM) (Lülfes and Hahn 2014)) can be used to gain insight into the processes that take place during a behavioral transition to sustainability and, of particular importance, the points where it is likely to fail or succeed.

In the case studies, we used a mixed-methods approach that included both quantitative and qualitative indicators and covered the time period from 1990 through 2016. For the quantitative analysis, we examined media coverage of SSIs in each of the two industry sectors to create a general overview of the issue lifecycle. This data was then supplemented with a qualitative systematic process analysis of historical events, which allowed us to uncover relationships between historical events and examine interactions between various stakeholders in greater detail.

The two behavioral models were used as the foundation for expert interviews, which built upon the insights gained from the historical analyses to examine the current status of the transition in each sector from the perspective of relevant stakeholders. Using the theoretical underpinnings, we were able to identify key drivers and obstacles for a behavioral transition to greater social sustainability in each industry. The combination of all of these individual pieces allowed us to assess the current status of the transition in each sector from the perspective of the MLP and its transition pathways.

In the following chapters, we will compare the three case studies from the perspective of each of the components of the BTS model. First, we will examine how the dialectic issue lifecycles have developed historically in each of the case studies and whether or not they have exhibited cyclicity thus far. We will pay particular attention to similarities and differences in those factors that moved each sector forward and/or backward between the different C-DILC phases.

Next, we will sum up and compare insights regarding consumer and corporate behavior in the three case studies. With a view to consumers, we will place a particular focus on the question of why consumer demand is generally unlikely to play a significant role in moving the transition towards greater social sustainability in GPNs forward, although the degree to which this is true differs between the smartphone and garment sector. With regard to corporate behavior, we will highlight the key similarities and differences between the two industry sectors, both with regard to the level of progress of the transition in each sector and the difficulties that still remain.

Finally, we will take on a more macro-level perspective of the behavioral transitions in our case studies by analyzing interactions between each of the three MLP-levels and assessing which type of transition pathway each industry is most likely to follow if the transition is successful in the long-term.

3 The Development of Cyclical Dialectic Issue Lifecycles

We begin our comparison by examining the development of the dialectic issue lifecycles in the three case studies. The visualized case study summaries show that dialectic issue lifecycles can take on many different shapes, ranging from slow and steadily linear to repeated ups and downs creating a cyclical lifecycle. Moreover, our results show that issue lifecycles can vary not only between sectors, but even within the same sector when this is viewed through a regional lens: While the European garment sector experienced a long and mostly steady linear development from 1990 to 2011, the US garment sector clearly demonstrates a cyclical up-and-down development during the same time period.

Figures 2-4 below show an overview of the course of the transitions processes from 1990 to 2016 in the garment and smartphone sectors. The bottom half of each figure shows a visual representation of the five C-DILC phases described in Chapter 2 as they progress over time for each industry.² The top half of the figure provides an overview of key events during each time period that characterize that particular phase in the transition of the industry. More specific details of the development of the transition to date in each sector can be found in the working papers on the three case studies (Bodenheimer 2018c, 2018b). In this paper, we will instead focus on identifying overall similarities and differences in the transitions as they have taken place thus far.

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Figure 2 summarizes the transition in the European garment sector, Figure 3 is focused on the US garment sector and Figure 4 displays the transition in the global smartphone sector. While the first two figures both stem from the gar-

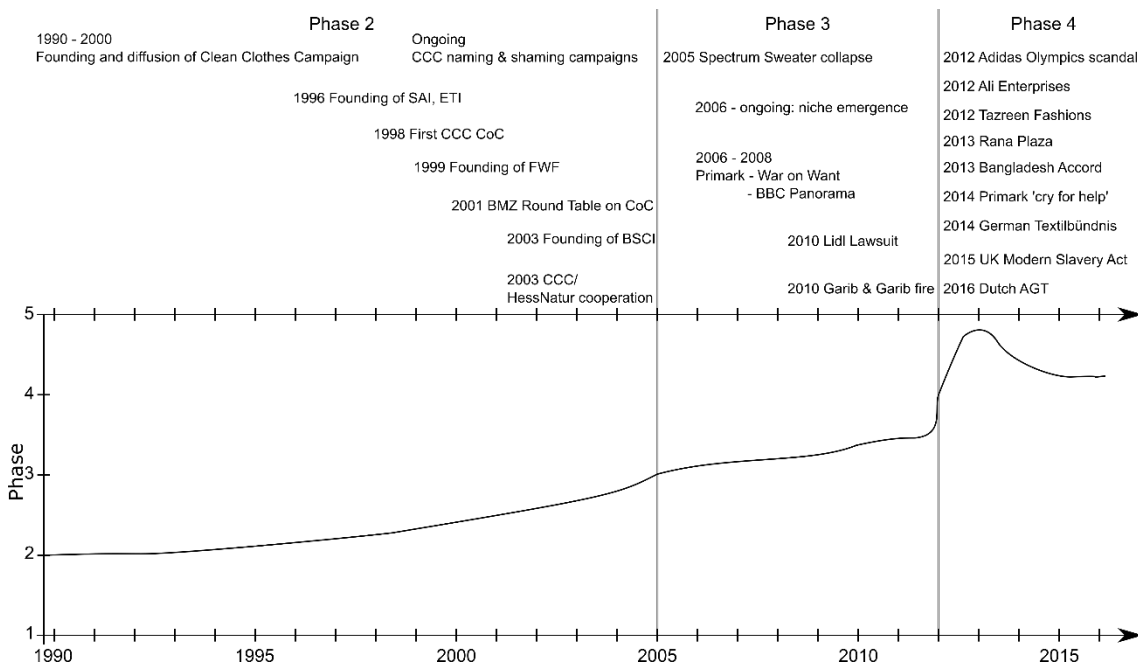
² In comparison to Figure 1, the C-DILC phases have moved from the x-axis to the y-axis in Figures 2-4. Note that this y-axis is on an ordinal, not metric, scale. The values - especially changes in slope - are meant as a visual interpretation of observed events.

ment sector, the social movements and industry responses progressed quite differently in Europe and the US. In the following sections, we will first focus on regional differences within the garment sector before moving on to a comparison between the garment and smartphone case studies.

3.1 Regional Variations in the Garment Sector

The visualized case study summaries show that dialectic issue lifecycles can take on many different shapes, ranging from slow and steadily linear to repeated ups and downs creating a cyclical lifecycle. Moreover, our results show that issue lifecycles can vary not only between sectors, but even within the same sector when this is viewed through a regional lens: While the European garment sector experienced a long and mostly steady linear development from 1990 to 2011, the US garment sector clearly demonstrates a cyclical up-and-down development during the same time period.

Figure 2: Summary of the transition to date in the European garment sector



Source: own research

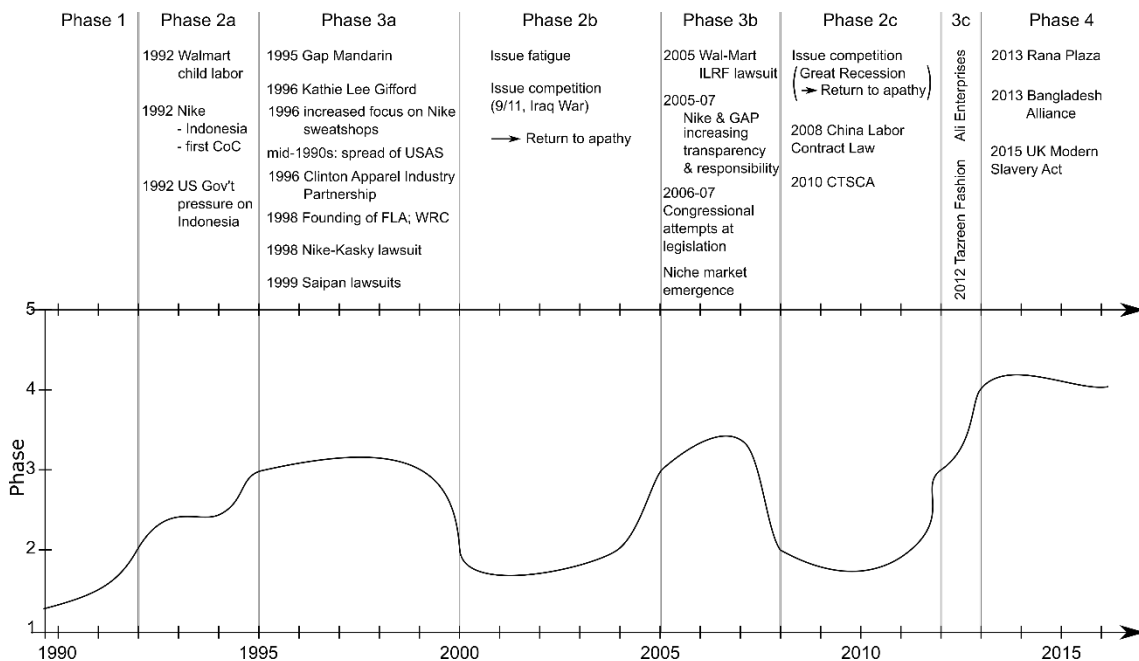
This observation is quite interesting, since brands active in both regional markets sell more or less the same products, are to a large degree part of the same global production networks and are subject to the same types of social sustainability issues. Moreover, about half of the brands we examined are active both

in the US and (at least part of) the European market. There is thus a strong overlap between the European and US garment sectors, which leads us to assume that differences in the development of the issue lifecycles must lie elsewhere.

A number of factors can be identified that likely contributed to this difference in progression. Bair and Palpacuer (2012) have previously classified the different civil society³ approaches in the US and Europe as "name and shame" and "oppose and propose", respectively. The latter favors a collaborative approach between civil society and industry and is thus less predisposed to creating significant amounts of media coverage and, by extension, public outrage. This explains why phase 2 in Europe stretched over more than a decade with a primary focus on social movement emergence and resource mobilization. While the European strategy of "oppose and propose" did not lead to major changes throughout the 1990s and early 2000s, it did serve to raise the general level of public awareness to the "sweatshop issue" and thus prepared the way for change in the future.

³ In this research project, we use the term 'civil society' in the sense of the "activist version" described by Mary Kaldor, meaning "'new social movements' [...] that developed after 1968 concerned with new issues, like peace, women, human rights, the environment and new forms of protest." Since the 1990s, these also increasingly include "transnational networks of activists who came together on particular issues – landmines, human rights, climate change, [...] and] corporate responsibility" (2003, p. 588). This definition stands in contrast to what Kaldor calls the "neoliberal version", where "the key agents are not social movements but NGOs," which she describes as "tamed social movements, [i. e.] the respectable opposition – the partner in negotiations" (Kaldor 2003, p. 589).

Figure 3: Summary of the transition to date in the US garment sector



Source: own research

The "name and shame" strategy, on the other hand, explicitly involves the public exposition of scandals, which helps to explain why public attention rose more dramatically in the United States than it did in Europe. Another factor that likely facilitated more extreme peaks in the US was the fact that early American scandals were often connected closely to specific individuals with celebrity status, such as morning show host Kathie Lee Gifford, sports stars Michael Jordan and Tiger Woods, and billionaire Nike CEO Phil Knight, or those who unwittingly became the face of a scandal through poor performances in the public relations arena (e. g. Wal-Mart CEO David Glass). Such personal connections can highlight the juxtapositioning between the well-off beneficiaries of brand success on the one hand and the poor conditions of workers in production on the other hand much more clearly than the connection to an abstract and largely anonymous company name. None of the scandals in Europe, most of which also took place later than those in the US, were closely tied to individual persons.

While the above factors help to explain the more significant increases in public concern in the US – i.e. the transitions from phases 2 to 3 – the next question that arises is why public attention also dropped off more strongly in the US, i.e. the transitions from phases 3 back to 2. We believe that issue competition plays the largest role in explaining this phenomenon. Over the course of more than two decades, both the US and Europe experienced many significant political

and economic events, but few had such wide-ranging domestic and international consequences as the 9/11 terrorist attacks in 2001 and the financial crisis of 2007/2008 that set off the Great Recession in the United States. Faced with each of these issues, US media and public attention became strongly focused on stories related to these events and thereby crowded out other topics, particularly those that had little direct impact on domestic matters or US citizens, as is the case for SSIs in the international production of garments.

Following these different paths of development in the US and European garment sectors through 2011, the series of dramatic industrial accidents in 2012 and 2013, including the collapse of Rana Plaza, pushed the entire garment industry into phase 4 in 2013. In particular the collapse of Rana Plaza and its aftermath have acted as a wake-up call for the garment industry, governments, and the public that something needs to change in the sector.

While the Bangladesh Accord in Europe and the Bangladesh Alliance in the US were the most directly connected, largest and most global initiatives that resulted from the Rana Plaza disaster, they were not only reactions. Interestingly, while the European anti-sweatshop movement led to much less outrage and public concern throughout its first two decades than its US equivalent, the Rana Plaza collapse acted as a much stronger catalyst for broad change in Europe than it did in the United States. Beyond the Bangladesh Accord, European brands, civil society and governments have joined together to initiate other large-scale activities that are much broader in scope both regionally and regarding issue focus, such as the German Partnership for Sustainable Textiles and the Dutch Agreement on Sustainable Garments and Textiles.

One plausible explanation for the variance in recent developments in Europe and the US can be found in their different social and political environments. In analyzing the differences between the Bangladesh Accord (primarily European) and the Bangladesh Alliance (primarily American), Donaghey and Reinecke (2017) portray the two agreements as outcomes of two separate forms of transnational labor governance. They situate the Accord in the tradition of industrial democracy, which includes a pluralist conception of the firm, participative representation that includes workers and a focus on binding agreements and corporate accountability (Donaghey and Reinecke 2017). This fits in well with Western European countries' overall tendency to favor tripartite negotiations (including government, labor and industry) and a more collaborative rule-making approach (Flohr et al. 2010) and further matches the willingness of corporate, governmental and civil society representatives to work together in the multi-

stakeholder initiatives listed above. The Alliance, on the other hand, is seen as a classic example of corporate social responsibility with a unitarist conception of the firm, primarily corporate control with limited involvement of societal stakeholders and a focus on voluntary participation to enhance corporate reputation and image (Donaghey and Reinecke 2017, p. 18). This, in turn, fits the much more neoliberal, competitive and confrontational system of government-business relations with little involvement of labor representation that can be found in the United States (Flohr et al. 2010). This type of system provides little room or opportunity for collaborative multi-stakeholder initiatives, instead favoring the more antagonistic approach already evident in the "naming and shaming" strategies of the past three decades.

3.2 Comparison of Issue Lifecycles in the Garment and Smartphone Sectors

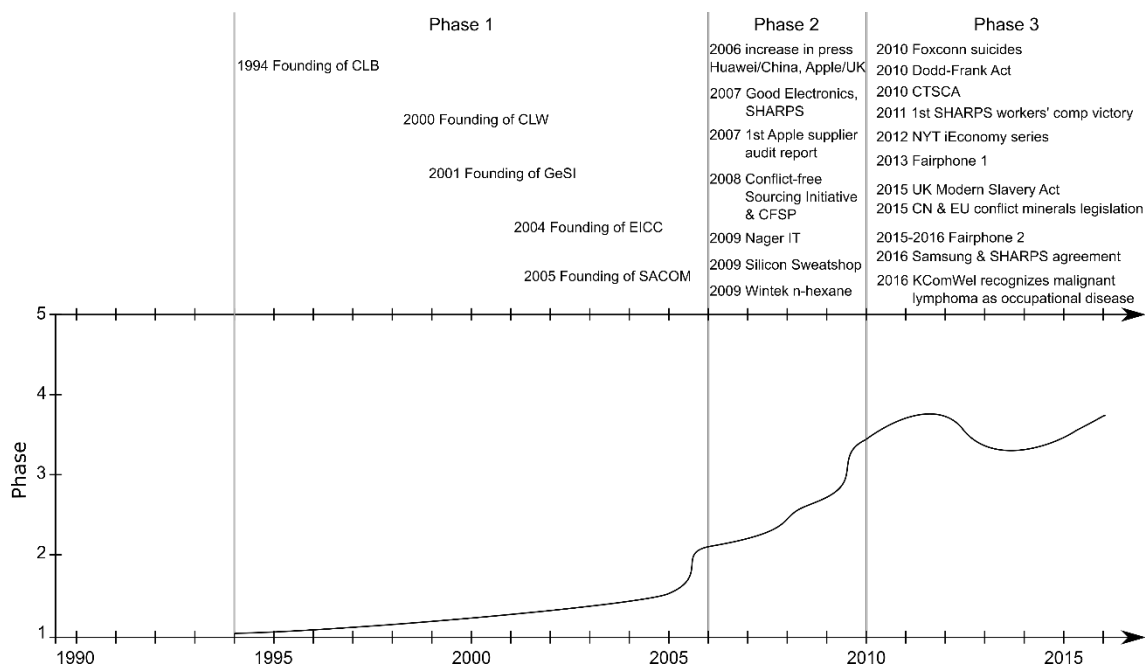
The garment industry as a whole, as well as its anti-sweatshop movement, are significantly older than the smartphone industry and the movement towards fairer electronics/smartphones. Just as the clothing sector has historically provided an easy entry point into manufacturing and industrialization, it was also one of the first industries faced with the confrontation between social sustainability issues and global production networks, which resulted from the rise and spread of economic liberalization and globalization that characterized the late 20th century.⁴

This is the context in which the anti-sweatshop movement of the garment sector arose. As will become clear from the following analysis, this historical context and the fact that the anti-sweatshop movement was one of, if not the first social movement that arose out of the confrontation between global labor rights and globalized production networks made the development of its issue lifecycles unique. To some degree, it is therefore difficult to compare the historical developments of social sustainability issue lifecycles in the garment and smartphone industries, as the smartphone sector started on this journey much later and – perhaps as a result – has not advanced as far. Nevertheless, we are able to identify some key differences and similarities that have emerged in the respective developments of the two sectors thus far. We will briefly compare the first two phases in the two sectors before analyzing the move to and progression of

⁴ This and other 'landscape developments' from the MLP-perspective will be discussed in greater detail in Chapter 5.1.

phase 3 in greater detail, since this is inherently the most progressive of the DILC-phases that both sectors share and thus leads to the most interesting insights for the transition process.

Figure 4: Summary of the transition to date in the global smartphone sector



Source: own research

The issue lifecycle in the European garment sector began slowly, although much of the social movement formation (issue identification, founding of organizations, resource mobilization) of the European anti-sweatshop movement took place while its actors were simultaneously already present in the public sphere through campaigns and publicity tours and thus already in phase 2. While the smartphone industry likewise saw a slow beginning to the issue lifecycle, the process was more drawn out and consecutive, with early activists remaining in the issue identification stage of phase 1 for over a decade before moving to phase 2 as a result of several larger pieces of media coverage. In contrast to both of these examples, in the US garment sector, many of the most significant civil society organizations were in fact only established in phase 3, because large public scandals took place early on, before the social movement had fully established itself.

While at different speeds, all three cases eventually reached phase 3 and the two garment cases even advanced to phase 4, though the drivers that propelled this development differed from case to case. In the US garment case, 'naming

and shaming' activities by civil society were the main driver in moving the dialectic issue lifecycle to phase 3. Such activities were present to some degree in the European garment and smartphone cases, but played a much smaller role. Instead, other factors were important in driving the transition, including the role of sub-issues, such as the rise of the conflict minerals issue or building safety in Bangladesh, and political developments, such as the passage of several mandatory due diligence laws.⁵ Each of these factors, naming and shaming, the role of sub-issues, and political developments, deserves a closer look from a comparative perspective between the three cases.

3.2.1 Naming and Shaming

Companies in all three case studies became targets of public naming and shaming, yet in the US garment sector, this strategy was extremely successful in creating a series of high-publicity scandals in the industry and a central driver in moving the issue lifecycle along, whereas in the other two cases, while there were some scandals, they remained comparatively small (smartphone case) or remained very local (UK-only scandals in the European garment sector) and were ultimately only one factor among many in moving to phase 3. This begs the question of what differentiates these three situations.

With regard to the two garment case studies, we have already discussed the different civil society strategies ('name and shame' vs. 'oppose and propose') in Chapter 3.1, which serve to explain why naming and shaming was not a significant driver in the European garment sector. In turn, the greater effectiveness of this strategy in the US garment sector than in the smartphone industry can be explained by historical context. The US garment industry's sweatshop scandals were among the first, historically, in the era of massively globalized production networks. As Bartley and Child point out, the anti-sweatshop movement was also the first to make "the TNC [transnational corporation] into the central locus of struggle over labor rights and globalization", as opposed to earlier campaigns which focused largely on state trade policies (2014, p. 657). As a result of this new strategy, the expectation gap described in the DILC-theory, which is created when events reported in the media do not match the implicit expectations of the public, was likely larger the first time such scandals were explicitly connect-

⁵ In the case of the smartphone sector, the sudden appearance of a radical niche alternative (Fairphone) was also an important factor in pushing the industry to phase 3. Since Chapter 5.1 focuses specifically on the interactions between different MLP levels, including the niche and regime, this development will not be discussed in this chapter.

ed to brand behavior and thus caused greater outrage. The US anti-sweatshop movement also dove-tailed well with the anti-globalization movement, which was likewise on the rise in the mid- to late-1990s (Ayres 2004). By the time poor working conditions in the smartphone sector came into focus more than a decade later, it was newsworthy that another industry was also affected by SSIs, but much less so that global supply chains in general are often marred by less than ideal social standards.

Although the application and success of the naming and shaming tactic differed, other aspects of the strategy were quite similar in all three cases. The brands that were targeted most strongly by civil society organizations (e.g. Apple and Samsung in the smartphone sector; Nike, Wal-Mart and The Gap in the garment sector) were large, enjoyed positive reputations in the business communities and invested significantly in branding and advertising activities. One exception is Primark from the European garment case, which embodies the first two, but not the last condition, but was still targeted heavily in the later years of the anti-sweatshop movement. Moreover, once a brand became a target, it was likely to be targeted again and again by NGOs. These qualitative observations from our case studies also match prior statistical analyses on these issues (Bartley and Child 2014; King 2008).

3.2.2 Handling Complexity: Focusing on Sub-Issues

The conglomerate of social sustainability issues in GPNs is made up of many individual sub-issues. It is unrealistic to expect all of these issues to be resolved or even actively addressed simultaneously, especially across all nodes, countries and individual actors of a global value chain. A more likely scenario is that specific sub-issues will move to the foreground at various points in time to be tackled individually. Depending on the nature of the issue and how it is framed in the public discourse, a focus on one sub-issue may also enable other sub-issues to gain some increased attention, thus adding to the overall progression of the transition.

In each of our three case studies, there was one sub-issue that gained particularly significant prominence and pushed the issue lifecycle to its next phase: conflict minerals in the Great Lakes Region in the smartphone sector (phase 3), and building safety in Bangladesh in the garment sector (phase 4). In many cases, though, media articles that primarily addressed one of these two celebrity issues also included some coverage of other sub-issues, thereby lending a voice to other SSIs. For example, articles that are ostensibly about conflict min-

erals, whose original definition was based on the financing of armed conflict in the Democratic Republic of the Congo,⁶ often include mentions of other SSIs, such as the use of child labor in African resource mines (Poulsen 2012), the use of modern slavery in global supply chains (Browning 2015) or poor safety standards and no minimum wages (Obert 2011). On the one hand, this gives relevant SSIs that might otherwise not be mentioned in media coverage a platform for publicity. On the other hand, this intermingling of topics adds to laypersons' confusion regarding the issue of conflict minerals and often leads them to think that "conflict-free" means "fair", i. e. produced under decent working conditions, which is not (necessarily) true. Consumers may therefore purchase a 'conflict-free' product with the expectation that it was produced 'fairly' and be disappointed or lose faith in labels or certifications when they find out that this is not the case.

In the garment sector, the collapse of the Rana Plaza building initially led to a strong focus on the topic of building safety in Bangladesh, as is evidenced by the creation of the Bangladesh Accord (Europe) and Alliance (US), both of which focus exclusively on this sub-issue. Particularly in Europe, though, the focus quickly broadened to issues other than building safety in countries beyond Bangladesh. Hoping to avoid future scandals, brands began to cooperate more to resolve other known issues in the garment sector.

Whereas in the smartphone sector, the conflict minerals issue led to some additional attention – but no significant increase in activities – for other sub-issues, in the (European) garment sector, the Rana Plaza disaster acted as a substantial catalyst for change. This difference is not surprising given, first, that the garment sector was already further along in its transition than the smartphone industry at the time of the building collapse, and second, that the collapse of the Rana Plaza building was a much less abstract event than the conflict minerals discussion, with concrete outcomes that were clearly visible in hundreds of photos in online articles. The resource-based funding of militias in a complex civil war and its specific connection to consumer electronics is much harder to grasp than the deaths of 1100 people in a factory collapse.

Reviewing these examples, it is therefore possible to identify at least two different ways in which sub-issues can interact in the context of highly complex issues. One – as seen in the smartphone case study – is that a single sub-issue

⁶ Over time, the definition has been widened to include both other minerals as well as other types of conflict or high-risk areas, see e.g. OECD 2016, p. 4.

brings attention to the larger issue as a whole 'by association' and thereby raises general public awareness. Further research is necessary to determine whether this interaction between sub-issues is particularly common in earlier stages of an issue lifecycle, where public awareness is still relatively low and a focus on one sub-issues is therefore a convenient vehicle to point out that there are other problems as well. Another form of interaction is that which was seen in the garment sector, where a particularly dramatic industrial accident acted as a catalyst for more significant change⁷ in the industry as a whole. We believe – though further research is again needed – that this is a likely form of interaction for later stages of the issue lifecycle, where an issue already enjoys greater public awareness and concern, which in turn puts pressure on those actors with responsibility to make more far-reaching efforts as a sign of good-will.

3.2.3 Political Developments in the Landscape

Beginning in 2010, a series of national and international political and regulatory developments increased the pressure on both industries to begin addressing SSIs in their GPNs more seriously and proactively. Not all laws that were passed directly impact all three case studies to the same degree, either due to regional or product limitations. For clarification, we have included the case study and regional/company applicability of each law in footnotes. However, even when individual laws do not impact one of the case studies directly, the fact that so many new laws were passed within a relatively short period of time is a sign that the global landscape within which all economic actors exist is changing and that pressure on product manufacturers and brand name companies with regard to social sustainability issues is increasing across industries. This means that even laws that do not directly impact a sector or region still indirectly contribute to the landscape pressure on the regime.

In 2010, the United States passed the Conflict Minerals Rule as part of the Dodd-Frank Act⁸ and the California Transparency in Supply Chains Act (CTSCA).⁹ While the impact 'on the ground' of both laws has been limited to

⁷ I. e. opened a window of opportunity, which will be discussed further in Chapter 5.

⁸ Direct impact: smartphone case study; all companies that are listed on the New York Stock Exchange (US Securities Exchange Commission 2013).

⁹ Direct impact: smartphone and US garment case study; companies that file taxes in California as retail sellers or manufacturers and have annual global receipts in excess of \$100 million (California State Senate 9/30/2010).

date, both acts played an important role in terms of setting a precedent. The Conflict Minerals Rule addressed the conflict minerals issue directly and essentially set out in law that all actors in a supply chain, including the non-manufacturing brand-name corporations, bear responsibility for the materials contained in their products. While the Rule has very limited scope in terms of resources and geographical origin, it still sent a clear message to participants in the US market that supply chain due diligence was beginning to become a *legally* relevant issue.

This idea was further reinforced by the CTSCA. While this Act only applies to certain companies that file taxes in California, it is a further indicator of "the growing consensus on the type of disclosures that will be expected from companies with global supply chains" in the future (Dueck et al. 2017, p. 14). An attempt to pass a similar bill for all of the United States and all industries took place in 2016, but failed and is considered unlikely to pass under the current US administration (Dueck et al. 2017).

Starting in 2014, the EU and individual European countries also began passing due diligence legislation. In the EU, this includes the European Union Directive 2014/95/EU, which requires firms with more than 500 employees to annually disclose their due diligence efforts with regard to social and environmental issues.¹⁰ The first reports are due in 2018, so that compliance and impact cannot yet be assessed. Furthermore, the EU passed its own conflict mineral legislation in 2017 with a broader definition of what constitutes high-risk or conflict areas, which will enter into force in 2021.¹¹

Some individual European countries have likewise passed due diligence measures, including the UK Modern Slavery Act of 2015,¹² which is similar to the CTSCA and the French bill "Devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre" (Due diligence requirements for parent and con-

¹⁰ Direct impact: smartphone and EU garment case study; companies with more than 500 employees that are listed on EU markets (Dueck et al. 2017).

¹¹ Direct impact: smartphone case study; companies that import tin, tantalum, tungsten and gold into the EU above a minimum threshold amount (Thomas and Economides 2017).

¹² Direct impact: smartphone and European garment case study; companies that are active in the UK and have a global annual turnover of at least £36 million (Bayer 2016).

tracting companies bill),¹³ which requires companies registered in France with at least 5000 employees in France or more than 10,000 employees worldwide to perform due diligence "for their own operations, their subsidiaries, and their sub-contractors or suppliers" (Dueck et al. 2017, p. 12).

Finally, while less mandatory, 12 countries adopted national action plans on business and human rights with a focus on implementing the UN Guiding Principles on Business and Human Rights between 2013 and 2016. Among them were the UK, Netherlands, Denmark, the US and Germany (UN OHCHR 2018).¹⁴

In discussing historical developments in the electronics, apparel and footwear industries, among others, since the early 1990s, Bartley et al. state that some "lead firms in global value chains began to accept 'soft' forms of responsibility by adopting codes of conduct and pledging to monitor and improve conditions in their supply chains. Those same companies, however, fiercely resisted attempts to make them *legally* liable [...] For the most part, this remains the situation" (2015, p. 11). While we agree with the authors' assessment of corporate intentions, the developments listed above show that governments in the United States and Europe are beginning to explore legal liability scenarios for global production networks and brand-name companies are certainly aware that supply chain due diligence will likely have to play an increasingly large role in their future operations.

With regard to our three case studies, these political and legislative developments certainly impact both sectors. However, with a view to the development of the issue lifecycle, the impact was stronger on the smartphone industry, which had only reached phase 2 in 2010, than in the garment sector, which by this point had already reached phase 3 (presently or in the past). Moreover, there were also a series of mandatory due diligence laws that directly impacted the smartphone sector via the conflict minerals issue, a development that has not taken place in a similar manner in the garment sector to date.

¹³ Direct impact: smartphone and European garment case study; companies registered in France with at least 5000 employees in France or more than 10,000 employees worldwide (Dueck et al. 2017)

¹⁴ Direct impact: all case studies; all companies.

4 Behavioral Observations in the Present

Having examined the primarily historical development of cyclical dialectic issue lifecycles in each of our case studies, we now turn to comparing the results of our expert interviews. These were conducted with the purpose of gaining more insights into the drivers and obstacles that impact SSI-related consumer and corporate behavior in the present.

4.1 Consumer Behavior

The position and role of consumers was assessed very similarly by the experts in both case studies. In both sectors, there is a small group of well-informed 'moral consumers' who are very interested in the topic and who ascribe higher priority to sustainability aspects in their purchasing decisions than to other criteria such as price or brand popularity. There is likewise a small group of customers for whom sustainability is of no importance whatsoever and who are explicitly not interested in the topic. The 'average consumers' make up the largest percentage and are located between these two extremes in their preferences. The extent of knowledge about social sustainability issues in global production networks within this group is difficult to quantify without a representative study. However, it is clear that many average customers feel overwhelmed both by the complexity of the subject matter and the large number of available labels and certifications. As a result, many are unsure which certifications or brands they can trust to genuinely produce under good working conditions, rather than simply 'fairwashing' their products.

With regard to our two industry sectors, we find some differences in consumer behavior that are most likely explained by characteristics of the products themselves. While both smartphones and clothing are consumer goods that are often used as status symbols to convey a particular lifestyle or identity, they differ in that smartphones are high-tech products with comparatively few alternatives on the market, short product innovation cycles, and whose purchase represents a significant investment of financial resources that usually only takes place once every few years. Clothing, on the other hand, is a low-tech product whose form may vary from year to year, but whose functions have remained the same for decades;¹⁵ moreover, there are hundreds of brands to choose from who all of-

¹⁵ With some exceptions, such as certain types of outdoor and athletic clothing, i.e. functional wear.

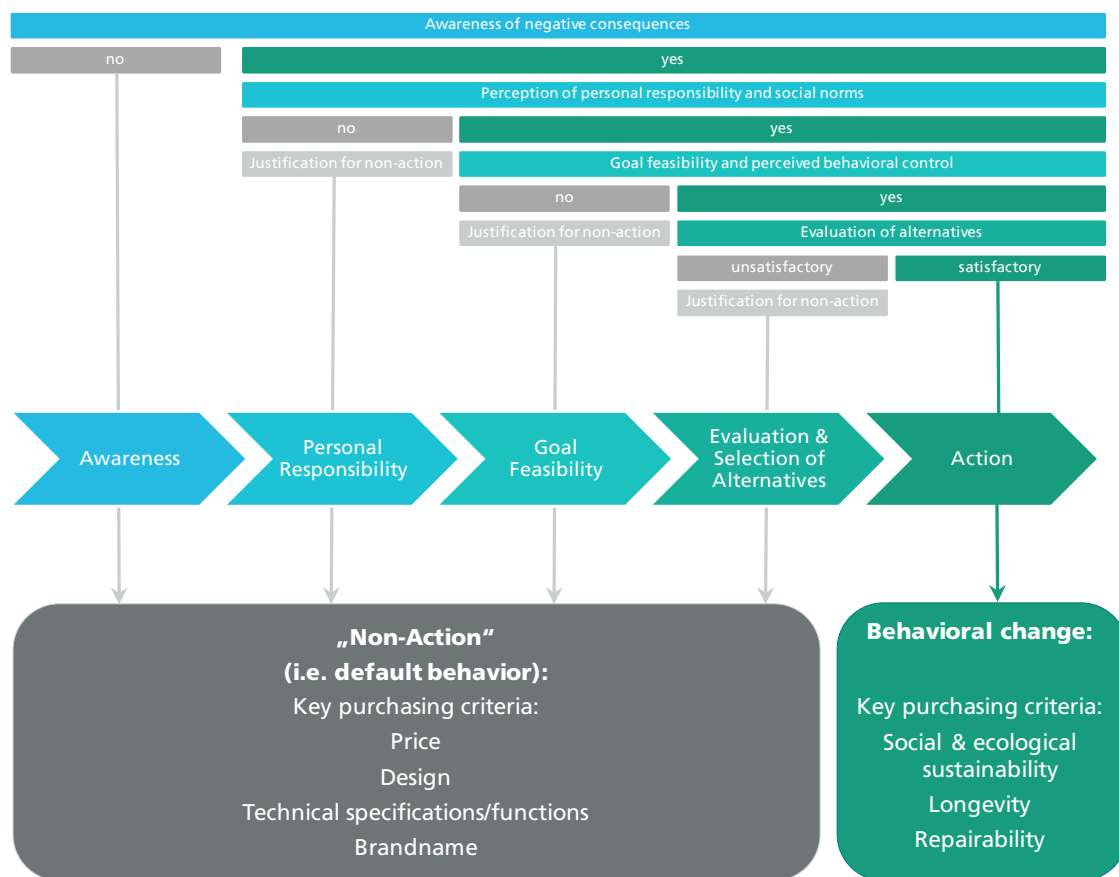
fer very similar products and are, for the most part, not very expensive and therefore purchased much more frequently.

As a result of these differences, consumers may be more 'willing' to be outraged at garment sector scandals, where the boycott of one or more brands can easily be compensated due to the wealth of alternatives. This is much harder to do with regard to smartphones, where boycotting mainstream brands generally implies foregoing certain features. Consumers who are not willing to make certain technical or economic sacrifices in their smartphone purchasing decision and at the same time become outraged at the poor working conditions in smartphone GPNs would be likely to experience cognitive dissonance. This is a phenomenon in which psychological discomfort arises when a person's values or attitudes and corresponding actions do not match, such as when someone demands better working conditions from a company and at the same time purchases one of its products. This in turn leads to dissonance reduction strategies (Jarcho et al. 2011; Elliot and Devine 1994). In situations where an action has already taken place and cannot easily be changed or reversed, people tend to adjust their attitudes retrospectively, so as to reduce cognitive dissonance (Jarcho et al. 2011). This means that consumers who have purchased a smartphone from a particular brand and find out afterwards that it was produced under poor working conditions are more likely to change their attitude towards this issue, for example by arguing that better working conditions are too expensive or too difficult to achieve throughout the GPN, than to admit that they find these conditions to be problematic and plan to research such information more carefully prior to their next purchase. This is especially true when it is clear that purchasing an alternative product would require foregoing certain desirable features, which is more likely in the smartphone than in the garment sector.

Since consumers make a much larger number of purchasing decisions in the clothing sector, where products are significantly cheaper and needed in larger quantities there are customers who occasionally buy an eco-fair item of clothing 'for a good conscience,' whereas in other similar purchasing situations they disregard sustainability criteria in favor of other characteristics. Varying purchasing decisions in this way may be another strategy to reduce cognitive dissonance over time. This behavior generally cannot be found in the smartphone sector due to the high price, technical specifications and the fact that most customers only own one or at most two smartphones, so that far fewer purchasing decisions are made.

In general, however, experts from both case studies agree to a very large degree that the impulse to change GPN practices towards greater social sustainability is unlikely to come from consumers. To illustrate why this is the case, Figure 5 shows a simplified version of the path that consumers must take while making a purchasing decision to ultimately change their behavior.¹⁶ As can be seen in the upper half of the figure, there are at least four different prerequisites that must be fulfilled (awareness of negative consequences, perception of personal responsibility, goal feasibility and satisfactory evaluation of alternatives) before a consumer changes his default behavior in favor of a more sustainable purchasing decision (lower half of the figure).

Figure 5: Path to behavioral change in consumer purchasing decisions



Source: own representation based on prior work in Bamberg (2013)

¹⁶ The illustration in Figure 5 is loosely based on Bamberg's stage model of self-regulated behavioral change (2013), but with significant adjustments.

The awareness of negative consequences is strongly dependent upon the presence of awareness raising activities by civil society, the media or the government. Whether consumers perceive personal responsibility for these negative consequences in the context of GPNs or not depends in part on how well complex global interdependencies have been explained during awareness raising campaigns. Moreover, at this stage, personal and social norms may also impact a consumer's attitude towards these negative consequences. Meeting the third prerequisite requires that there are sustainable alternatives available to consumers and that they perceive these to be conducive towards reaching the goal of reducing negative consequences of their own actions. Finally, consumers must evaluate the sustainable alternatives available to them and decide if these meet their needs.¹⁷ Only if the alternatives are deemed satisfactory does behavioral change, i.e. purchasing a sustainable alternative, ultimately take place. In turn, the non-fulfillment of any one of these prerequisites provides adequate justification for non-action, i.e. continuing to perform the default behavior, in which key purchasing criteria do not include sustainability factors.

To some degree, these prerequisites have a threshold character – once they are met, they usually remain so. This is most obviously true for the first two steps (awareness of negative consequences and perception of personal responsibility/social norms). The last two steps (perceived behavioral control and evaluation of alternatives) are more closely connected to each individual purchasing decision and must therefore be repeated over and over again. However, for similar goods, the latter steps often become easier over time as consumers can build upon prior experiences, for example through an increasing familiarity with sustainability-oriented brands. Nevertheless, as was described above, some consumers vary their purchasing behavior, sometimes intentionally buying a sustainable alternative while in other situations choosing the non-sustainable default, which shows that at least the last step in the decision-making process does not have a clear threshold character.

The steps described here show how difficult it is for consumers to change their purchasing behavior, especially on a large scale. There are many opportunities for 'escape and denial' and a corresponding return to apathy (see Figure 1) that make it unlikely that consumer demand alone will be enough to force an indus-

¹⁷ We assume here that all products on the market – whether sustainable or not – fulfill the basic functions of their product group, e.g. that a smartphone can be used to make phone calls and access the internet, etc. Differences in functionality or technical specifications are therefore a question of degree, not of the product being functional at all.

try to change its behavior. This is true not only in the clothing and smartphone sectors, but could also be applied to many other industries, including the food industry (alternatives: organic food, vegetarian or vegan diets), the mobility sector (alternatives: public transportation, carsharing, e-bikes, electric vehicles), and the energy sector (alternatives: renewable energies).

4.2 Corporate Behavior

Rather than relying on consumer demand, most experts agreed that a transition in the two industries examined can only be successful if changes are initiated on the supply side. With regard to the progress of the transitions in each sector, the experts from both industries agreed that the clothing industry is presently more advanced than the smartphone sector. Based on our expert interviews, it appears that the awareness of SSIs in the smartphone sector is more general, with an understanding that there are problems throughout the supply chain and a somewhat more detailed awareness of issues among direct suppliers. In the garment sector, brands seem to have already engaged more critically with SSIs, with experts often being able to point out very specific reasons or factors that make it difficult to address a certain issue or elucidating what strategies have failed in the past and how these have now been improved.

Overall, the impression arises that the smartphone sector is still gathering information, evaluating to what degree to address which issues and searching for possible solutions, whereas parts of the garment sector have now entered an implementation stage. One indicator of this is that in the smartphone sector, experts mention codes of conduct as 'something the industry is doing to address SSIs'. The garment industry has moved beyond this point, where a code of conduct is so much standard operating procedure that it is no longer worth mentioning and certainly no longer seen as 'something that is being done'. Especially in the European garment sector post-Rana Plaza, it is no longer a question of whether something needs to change in the industry, but rather of negotiating which measures are necessary and sensible, who is responsible for them, who finances them and at what pace they are implemented.

Experts from both industries emphasized that a fundamental change in any sector will only take place if companies see social sustainability as an integral part of their company strategy, rather than as a downstream add-on or marketing instrument. In the garment sector, it was repeatedly emphasized that this is most likely if the CEO or board of directors of a company advocates more sustainable practices, thus highlighting the importance of personal moral norms of

certain individuals in the context of corporate behavior. This observation could not be found in the interviews from the smartphone sector, which may be the result of the fact that the garment sector has a much larger number of small or medium-sized enterprises or even family businesses, where the personal convictions of the company leadership are likely to play a larger role in decision-making processes than is the case in the often extraordinarily large electronics companies that dominate the smartphone sector.

But in the garment sector, it is not only personal norms, but also social norms that have begun to play a role in encouraging change in the industry. In the aftermath of the collapse of Rana Plaza, a number of dramatic and heart-wrenching photos were published by the media, some of which became quite famous (e.g. Akhter 2013) and can endanger companies' public reputations if they are associated with these images. SSIs that are likely to lead to public scandals – including dramatic industrial accidents and child labor – are generally addressed much more quickly than other issues that play less to the emotions of the public, such as unionization or collective bargaining. This indicates that perceived social norms have an impact on corporate behavior in this context.

The relevance of social norms is less clear in the smartphone sector. There have likewise been emotionally-charged events, such as the Foxconn suicides or the cancer clusters at Samsung's factories, and while they have certainly received media coverage and increased public awareness of SSIs in this industry, there are fewer indications that they have had an impact on corporate behavior beyond the issuing of PR statements. As was already discussed in the prior section, this may be a result of the fact that consumers have fewer brands to choose from and factors such as technical specifications play a larger role in the purchasing decision for a smartphone than for a piece of clothing. As a result, a (temporary) loss of reputation based on SSIs may be seen as less dramatic by smartphone brands.

Another relevant factor that is somewhat related to social norms is the perceived sustainability-related climate. In the garment sector, experts reported that contracts governing business-to-business interactions in the supply chain (i.e. between importing agents, distributors, brands and retailers) now often require proof of engagement in the area of social sustainability. While the required engagement is not as extensive yet as would be necessary to sufficiently address SSIs in GPNs, the fact that such clauses are included at all in many contracts makes engagement with these issues an important aspect of staying in business. In this sense, while a lack of engagement currently has little long-term

impact on consumer demand, it has begun to effect brands' competitiveness on the market.

No evidence of such changes in business-to-business interactions could be found in the smartphone industry beyond the requirement that a code of conduct be in place. This, too, may be a result of the differing industry structures, where not only consumers, but also other members of the GPN, like suppliers and distributors, have fewer brand business partners to choose from and thus face greater market risks if they choose to exclude some of these from their own supply chain though contractual demands pertaining to SSIs.

In terms of companies' sustainability attitude and intention to behave sustainably, the garment sector is clearly more advanced in its willingness to acknowledge a degree of responsibility for SSIs in its GPNs. Recently, clothing brands have even gone so far as to publicly demand binding standards and due diligence regulation in the hopes of creating a level playing field in the industry (e.g. ZDF 4/24/2018). No such public demand has been made in the smartphone sector, but in our interviews, experts from both industries, including many of the brand representatives, advocated the passage of legally binding due diligence regulation, ideally at an international level. In both sectors, while some individual brands would clearly welcome such regulation, larger industry associations continue to fight the creation of any legal liability with regard to SSIs.

The creation of a level playing field would also encourage more cooperation among brands in the area of social sustainability. Since the collapse of Rana Plaza, this has increased significantly in the garment sector and almost all experts emphasized that addressing SSIs across the many suppliers and countries included in garment GPNs is impossible for a single brand or actor. Cooperation brings significant gains in efficiency and leverage, as the overwhelming number of brands has multiple suppliers, which they in turn share with many other brands. While the complexity of supply chains is likewise cited as one of the primary obstacles to social improvements in the smartphone sector, brands have so far been less willing to cooperate with each other in this area.

Regardless of whether brands try to address SSIs together or alone, their actions in this area must always be embedded in existing organizational routines and lead to certain habitual processes within the company. One of these is the strong reliance on social audits as the primary means of addressing SSIs, which can be found in both industries. While audits are an important first step in as-

sessing the status quo, they do not bring any improvements on the ground unless they lead to corrective actions. Too often in both sectors, this is not the case. In the garment industry, this problem is further exacerbated by the fact that many brand-supplier-relationships are very short-term and characterized by frequent changes. In this case, even if corrective action plans are created, neither brand nor supplier have enough incentives to address difficult issues if it is unclear how long they will continue to work together. This issue is far less prevalent in the smartphone sector, as supplier relationships tend to be far more long-term, in part because smartphone suppliers are often highly specialized and far fewer in number than in the low-tech garment industry. Nevertheless, while longer-term relationships are an important prerequisite for SSI improvements, they are not sufficient, as is evidenced by the ongoing difficulties in smartphone GPNs.

In sum, just as a behavioral transition to sustainability in these industries is unlikely to be initiated primarily on the basis of consumer demand, it is also unlikely that most corporations will make the necessary changes in their behavior on a sufficiently large scale without external incentives. However, unlike with consumer demand, such an incentive can be politically created using legally binding regulation that requires companies to perform due diligence in the area of working conditions and human rights in their GPNs. While this solution is not a silver bullet for all problems and will certainly require further follow-up measures - like social audits, due diligence is only a first step that must be followed by corrective actions - it is a vital first step to encourage and enable corporations to initiate changes in their behavior.

5 The Multi-Level Perspective

Having compared individual aspects of the three case studies in the form of their issue lifecycle developments and the role of consumer and corporate behavior in each industry, it is now time to return to the larger research question at hand, namely whether and to what degree a behavioral transition towards greater social sustainability is currently taking place in each of the sectors. To help answer this question, we will first look at the MLP-component of the BTS model, namely the interactions between regime and landscape and regime and niche, as well as the presence of a window of opportunity for a transition to take place in each industry (see Figure 1). Thereafter, we will analyze which transition pathway most closely matches the developments in each industry to date.

5.1 Interactions between MLP Levels

Landscape and Regime

Geels and Schot define the landscape of the MLP as "a broad exogenous environment that as such is beyond the direct influence of regime and niche actors" (2010, p. 23). Changes in the landscape are often referred to as megatrends, taking place above and beyond the level of individual regimes and niches, but impacting these nonetheless. Because landscape factors take place on a macro level, they tend to impact multiple regimes at the same time, as is the case here, where all three case studies were subject to similar landscape developments. Note that landscape factors are independent of the transitions process, which means that there is no rule about whether they serve to stabilize or destabilize the existing regime; both are possible, as will be evident in the developments described below. Landscape factors can be further broken down into three different categories: "1) factors that do not change or change only slowly [...]; 2) long-term changes [...]; and 3) rapid external shocks" (Geels and Schot 2010, p. 24). Most of the landscape factors relevant to our three case studies are long-term changes, though towards the end of our studied time range, rapid external shocks also begin to play a role.

With a view to long-term changes, the world trade order became increasingly liberalized and globalized after the second world war and particularly as of the 1980s, which led to the formation of large and increasingly powerful multinational corporations, whose activities spanned the entire globe (Chan et al. 2013; Bartley and Child 2014). At the same time, the power of individual nation-states declined, as markets became progressively more deregulated (Bartley and

Child 2014; King 2008). With the rise of shareholder value creation as one of the central goals of the firm, outsourcing to locations with cheaper labor and lower regulatory standards became a widespread and dominant trend (Gereffi et al. 2005; Bartley and Child 2014) that dovetailed with the continuous rise of mass and conspicuous consumption (Patsiaouras and Fitchett 2012).

These landscape factors all served to institutionalize and stabilize the current regime both in the garment and smartphone industry, but also created negative externalities in the form of SSIs. Parallel to - and perhaps as a result of - the developments described above, civil society actors began increasingly to frame the act of consumption as an inherently political activity, thus "[creating] a niche for social movements to act as arbiters of 'bad' and 'good' corporate activity" (Bartley and Child 2014, p. 657). The simultaneous availability and growth of the internet, likewise a long-term landscape factor, supported and enabled this development further by providing affected workers a means to communicate their situation globally and NGOs all over the world with a tool for tracking corporate activity (King 2008), networking transnationally, mobilizing resources, spreading information and raising public awareness on a previously impossible global scale.

The formation of a social movement that thus took place is an example of one of the ways in which landscape factors can put pressure on regimes and lead to the opening a window of opportunity:

"Continued expansion of regimes may lead to increasing negative externalities. When they affect other societal actors, this may lead to pressure on the regime. Regime actors tend to downplay such problems. For this reason, externalities are often picked up and problematized by outsiders, e.g. societal pressure groups [...](Van de Poel, 2000). To get negative externalities on the technical agenda of regime actors, there may be a need for consumer pressures and regulatory measures" (Geels and Schot 2010, p. 26).

While public attention to SSIs in GPNs has risen across all three case studies over time, consumer pressure has remained limited, as was discussed above (see Chapter 4.1). But as was detailed in Chapter 3.2.3, regulatory measures regarding SSIs in GPNs have indeed been introduced since 2010 and have increased the pressure on the smartphone and garment industry regimes to change their practices with regard to social sustainability. This by itself, however, has not been enough to open up a window of opportunity. In the garment sector, however, these long-term landscape pressures received a further push through several rapid external shocks, namely the series of dramatic industrial accidents in late 2012/early 2013, which culminated in the collapse of the Rana

Plaza building. Together with the increasing number of voluntary and mandatory regulations regarding corporate due diligence now in place, we believe these events to have opened up a window of opportunity in the garment sector, one which is currently more pronounced in the European case study, but ultimately impacts the entire industry. We will discuss this further in the next chapter.

While these regulations and guidelines likewise apply to the smartphone industry, without a sector-specific trigger event to significantly increase pressure on the regime, no window of opportunity has opened up so far in this sector. On the current trajectory, the political pressure through the above-mentioned regulations is likely only to lead to continued incremental changes, rather than the kind of radical changes necessary for a real sustainability transition. However, just like in the garment industry, general public, media and political awareness of SSIs in the smartphone industry have been 'primed' through smaller scandals and reporting throughout the last decade, so that in theory, a single major event like the collapse of the Rana Plaza building could be enough to open up a window of opportunity for the smartphone sector and lead to more radical changes.

Niche and Regime

Unlike much of the interactions between landscape and regime, the two industries differ quite strongly with regard to the development and influence of the niche in each sector. Beginning around the mid-2000s, a niche market for moral consumers began to emerge in the garment sector. This market mostly consists of small brands that use sustainability as a unique selling point and specifically target moral consumers. To date, the ethical fashion market is fairly heterogeneous in the garment industry, with niche brands focusing their sustainability efforts on various different parts of the supply chain and verifying these efforts through different labels or certificates, including the Fairtrade Textile Standard, Global Organic Textile Standard, IVN Best, World Fair Trade Organization, FWF, and Better Cotton Initiative. Some niche brands, such as Armedangels, have managed to place their products in mainstream department stores and thereby manage to reach a larger audience, not all of whom purchase their products as a result of - or even knowing - their sustainability standards. While it is difficult to get reliable statistics on the size of the market share of ethical clothing, those studies available suggest that its market share is still rather small (Ethical Consumer 2017). Because there are so many different brands in the garment sector as a whole, and since none of the niche sustainability brands are very large as compared with more mainstream brands, niche brands are not perceived as serious competition for the regime.

The smartphone case study presents a different picture. To begin with, there are very few niche alternatives in the smartphone sector since the market entry barriers are very high as a result of the complexity of production of high-tech products. Likely for this same reason, there are also few regime players, but these are all the more powerful, as only a handful of electronics companies serve the entire global smartphone market. The only niche brands that focus on social sustainability in this industry are ShiftPhone and Fairphone, although the former lacks the necessary transparency to verify its claims regarding SSIs. While the company Fairphone is likewise not seen as a serious competitor by established industry actors, due to their small sales volume, its development and proclaimed mission of one day producing a truly fair smartphone have generated quite a bit of media coverage and discussion. In this respect, Fairphone was able to profit from two important factors. First, the company was founded in 2013 and put a lot of effort into sourcing conflict-free minerals just as this issue was widely in the press, which generated a lot of positive publicity in this context. Even more importantly, in late 2015, the brand brought the first modular smartphone (Fairphone 2) to market just a few months before Google officially announced the end of its own modular smartphone plans (Project Ara) (Amadeo 2016). In no small part due to this technical innovation, Fairphone was covered in over 6000 articles in 2016, since the aspect of modularity made the company's product interesting to a much broader audience than its (social) sustainability goals would have on their own (van Abel 2016). These likewise profited from the extensive press, however, since most articles on Fairphone - even if the primary focus is on modularity - also mention the brand's goal to create an ethical smartphone.

While it has not accomplished this goal in full, Fairphone has proven that it is possible to create a more socially sustainable smartphone and has thereby created a proof of concept that raises expectations for other smartphone brands as well. Moreover, the niche brand produced its first two phone models (Fairphone 1 and Fairphone 2) with very limited financial and human resources and was less able to profit from economies of scale due to its small size. This suggests that larger companies with greater resources at their disposal would likely be able to accomplish at least the same, if not greater progress towards a more socially sustainable GPN. Although it is not a major factor, this implication has in recent years added to pressure on mainstream smartphone brands to justify why they have not made more headway towards social sustainability.

5.2 Transition Pathways

Having examined the interactions between the three MLP levels, we now turn to the question of transition pathways, which clarify the process of transition once a window of opportunity opens up. Unfortunately, the literature on the MLP does not provide a clear set of criteria for recognizing or defining the opening up of a window of opportunity. We therefore turn to the related literature on the Multiple Streams Approach,¹⁸ where a window of opportunity opens when "... a problem is recognized, a solution is available, the political climate makes the time right for change, and the constraints do not prohibit actions" (Kingdon 1995, p. 165).

In the smartphone sector, based on these criteria, no window of opportunity has opened up so far. The problems are not yet recognized widely enough, so that the willingness to work together towards a common solution does not yet exist. This makes the current political climate and further constraints irrelevant for the moment. Because a window of opportunity has not yet presented itself in the smartphone industry to date, I will primarily focus on the garment sector in this analysis. At the end of the chapter, I will briefly hypothesize what type of transition pathway would be most likely for the smartphone sector if a window of opportunity were to open up right now.

With a view to the garment sector, we find the four points of Kingdon's definition to arguably be fulfilled: 1) Since at least the collapse of the Rana Plaza building, poor and dangerous working conditions in the garment GPN have widely been recognized as a problem within the industry, among policymakers and in society at large. 2) Due to the complexity of the issues and the large number of different actors and stakeholders involved, we believe that there can and will never be a single solution available; instead, what is needed is an ongoing commitment by all actors to continuously improve conditions, ideally in broad cooperation with one another. In the aftermath of Rana Plaza, a number of alliances have been founded that aim to do just that, so that we would argue that a solution is available insofar as this is possible with regard to such complex issues. 3) We have already discussed the recent increase in regulatory involvement across various different countries in Chapter 3.2.3. These developments show that the political climate is such that change is currently possible. 4) While there are certainly constraints that will make a transition challenging - including price and competi-

¹⁸ For a review of prior applications of the Multiple Streams Approach in transitions research, see Kern and Rogge 2018.

tion, the international nature of the problem and the complexity of the GPNs in question - we do not find any of them to be prohibitive per se.

Once a window of opportunity has opened up, Geels and Schot have defined four different transition pathways that can take place: transformation, de-alignment and re-alignment, technological substitution and reconfiguration. They also identified two key variables that determine which transition pathway is expected to apply in a given scenario: (1) the degree of maturity of a niche innovation and (2) the nature of interactions between the three MLP-levels (see Table 1).

Table 1: Overview of transition pathways

		Nature of interaction	
		Symbiotic	Competitive
Status of niche innovation	Immature	Transformation pathway	De-alignment and re-alignment pathway
	Mature	Reconfiguration pathway	Technological substitution pathway

Source: own representation based on Geels and Schot 2007

With regard to the timing, the level of maturity reached by a niche innovation at the time that the window of opportunity opens up plays a key role in determining the course of the remaining transition. If the innovation is ready to be rolled out to a larger and more competitive market, it can take advantage of the window of opportunity and diffuse more widely. On the other hand, if the innovation is still in the early stages of development and still dependent on the protective nature of the niche, the window of opportunity may close prior to successful diffusion. In the case of ethical fashion, the niche must still be classified as immature according to criteria established by Geels and Schot, since it is still quite heterogeneous and no dominant approach has emerged. Moreover, the learning curve in sustainable fashion has not flattened out and the market share of the niche is likely still under 5%.

Table 2: Description of transition pathways

Transition pathway	Main actors	Type of (inter)actions
Transformation	Regime actors and outside groups (social movements)	Outsiders voice criticism. Incumbent actors adjust regime rules (goals, guiding principles, search heuristics)
Technological substitution	Incumbent firms versus new firms	Newcomers develop novelties, which compete with regime technologies
Reconfiguration	Regime actors and suppliers	Regime actors adopt component-innovations, developed by new suppliers. Competition between old and new suppliers
De-alignment and re-alignment	New niche actors	Changes in deep structures create strong pressure on regime. Incumbents lose faith and legitimacy. Followed by emergence of multiple novelties. New entrants compete for resources, attention and legitimacy. Eventually one novelty wins, leading to restabilisation of regime

Source: Geels and Schot 2007

The second important factor in determining the transition pathway is the nature of the interaction between niche innovations and the current regime: “Niche-innovations have a *competitive* relationship with the existing regime, when they aim to replace it. Niche-innovations have *symbiotic* relationships if they can be adopted as competence-enhancing add-on in the existing regime to solve problems and improve performance” (Geels and Schot 2007, p. 406, sic, emphasis in the original).

In this case, more socially sustainable GPNs in the garment sector must be seen as symbiotic, rather than competitive, since they only require certain – admittedly radical – changes in the current business model, rather than calling for a completely different approach to the production, sale and use of clothing.

Given the immature status of the niche, as well as the symbiotic relationship between niche innovation and regime, the transition is predicted to follow the transformation pathway. Based on the description of main actors and type of (inter)actions listed in Table 2, this assessment fits well: the transition is driven mainly by social movement actors, less so by niche actors or new firms. It is also primarily the result of strong public criticism, which forces regime actors to adjust their behavior. All other pathways are much more focused on a transition taking place as a result of novelties entering the market, whereas the transformation pathway is the only one that accounts for a transition taking place as a result of dissatisfaction with the behavior of the current regime.

As was mentioned earlier, a detailed assessment of the smartphone industry with regard to its transition pathway is not yet possible, since a window of op-

portunity has not yet opened up. Nevertheless, if this were to happen today, the smartphone sector would likely also follow the transformation pathway. While the niche, particularly in the form of the company Fairphone, plays a somewhat larger role in the smartphone than in the garment industry, it is likewise still quite immature according to the criteria mentioned above. As a result, the technological substitution pathway, which is more strongly driven by niche innovations, is not realistic for a transition at this time. Like in the garment sector, moreover, the interaction between regime and niche would likely be symbiotic, rather than competitive, for the same reasons already described above. Thus, if a window of opportunity were to open up today, the smartphone sector would likewise follow the transformation pathway.

Even in the garment sector, where a window of opportunity appears to have opened up since 2013, it is still too early to predict final outcomes. The presence of a window of opportunity does not guarantee that a transition will ultimately be successful or that it will take the path predicted or desired ahead of time. What can be said with regard to the garment industry is that the collapse of the Rana Plaza building along with the increasing number of supply chain regulations have opened up a window of opportunity and that this is, to date, the most likely time for more radical change within the sector to take place. The opening up of this window is likely only possible because the anti-sweatshop movement has been increasing pressure on the big brand names of the garment sector for nearly three decades already, thereby increasing both public and corporate awareness of SSIs and preparing the way for more significant behavioral change. The smartphone industry is still in this stage, with civil society and the media putting pressure on brands to change their practices and public concern slowly rising. This alone will likely not be enough to initiate a transition; instead, a trigger event of some sort will be needed in this industry as well, which may open up a window of opportunity for more radical change in the future.

6 Conclusion

Is a behavioral transition toward greater social sustainability taking place in the garment and smartphone sectors? While this appears to be a simple yes or no question, the answer is anything but simple. In summarizing their studies on conscientious consumerism in various industries, Bartley et al. come to the conclusion that there are myriad "complex [...] intermediate scenarios" on the way towards greater sustainability, where corporate claims are simultaneously more than greenwashing or fairwashing, but less than "'real sustainability/fairness' on the ground" (2015, p. 21). This is precisely the same conclusion that we must draw with regard to behavioral transitions to sustainability in each of our case studies.

There is movement towards more fairness afoot in both industries, but rather than being steady and continuous, it comes (and goes) in fits and spurts. Social sustainability issues, as the name already implies, are also made up of many sub-topics, or sub-issues, and not all of them are or can be addressed simultaneously. Poor working conditions can imply many different problems, from health and safety hazards to child, forced or bonded labor, to excessive overtime and insufficient wages. One theme that is noticeably recurrent throughout the two case studies and can be found both in the historical analyses and the behavioral observations (see Chapter 4) is the enormous complexity involved with the topic of social sustainability in global production networks and its perception as a major obstacle in addressing these issues.

This complexity arises in large part from the sheer multitude of variables involved. Achieving social sustainability in the entire GPN means that each sub-issue of social sustainability must be addressed for every supplier in every country at each step of the value chain to a high degree of fairness in order for a brand's products to be "100% fair". This requires finding and implementing enforceable solutions to fit dozens of different legal, cultural and political environments, all while remaining economically viable as a firm. In truth, reaching and maintaining this goal in the long-term is highly unrealistic, if not impossible, for any brand, no matter its size or influence on the market.

Nevertheless, we find that there has been progress in both industry sectors. It is well known in the research community that sustainability transitions are lengthy processes that can take decades to complete and do not necessarily take place at a steady pace. We believe a transition to be taking place if and so long as recognition and public acknowledgment of problems are present *and* there are

efforts to continuously improve in a stepwise fashion. Progress in the transition can be recognized by an increase in the number of actors who fulfill these conditions and their cumulative share of the market. This means that early in the transition, a single actor instituting the first code of conduct in an industry can be a first sign of a transition. As it moves forward, though, single actions addressing single issues are no longer enough to sustain the transitional momentum.

In looking at the empirical data of our case studies, it is clear that according to this definition, both case studies exhibit signs that a transition is underway. Since the early 1990s, issue awareness of social sustainability issues in global production networks has increased significantly both among the public and lead firm brands. Whereas the topic was ignored or at best dismissed when it first arose in early scandals, brands have adjusted their responses over time: from defensive press releases and war rooms to the institutionalization of codes of conduct across entire industries to the use of social audits to inspect the situation on the ground. The lack of sufficient improvement over time has shown that none of these steps are enough and so it is necessary to go further. In the smartphone industry, the US Conflict Minerals Rule of the Dodd-Frank Act mandates supply chain due diligence with regard to conflict minerals and as such has acted as a catalyst not only to improve one component of social sustainability in global production networks, but also to further the public discussion of social sustainability issues more generally in the production of electronic goods.

And for all the tragedy of the collapse of the Rana Plaza building, it has served as a wake-up call to the garment industry that something needs to change in its production practices. Since this accident took place in 2013, several important industry-sponsored and multi-stakeholder initiatives have been created to address both specific health and safety concerns in Bangladesh and social sustainability issues more broadly in garment global production networks. While the process of negotiation and decision-making can often seem excessively slow and drawn-out in such forums, it is key for a long-term transition that different stakeholders, including lead firm brands, supplier factories, NGOs, trade unions and policymakers agree to work together toward a common goal, since none of these actors can resolve the myriad of social sustainability issues on their own.

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Author's affiliation

Miriam Bodenheimer

Fraunhofer Institute for Systems and Innovation Research (Fraunhofer ISI)
Competence Center Sustainability and Infrastructure Systems

Contact: Miriam Bodenheimer

Fraunhofer Institute for Systems
and Innovation Research (Fraunhofer ISI)
Breslauer Strasse 48
76139 Karlsruhe
Germany
Phone: +49 721 6809-352
E-Mail: miriam.bodenheimer@isi.fraunhofer.de
www.isi.fraunhofer.de

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