

DESIGN THINKING FOR SUSTAINABILITY: A CASE STUDY OF A RESEARCH PROJECT BETWEEN HENNES & MAURITZ AND TEXTILES ENVIRONMENT DESIGN

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ABSTRACT

In this paper we fuse design thinking and the sociology of translation, particularly Callon's four moments of translation (1986), creating an analytical framework to explore organizational barriers to change towards sustainability in the textile and fashion industry. Drawing on design thinking we propose to add a fifth moment to Callon's framework to highlight the value of iterations or "overlaps" (Callon, 1986) in processes of change. The paper, which is co-written by a textile design researcher and a PhD student with a background in cultural studies, is based on a case study of a workshop series developed and delivered by Textiles Environment Design (TED) at Hennes & Mauritz (H&M). Based on an analysis and discussion of the workshop series, we argue that design thinking, especially through its use of design tools, has the potential to make the challenges and opportunities related to processes of sustainability change tangible and thus more actionable at individual and organizational level. We further argue that the framework established could facilitate a more nuanced understanding of organizational barriers to change towards sustainability and also bestow the field of design thinking with additional analytical concepts to explore its methods and communicate its potential value to processes of change.

Keywords: The Sociology of Translation, Actor-Network-Theory, Design Thinking, Sustainability

1 INTRODUCTION

The textile and fashion industry causes more pollution than most other industries and continues to face social challenges (Deloitte, 2013; Greenpeace, 2011). It is a highly globalized industry characterized by complex, global production networks, involving many different actors, with a modern history of migrating from one region to another. Most of this migration has been driven by one factor: the need to cut costs (Mosley & Uno, 2007). While a substantial part of the total environmental impact of a garment is to be found in the use phase, through laundry and premature disposal (Fletcher, 2008), the production phase is essential to the overall sustainability of textiles and garments. Normally it is the brand that triggers the product development process and thus also has the opportunity to impact the sustainability of the garment. While there is considerable research within the field of organizational change (i.e. Håkansson et al., 2012; Quattrone & Hopper, 2001) and sustainability and Corporate Social Responsibility (CSR) (i.e. Scherer & Palazzo, 2011; Banerjee, 2008), fashion companies at large still struggle to create change towards sustainability demonstrating a need for an analytical framework that can support a deeper understanding of organizational barriers to sustainability.

The empirical foundation of the paper is a collaborative research project between Textiles Environment Design (TED) and the Swedish multinational retail-clothing company Hennes & Mauritz (H&M),

henceforth The Project. For the analysis, we draw on two streams of literature: design thinking (Brown, 2008) and the sociology of translation, particularly Callon's four moments of translation (1986), to explore the ways in which a fusion of the two approaches could bring forth new nuances to our understanding of organizational barriers to sustainability. We propose to add a fifth moment to Callon's four moments of translation to bridge the practice-based approach of design thinking and Callon's analytical framework. This framework could then inform new practice-based research to organizational change towards sustainability in the textile and fashion industry. In this way, the paper builds upon recent impulses from Latour (2013; 2008), who argues that design is a key resource to extend more traditional social research and a means to support social intervention. For the analysis we use a broad definition of sustainability, mapped through design approaches, as outlined in The TEN (Earley & Politowicz, 2010) (Figure 1).



Figure 1. 'The TEN', buttons from the TED website (left), and in playing card format (right)

The paper is co-written by the practice-based textile design researcher who led The Project (Rebecca) and a PhD student with a background in cultural studies who followed The Project as part of her studies (Kirsti).

2 THEORY

In the following we introduce design thinking and the sociology of translation. Through the introduction of a fifth moment of translation we create a framework that draws both on a practice-based and an analytical approach to research.

2.1 Design Thinking

The history of design thinking is complex because definitions are being proposed by practitioners and scientists alike (Norman, 2013 & 2002; Kimbell, 2011; Brown, 2008; Cross, 2001; Simon, 1982). For the purposes of the paper, the authors adopt the understanding of design thinking tied to the design consultancy IDEO. In this view, design thinking is a formal, explicit method for practical, creative resolution of challenges or issues, with the intent of creating an improved result. Design thinking includes three overall stages: inspiration, ideation, and implementation (Brown, 2008; Moggridge, 2007). Any given project will jump back and forth between these stages, in particular those of inspiration and ideation, and is characterized by iterative cycles of prototyping (Houde & Hill, 1997) (Figure 2).

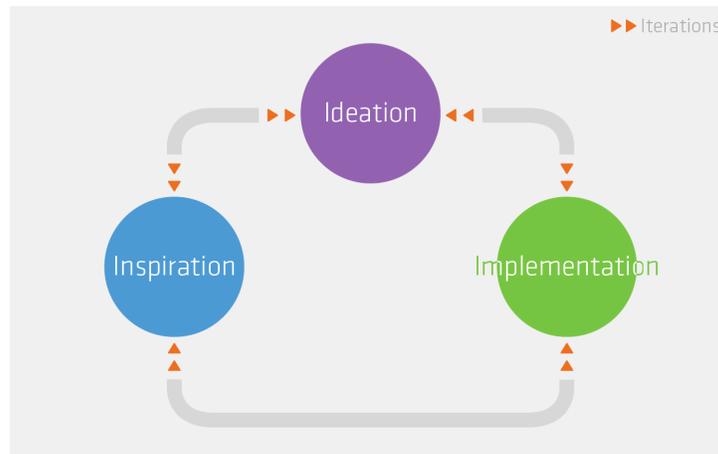


Figure 2. Design Thinking (Illustrations courtesy of Francesco Mondelli)

At TED the researchers recognize that design thinking is embedded in their practice-based projects - workshops are a key research method - yet the specific terms are not part of their every day language. A three-stage design thinking approach with iterative cycles can be found in all their research projects, and underpins the design of The Project work with H&M (Figure 3). Thus it provides a useful framework to discuss the development of The Project as well as design thinking’s potential contribution to processes of change toward sustainability (Coughlan et al., 2007).



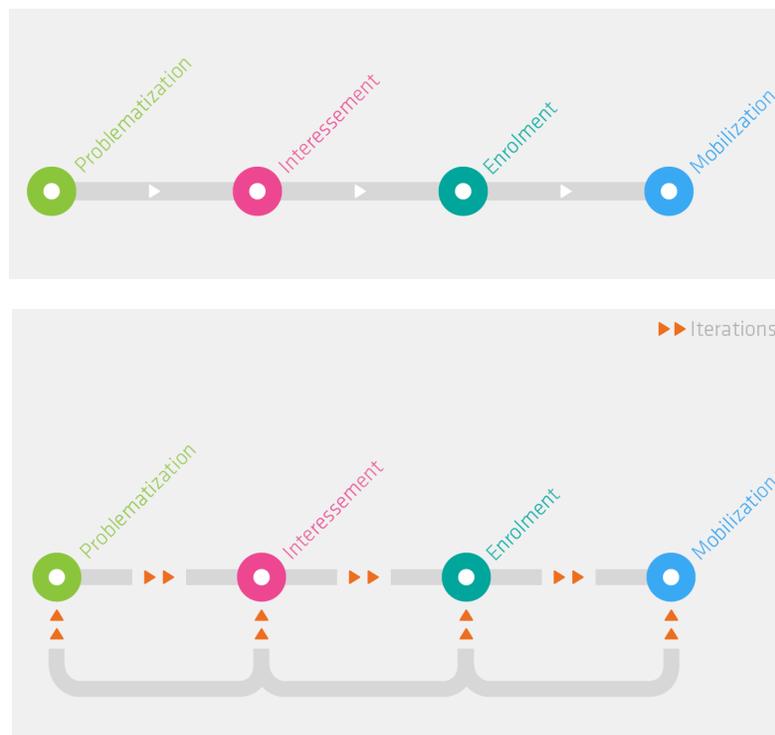
Figure 3. Two of The Project’s Design Thinking approaches: (left) inspiration, the lecture series ‘Sustainable Design Inspiration’; and (right) ideation, the redesign of existing H&M garments

2.2 The Sociology of Translation

In his seminal text from 1986 Callon investigates the process of translation, presenting it as a new approach to the study of power. The sociology of translation belongs within the broader theoretical framework of Actor-Network-Theory (ANT) (Latour, 2013, 2005, 1987; Law, 1992, Callon, 1986, 1980). At the core of the sociology of translation is the idea that change can be interpreted as a process consisting of four moments of translation: problematization, interessement, enrolment, and mobilization (Callon, 1986) (Figure 4). Problematization is the first moment and relates to the identification of actors in a network and the definition of the problem or question, also referred to as the obligatory passage point

(OPP). The second moment of translation, *interessement*, relates to the group of actions that an entity attempts to impose to stabilize the other actors' identity, which has been defined through *problematization*. If the *interessement* succeeds, then *enrolment*, the third moment, could take place. *Enrolment* refers to the moment that another actor accepts the interests as defined by the representatives. The last mode of translation is that of *mobilization of allies*. In this phase the crucial question to ask is whether the masses follow their representatives, their spokesperson (Latour, 2005; Akrich et al., 2002). *Mobilization* is the point at which the network of alliances can operate by itself and be represented to the outside as a unique entity. Callon highlights that this general agreement and the network of allies that it depends upon can be challenged at any given moment (1986: 15).

Establishing an analytical framework that draws on design thinking and the sociology of translation we propose to add a fifth moment to Callon's framework to better capture the cyclical process that characterizes both approaches, but is less outspoken in Callon's model. While Callon notes that the individual moments can "... in reality overlap" (1986: 6), the manner in which he outlines these, show translation as a rather linear process (Figure 4). Giving emphasis to the iterative process of translation through a fifth moment of translation bridges the two approaches and provides an analytical framework that has the potential to bring forth a more nuanced understanding of barriers to sustainability (Figure 5).



Figures 4 and 5. Callon's four modes of translation (above), and The Fifth Moment: Iterations (below)

3 METHOD: PARTICIPANTS AND DATA COLLECTION

This paper is based on empirical data gathered through fieldwork and our reflections on the analytical framework. The aim of The Project, which falls under MISTRA Future Fashion,¹ was to provide sustainable design education to H&M design teams and explore if this could generate ideas for new products and processes. TED designed a T-shaped training program for the H&M buying office. The program included six inspirational one-hour lectures that targeted the buying office at large and three workshops targeting a smaller group of people over a longer period of time. Here we focus on the

¹ For further information, please visit: <http://www.mistrafuturefashion.com/en/about/Sidor/default.aspx>

workshops, as they allowed a deeper engagement with actors and a setting to explore the role of design thinking in the facilitation of change towards sustainability.

3.1 Participants

TED consists of a team of practice-based textile design researchers based at Chelsea College of Arts, part of the University of the Arts in London. TED's work centers on The TEN, a set of design strategies spanning from approaches that rely on material, process, and technological solutions, captured in strategies 1-5, to more conceptual strategies encouraging radical innovation, captured in strategies 6-10. TED is engaged in education, research, and consultancy. The work with H&M was new in that it demanded that they apply their framework in a particularly restrictive environment, with a specific design team (Rebecca, April14).

The main actors involved from H&M were the Head of The New Development Team (JW), a representative from The White Room (UJ), and The New Development Team (ND Team). Hereafter, individual actors in the ND Team are referred to by "ndtINITIALS," i.e. "ndtMM." Both departments belong within the H&M Buying Office, which is located in Stockholm, employing approximately 1,200 people. The ND Team is, amongst other activities, responsible for the design of H&M's Conscious Collection. The White Room's main function is to support the design teams with color, fabric, trim and design expertise. Other actors, who were not directly involved in The Project but proved to play an indirect role, were H&M's production offices, responsible for decisions regarding manufacture sources, and the CSR department that set the overall sustainability agenda.

When quoting participants, we use the coding system established above followed by month and year, i.e. "ndtMM, Oct13." Thus, focus is on individual positions and the time of the statements to show how actors' roles and the goal of The Project change over time.

3.1 Data Collection

Kirsti took an ethnographic approach to the study, using participant observation and informal and semi-structured interviews to gather data. Participant observation rests on the principle of interaction between actors (Spradley, 1980; Atkinson & Hammersley, 1994), which enables the collection of a wider range of data than, for example, can be gathered using interviews only. The fieldwork was mainly documented through field notes and sound recordings. Participant observation was supported by informal and semi-structured interviews (Bernard, 2006; Kvale, 1996). A framework of themes to be explored was prepared in advance of the semi-structured interviews, but the conversation was kept open (Bernard, 2006). Furthermore, photos were taken to support field notes and our discussion. While Kirsti adopted an ethnographic approach, she aimed to facilitate a more dialogic form, allowing for multiple voices, as opposed to the "monologic" mode of much ethnographic writing (Atkinson & Hammersley, 1994: 256), through a conversational style in fieldwork and writing.

The empirical foundation of the study consists of three workshops and a re-cap with the ND team. The workshops were developed and conducted by TED, with the assistance of JW and UJ. The fieldwork was comprised of participant observation at the TED studio in the period June through November 2013, participant observation of the three workshops (April, 2013; May, 2013, and October, 2013), the re-cap session (June, 2013), as well as mid-way meetings and the final evaluation meeting between TED and H&M, ten semi-structured interviews with TED and H&M employees respectively, four semi-structured interviews with groups of workshop participants, and participant observation of TED's development and evaluation sessions before and after each workshop and the re-cap.

The software DEVONthink was used to manage field data. While the full data set inform the analysis and discussion we draw on selected parts based on the importance given to the issue by the involved actors (recurrent topics of discussion) and situations that highlight and contextualize TED's development and use of tools to facilitate translation.

4 AN EXPERIMENT IN TRANSLATION

In the following we draw on design thinking and the sociology of translation in an analysis of The Project. While the empirical data is based on design thinking, Callon's four moments of translation is the starting point of analysis. This then leads us to propose a fifth moment of translation and a discussion of the potential value of an analytical framework that fuses the two approaches.

4.1 Problematization

Inspired by TED's research on the ways in which designers can contribute to the sustainability of the textile and fashion industry, H&M invited the researchers to explore this question with the company. Early on in the process it was decided that The Project content should focus on TED's strategies 1-5, as opposed to strategies 1-10. According to JW: "Those are the ones most relevant to the buying office. We wanted to take away those that we cannot really effect, because we were afraid that this was just going to frustrate people." (May13). The delivery of the workshop was preceded by 18 months of negotiations and development, or problematization (Callon, 1986). During problematization The Project defined the role of individual actors and their identities. Key actors were agreed to be TED, JW, UJ, and the ND team. Their individual roles however, remained rather vague. For example, promoted by JW, TED was established as the spokesperson of the translation process. But, as the analysis will show, they were not given the organizational support to take on this position. Likewise The Project struggled to define the content and goal of the workshop series. The initial idea was to build on the educational model of an H&M training course in sustainable materials, but focusing on sustainable design methods: "In the beginning we discussed whether this should be a lecture and workshop within sustainable product development." (JW, May13). However, it soon became clear that this was not a risk H&M was willing to take:

"But the way we product develop within H&M is very structured today, there is a certain method that we use. We are so dependent on this method and how things work from sales to production. If we then start to say that we want to change this method, everyone gets pretty scared and we couldn't really get through with this. So therefore we had to put the whole direction of this course, lectures and workshops, towards a more inspirational angle, saying that this is about sustainable design inspiration rather than changing the method, how we work." (JW, May13)

Law uses the term punctualization to describe networks that run wide and deep, such as H&M's design method. He highlights that: "Punctualization is always precarious, it faces resistance, and may degenerate into a failing network." (1992: 385). As stakeholders within H&M learned that a workshop within sustainable product development had the potential (or risk) to train their designers to approach the design task in new ways, it was decided that the workshops should focus on inspiration, rather than education and training.

The actors failed to define a goal that successfully integrated their different agendas. JW, in an attempt to do so, appointed a key role to "the garment" – either as a whole piece, or new fabrics, finishes or processes embedded within: "But the goal we set up was that if we could get just one garment from TED into the H&M store, then that'll be success." (Dec13). TED did not object to this; but for them The Project was about education and inspiration at a more holistic level (Rebecca, Apr14). Being part of MFF, this was an opportunity for TED to investigate how The TEN would work in a large organization: "You see, in my mind the workshops are about product change but the ideas and the conversations that came about that implied cultural change or organizational change were a byproduct, and a very important byproduct ..." (Rebecca, Dec13). Meanwhile, UJ, as a representative of The White Room, was not particularly interested in exploring to what extent the creativeness of designers could add to the sustainability of the company's products, but was more interested in the case studies, as a resource for the White Room. While these diverging interests are brought up in discussions, the key actors never seemed to agree on what would constitute successful translation.

4.2 Interessement

Throughout the project, TED developed devices of interessement in the form of tools to guide and inspire the ND team. The tools had the additional function of being prototypes, developed to support TED's design process. For the purposes of this discussion, we focus on the TED RED BOX, which, in some ways, became the epitome of the project (Figure 6). The box contained a number of industry case studies that TED had selected and developed for H&M. What had been a small-scale, bespoke set of examples were transformed into industrial-level, actionable case studies and, in collaboration with H&M, divided into groups of "now," "near" and "far" (Rebecca, Apr14). In a meeting with H&M Rebecca introduces the box and its purpose:

"An important tool used throughout the three sessions will be the TED RED BOX. This contains a collection of industry innovations to illustrate how sustainable design is evolving across the globe. By editing and adding to these key ideas and case studies throughout the duration, the designers will build an invaluable resource - designed to be taken back to the studio and even used beyond the life of the course." (Feb13)

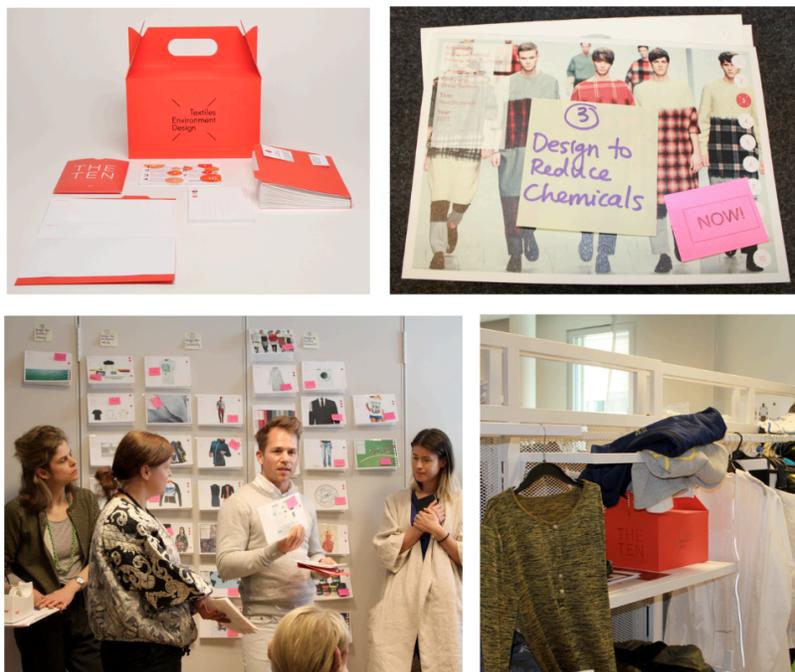


Figure 6. (Top left) The TEN RED BOX with case study cards; (top right) a time coded case study card; (bottom left) the NOW WALL; (bottom right) the untended box left on the shelf at H&M's White Room

The box was introduced to the ND team in the first workshop in March 2013. The participants were asked to divide the cases in 'now,' 'near,' and 'far,' as a way to take ownership. However, as the workshop rolls out, TED soon realized that the box, in its current form, could not extract the ND team from current practices (Callon, 1986). Using this constraint as a creative springboard (Brown, 2008), the cards in the box became the "Now Wall." Thus, the industry cases that the workshop participants found the most relevant to their work were hung on the wall, in the workshop space. It was then agreed to move the Now Wall to the ND team studio, as the workshop participants were to use the cases for their homework in preparation for the second workshop. On TED's return to H&M, for the delivery of the second workshop, the Now Wall was in the ND team studio. The box however, containing the cases that had been categorized near and far, was left in the corner, clearly not in use. Reflecting on the Now Wall JW says: "We can take a look at the cards, they're at the center of the department. But then again, it's a company, everyone have a full agenda. People do get inspired when they see the cards, but still everyone has more than a full agenda, especially this time a year. Well, it's like that every time." (May13). H&M's dismissal

of the near and far cases was a challenge to TED as it inhibited their aim to create an inspiring setting for the workshops and spur the ND team's creativeness. TED's selection and development of the industry cases, first for the box and then the creation of the Now Wall illustrates the iterative process of negotiations and adaption that they went through in order to create suitable devices of interest for H&M: "To interest other actors is to build devices which can be placed between them and all other entities who want to define their identity otherwise." (Callon, 1986: 9). However, whilst there was a lot of focus on the individual cases and the design of the box, Rebecca recognizes that not enough consideration was put towards understanding the context that the tool was going to inhabit (Apr14).

4.3 Enrolment

On several occasions the workshop participants expressed their excitement about the workshops and TED's tools, or, in the words of Callon, the trapping devices (ndtMM, May13; ndtHN, May13; ndtMM, Dec13; ndtSM, Dec13). However, no matter how convincing, success is never guaranteed (Callon, 1986; 1991). Thus, though not made explicit, as The Project progressed it began to meet resistance from The White Room and the production offices, departments that currently carry considerable decision power in terms of H&M's sustainability agenda. The Project's success criteria of one garment/idea on the shop floor became a challenge, as the garment is the one actor that travels the entire organization and its supply chain. The Project's negotiation with the ND team became a negotiation with the company's organizational culture and structure. With the decision to shift the workshops' focus from design training to design inspiration, TED was also limited to work with the ND team only, not the production offices or other departments responsible for the company's sustainability agenda. In light of this, getting one product/idea through to the shop floor seemed an unrealistic goal.

Organizational resistance got a tangible expression in the limited turn up for the second workshop. Expecting about 30 participants only 12 showed up, due to internal deadlines (ndtHN, ndtMM, UJ, JW). Turnout for the Re-Cap session and the third and final workshop was good, but H&M's difficulty in allocating time for the workshops indicates failure of enrolment at organizational level. For TED, the fate of the TED RED BOX came to illustrate the struggles of The Project. But it also provided them with insights that led to new opportunities:

"But we made a very quick jump, we went from case studies to, ooh, tool box, let's see if this works, very quickly. It didn't work. It actually didn't work because nobody could own it and it would take more time to use it. And it was never meant to happen that there was a Now Wall. The Now Wall got invented in the moment as it worked better as a wall than it did as a box, and that immediately led to the insight that things need to be digitized in this company." (Rebecca, Dec13)

4.4 Mobilization

Following the 3rd and final workshop, JW announced that he had accepted a new job within H&M and was to leave his position as Head of the ND team. Now The Project was left without a key stakeholder. Mobilization seemed to have failed. As expressed by a TED researcher: "At H&M the workshop almost became something like ticking the box of what you have to do." (Oct13). According to Friedman, there are many causes of design failure including: "... lack of will, ability, or method. Designers also fail due to context or client, lack of proper training or a failure to understand the design process." (2003: 509). It seems as if The Project never came beyond problematization. The role of individual actors was unclear and it was never agreed what would constitute the "preferred" situation: "Being brought in to be educators and then sort of being re-packaged to be something else. What were we doing? Inspiration? Yes. Product idea for the shop floor? No – because we weren't allowed to, because they already had 'a way of working.'" (Rebecca, Apr14). However, as Callon underlines, translation is always a process. JW: "For me inspiration is the first key to making a change. First you have to get inspired, then you have to get knowledge, and then you base your decisions upon your new knowledge." (Dec13).

4.5 Fifth Moment: Iterations

Based on the analysis of The Project, we propose to support Callon's framework with a fifth moment that we call: *Iterations*, as illustrated in Figure 5. This has two benefits. First, giving emphasis to the cyclical nature of change, organizational barriers, otherwise difficult to pinpoint, one gets a more tangible expression. Second, the proposed framework provides the spokesperson with concepts to recognize and work with the power games and resistance that characterize processes of change. Reflecting on The Project, Rebecca says: "In this case we had to really get involved in their circumstances and try to understand more about how The TEN could be applied and used, and would or wouldn't work. And of course what we kept coming up against was just this mass of informational and organizational infrastructure that prevented the designers from pursuing ideas." (Apr14). TED's response to these barriers was to continuously develop new tools, based on the behavior and feedback of participants. Supporting this process with the adaptation of Callon's framework, over time, helped establish a more nuanced understanding of the barriers to the attempted translation. Tsoukas and Chia (2002) also highlight the iterative nature of change, arguing that change programs triggers ongoing change, "...It must first be experienced before the possibilities it opens up are appreciated and taken up (if they are taken up)." (578). We argue that the analytical framework proposed here supports a more thorough exploration of this process, than either of the two on their own.

5 DISCUSSION

As TED and H&M embarked upon The Project, they voluntarily entered a moment of redefinition, discussion, and negotiation - a moment of conflict (Latour, 2005), providing a unique case to explore processes of change towards sustainability. In the following we first discuss the ways in which design thinking could facilitate such change and how the proposed framework might support a more nuanced understanding of organizational barriers as well as provide the spokesperson with concepts to better act on these.

5.1 Design Thinking for Sustainability

In a keynote lecture given at the *Networks of Design* meeting Latour argues that to design something allows us to raise the normative question of good and bad design (2008: 11). Applying this to The Project, we can ask: is the garment well or badly designed? With The TEN at the core of the design process, the question of whether a garment is well or badly designed concerns more than aesthetics, fit, and cost. It concerns questions of social and environmental sustainability. While it is agreed that The Project should take an inspirational nature to prevent internal opposition, it nevertheless keeps running into organizational barriers, especially the question of who "owns" sustainability. While it is stated that it is everyone's responsibility (UJ, Jun13), in effect, the ND team has limited decision power (JW, Dec13).

One of the biggest challenges in sustainability is perspective: how to tackle big systemic problems such as poverty, water scarcity, and climate change? The Project demonstrates that design thinking can help make these massive challenges more accessible, at an organizational as well as at an individual level. For example, H&M could choose to work with strategies 1-5, keeping it actionable within the buying office. Similarly The TEN allows individual designers to start with one or two strategies and then, through layered thinking (TED, 2013), add more strategies (Figure 7).

The tools made the intangible topic of sustainability actionable: "That's what was so good about this course, it was more focused on - I mean, it was also about the big picture, but also about here and now. What you can do in your daily work." (ndtHN, May13). While The Project failed mobilization, TED's tools enabled the ND team to better overcome the challenges of perspective, drawing together human and non-human actors in 16 re-designs, celebrating the changes they could do within their part of the organization. As Latour argues, "To imagine that a political ecology of the magnitude being anticipated by all of the experts can be carried out without new innovative tools is to court disaster." (2008: 13). TED's tools also teased out internal power games, that otherwise could have gone unnoticed or not discussed. For

6 CONCLUSION

As we demonstrate in our analysis of The Project, Callon's four moments of translation supports an investigation and deeper understanding of the agency of different actor groups in the context of transition processes, humans and non-humans (Latour, 2005, Callon, 1986). It helps us retrace parts of the translation and provides us with a framework to acknowledge and discuss actors' struggles to mutually control who they are and what they want (Callon, 1986: 6). However, it does not provide any answers as to how to overcome resistance to transition or learn from the "overlaps" or iterations. Based on the analysis and discussion of The Project we argue that design thinking, through its use of design tools and prototypes, learning from iterations, give shape to power games and structural challenges and thus make them more actionable. TED's approach to the challenge was to try to empower the ND team to build the environment they want, more so than designing an environment for them - building tools that could be locally adapted and elaborated by human agents (Tsoukas and Chia, 2002).

We argue that a fusion of design thinking and the sociology of translation could support a more nuanced understanding of barriers to change towards sustainability. The analytical framework also has the potential to help designers engage in the process of translation at a more conceptual level, providing a vocabulary to describe the complex settings they design for. Further, we suggest that the framework encourage reflections on design processes and practices themselves, with the potential of bigger impact: "The insight you give us from your angle as social scientists – reflection from your angle grows us, the reflective practitioner. It changes our overarching view of what is taking place creatively." (Rebecca, Apr13).

Due to limited access to the ND team and H&M, the study is short of data on the actual use (or non-use) of TED's tools in between workshops. Also, the suggested analytical fusion grew out of The Project, which is why we in this paper have only been able to explore its analytical potential. We therefore encourage research that further explores this fusion to inform more practice-based research on change towards sustainability in the textile and fashion industry in specific and/or in business at large.

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