

A new model for participation and sustainability
in fashion design

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Dipl.-Ing.(FH), MPhil
Katam Al-Falou
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Promotionsausschuss:

Vorsitzende: Prof. Dr. Kirsten Lehmkuhl
Gutachter: Prof. Dr. Hans-Liudger Dienel
Gutachterin: Prof. Dr. Martina Maria Keitsch
Gutachterin: Prof. Monika Fuchs

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This study looks at the possibilities of different approaches to designing sustainable fashion. Its focus is on business attire, arguing that clothes should not be seen as one entity but looked at as differentiated from each other.

The thesis follows a social constructionist approach as an overarching research strategy on an epistemological level, using symbolic interactionism, as well as hermeneutics, as a theoretical perspective, and a grounded theory methodology and content analysis plus case studies as a method.

The thesis first defines what business attire is and the clothing objects and attributes that business attire consists of, gives an account of the sustainability of business attire and finally offers a thorough discussion of a sustainable design framework that builds on citizen participation.

Chapter Three

In detail, chapter three suggests a hermeneutic approach to business fashion within the work environment in order to understand the symbolic value and varying styles of these clothes, and to argue for their importance within the workplace. Using a grounded theory approach and conducting a content analysis with a structural linguistic model of 102 fashion magazines, the author found seven different styles of dress. This chapter thus first discusses theoretical concepts related to the research results. The author then presents her findings, giving details of clothes, colours, materials and accessories related to these styles. The author intends the findings to contribute to a greater awareness of the attributes of business wear in the fashion design community and to support the future design development and social analysis of business dress.

Chapter Four

Chapter four provides qualitative case studies of a small sample within knowledge work environments in order to understand the potential for sustainability in clothes worn to work. The idea that business attire sits outside rapidly changing trends in fashion presents an exemplary way of designing for sustainability by emphasising value criteria such as material durability and style longevity. The design of business clothes requires, among other things, a systematic knowledge of wearing behaviour in order to understand the symbolic values of wearables. A study comprising a series of interviews with business clothing wearers about patterns of disposal, laundry habits and emotional attachment to business dress is then presented. The findings might contribute to a greater awareness of the sustainable attributes of business clothing in the fashion design community, and might help fashion designers and clothing developers to offer a product that is satisfying to users and which embodies sustainable values.

Chapter Five

Chapter five provides a thorough content analysis of the research literature of citizen participation from 2005 to 2015. The results frame a conceptual approach to sustainable fashion design, including ways and means

towards a sustainable, participatory approach with design practice in mind. The framework is based on the idea that citizen participation has been thoroughly researched, and that many lessons learned from this can be transferred to fashion design. A sustainable fashion design framework requires not only specific steps to be taken, but also preparatory measures, roles, types of involvement and quality control, amongst other things, to be considered. The framework might contribute to a new design practice in fashion design for the purposes of sustainability by providing a practical guide for designers, as well as academics, for further scrutiny and evaluation.

Chapter six presents a framework for sustainable fashion design, using Design Thinking and the Stanford d.school bootleg as an inspiration for structure and communication of the framework. In contrast to former work, it discusses sustainable design in great detail by offering a strategy as well as methods on the actual design process itself. The framework is then discussed in the wider context of participatory design, sustainable design, as well as citizen participation, and design thinking. The chapter concludes with how to use the framework in practice and how it can change fashion design practices for fashion designers and clothing developers.

The thesis finishes with a summary and conclusion, discussing the strength and limitations, as well as implications of this research and recommends further research.

Chapter Six

Chapter Seven

Business dress; sustainability; citizen participation; participatory design

Keywords

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1. Introduction

In terms of sustainability, the problem with textiles and clothing is that the essential elements of textile production are water and energy, raw materials such as fibres, yarns or materials, machinery and chemical additions. The issue of water use in the cultivation of cotton is particularly relevant: depending on the method of farming and the geographic region, to harvest 1 kilogram of cotton requires between 7,000 litres of water (for instance, in drip irrigation used in Israel) and 30,000 litres of water (for instance, in Sudan with extensive water use). In the textile industry renewable materials, especially cotton and other plant and animal fibres, have always played a dominant role. The planting and harvesting of cotton requires, in addition to this significant use of water, considerable amounts of pesticides and herbicides¹. For example, cotton cultivation accounts for about 25 per cent of the global insecticide market². Taking the average worldwide water demand in this context, raw cotton harvesting needs water of around 3,600 cubic metres per tonne, and the finished cotton fibre a water demand of 8,500 cubic metres per tonne³. In addition, dyeing, washing, bleaching, and printing are some of the dirtiest processes in textile production. The production of one tonne of material produces 200 tonnes of toxic waste water, which is often directed untreated into rivers⁴.

The presence of sulphur, naphthol, vat dyes, nitrates, acetic acid, soaps, chromium compounds and heavy metals like copper, arsenic, lead, cadmium, mercury, nickel, and cobalt and certain auxiliary chemicals all collectively make the effluent highly toxic. Other harmful chemicals present in the water may be formaldehyde based dye fixing agents, hydro carbon based softeners and non bio degradable dyeing chemicals. The mill effluent is also often of a high temperature and pH, both of which are extremely damaging (Kant, 2012, p. 23).

The production of chemical fibres consumes non-renewable resources, both as a raw material and for the generation of process heat. About 0.8 percent of current oil production is consumed annually in the production of chemical fibres.

¹ Source: Melliand Textilberichte

² Source: <http://www.umweltbundesamt.de/themen/wirtschaft-konsum/industriebereichen/textilindustrie>

³ Source: https://www.destatis.de/DE/Publikationen/STATmagazin/Umwelt/2013_06/UGR2013_06.html

⁴ Source: http://www.textilwirtschaft.de/business/China-Massive-Umweltschaeden-durch-Textilproduktion-_67355.html

The drying processes and the production of warm processing water lead to significant energy consumption during textile finishing⁵.

The amount of textile waste collected in Germany is approximately 750,000 tonnes per year. 50 per cent of the textiles that are collected can be re-used. These textiles are usually exported. Another four per cent are processed into cleaning cloths or other recycled products. Germany (alongside the United States) has the highest consumption of textiles worldwide: 1.6 million tonnes of textiles per year. This makes a consumption of 20 kilograms per head⁶. In 2015, Greenpeace carried out a representative survey of fashion consumption in Germany where 1011 people between the ages of 18 and 69 were questioned⁷. In summary:

1. On average, each person owns 95 garments in Germany (apart from underwear and socks). This represents approximately 5.2 billion garments. Most of these garments are short- and long-sleeved tops. 43 per cent said they owned around 50 to 100 garments; one third said they had more than 300 garments. Women own on average 118 garments, men 73.

2. Every fifth garment (19 per cent) is almost never worn. That adds up to 1 billion garments that remain unused in our wardrobes. Another 1 billion garments are worn less often than every three months. This adds up to 2 billion garments (40 per cent) that were virtually unnecessarily produced.

3. In particular, tops, trousers, and shoes are used for only a short time. Almost half the people surveyed indicated that shoes, tops and trousers are disposed of within a year. After three years, more than half of the garments are thrown out. Jackets, coats and dresses survive more than three years before disposal. Almost half the people questioned indicated that they had disposed of a garment within the last six months.

4. Two-thirds of the sample dispose of garments because they no longer like them; 40 per cent dispose of garments because they are out of fashion/out of style.

⁵ Source: <http://www.umweltbundesamt.de/themen/wirtschaft-konsum/industriebereichen/textilindustrie>

⁶ Source: <http://www.bsr.de/10246.php?synid=77a25d7f-39d2-4af9-b16f-a017505ce814>

⁷ Source: http://www.greenpeace.de/files/publications/20151123_greenpeace_modekonsum_flyer.pdf

Also, the maintenance of textiles has a huge impact on the environmental factors: “Life cycle assessment studies on clothes, detergents and washing machines show that the use period is usually the most energy-demanding, and depending on the energy source, it can also be the most polluting phase” (Laitala, Boks, & Klepp, 2011, p. 254).

Pakula & Stamminger (2010) calculated that the average household in Germany puts on 4.5 washes per week (234 per year), with an average electricity consumption of 0.97 kilowatt-hours per wash cycle and the annual energy consumption for drying 275.6 kilowatt-hours as an average of all households, and an average consumption of 60 litres of water per washing cycle (cf. Schmitz & Stamminger, 2014).

Approximately 25% of an average household's electricity consumption is required to do the laundry and dishwashing – 5% alone is for washing clothes with a corresponding energy consumption of 6 billion kilowatt hours. In addition, 600 000 tonnes of detergent and 330 million cubic metres of water are used for textile care in Germany. (...). (This makes) an overall energy consumption of 4.9 TWh and approximately 362 million m³ of water per annum to the operation of washing machines in private households (Kruschwitz, Karle, Schmitz, & Stamminger, 2014, p. 265).

On the other hand, the throwaway fashion approach (Birtwistle & Moore, 2007), or fast fashion, as it is often known, is supported by fast fashion retailers, and purchasers tend to wear the garments only a few times before disposal:

The places the younger shoppers purchased from were the fast fashion retailers H&M, TopShop, Zara and River Island and many would shop two or three times a week. The older interviewees added Marks & Spencer next to this list. (...) Furthermore, fast fashion retailers (...) sell garments that are expected to be used less than ten times (p. 211).

One of the reasons for disposal was – apart from the the low quality and other factors relating to material or technical issues – often the “lost intrinsic value, encouraging consumers to replace and dispose of products before their real life cycle had ended” (ibid, p. 214).

Having said this, one way to increase sustainability is to prolong the usage of garments: “User-oriented design is one of the tools that can be used for designing products that will be attractive to the end-users, thus potentially increasing the lifespan” (Laitala, Kirsi & Boks, Casper, 2010).

Laitala and Boks suggest, for example, involving the user in the pattern-making process by offering sample patterns. Another possibility would be to allow adjustments to be made to the design, to make it look new or different. Or designers could anticipate the possibilities of repairing or mending the garments.

A further approach is to inform users: “that is, green and eco-designers focus on redesigning products to be more environmentally friendly hoping that better informed consumers will buy them” (Thorpe, 2010, p. 7).

Similarly, design for behavioural change offers informed choice in addition to control mechanisms that operate usage. Ajzen & Fishbein (1977) argue, though, that there are several barriers to behavioural change. Lilley et al. (2005) add that

The designer's failure to capture 'actual' use behaviour is often the result of a lack of in-depth research with users. (...) User Centred Research is the process of gaining information about practices, habits or behaviours in order to inform the design of a product, service or system. User Centred Research techniques reduce the potential for designer's assumptions overriding user's needs by providing an insight into the complex relationship between people and products, an increased understanding of users 'actual' versus 'assumed' needs and the diversity in use actions (p. 5).

Besides these generic suggestions, several researchers have developed strategies for sustainable design application.

Starting with Niinimäki & Hassi (2011), they present six design strategies for sustainable change that focus on changing the designer and manufacturer behaviors. The emphasis is on how the design and production of a garment can have more intrinsic value. All of their ideas focus on how designers and makers can educate and encourage the user to expand the life and potential use range of garments. If the end user can approach a garment as more important than a body covering—as something that has the agency to confer to the user the power to determine the garment's ultimate consumption trajectory—then the life span of a garment increases.

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The first strategy focuses on the life span and quality of the garment. Through education, Niinimäki and Hassi postulate that a garment's life could be extended if end users know about how to care for the garment—much like one would learn how to care for a plant. By turning the garment into a living object, the user will make extra efforts to keep it 'alive'.

This directly translates into the second strategy in which the designers and makers create an emotional attachment between the garment and the user. The method for doing this, could be through a co-creation design process.

Next, the third strategy of customisation in which the user chooses from a set range of modules to create their own unique garment. The variety of modules and range of choices could be infinite, which could allow a user to co-create several versions from the same range of choices as well as additions and upgrades to adjust to changes in season and style. An interesting way to understand how this could work is to refer to the various fashion history books that show varieties in say, sleeves, as they changed over a certain period. A user could buy a jacket with one type of sleeve and then the following season replace that sleeve with a different style. Not only would this increase the life span of the core garment, it would also create work for those performing these changes.

The fourth strategy is of co-creation and open source design. With co-creation users take an integral part in the design process and work with other stakeholders on the design together. Open source, however, is a more extreme form of co-creation with the consumer taking the leading role in the design process. The open source concept has been used by a variety of online sites—the most well known being Wikipedia. But fashion could utilize this same idea to not only allow the user a fundamental part in the design process but also an emotional stake in the design. While the open source can be extremely successful, it does require a more proactive approach from the seller to reach out to and engage with potential consumers. Too few participants can lead to the failure of a particular garment or style. However, it also allows for a much more flexible approach to design where the designer/maker can adjust and adapt without putting too much capital and resources at stake.

The ultimate way that designers and makers can utilize this is through the tailor-made, made-to-measure, or couture approach. This can cover everything from tailoring a modular garment to an individual all the way to custom-made designs for consumers. This fifth strategy requires patience on the part of the designer/maker and the consumer as the customization process requires an element of time. However, this approach enhances the emotional attachment to the garment as it was 'made for' the consumer.

Finally, the sixth strategy echoes the first in increasing the life span of the garment. This is done post-creation and focuses on garment care and usage of the garment. There are renting/sharing fashion services that allow a user to borrow a garment for a period of time—much like renting a car. Also, a garment's life can be extended through repair, alterations, or upgrading. These methods allow the user to retain garments for a longer period of time with minimal financial and environmental impact. If designers/makers could take a part in this, then they could see continued revenue from the same garment with fewer requirements for new resources and profit risk.

As a further example, Santos, Ceschin, Martins, & Vezzoli (2016) present an evolutionary progression of strategies towards environmental sustainability in the clothing sector:

(...) the aim is to intervene on processes/operations in order to reduce, per each manufactured product, the content of inputs (...) and output (...) (p.8).

They focus on studies conducted in Brazil—considered one of the BRIC countries that is functioning as a fast-developing third-world country. The authors discuss “strategies for enabling sustainable consumption and production” (Santos et al, p. 3). By aiming their article at policy-makers, five methods are explored. First, is the improvement of material and process flows through the supply chain to increase the efficiency of these processes. Second, they explore how, by changing the materials and type of energy used, cloth can maintain its existing quality and characteristics. Next, is changing the actual design of the garment to take into consideration the entire lifecycle of the clothing. This is the most complex point as there are multiple sub-points that fall under the various aspect of the idea of a garment's “lifecycle”. Fourth, examines how to step out of the fast fashion cycle by “moving the focus from product provision to satisfaction provision” (ibid, p. 14). And finally, they focus on “sufficient consumption” (ibid, p. 16) or the re-examination of how to determine what each person actually needs not what society tells them they need. This last point is the most unique and complex methods proposed as it requires changes that go beyond the industry and looks to change socio-cultural structures.

Hoyer et al. (2010) have also defined four different roles participants can play in co-creation, and the various ways that participants might show particular suitability and willingness to act as innovators, lead users, emergent consumers, or market mavens.

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Innovators in this context are those consumers who are the earliest to adopt new products (Moore 1991). Lead users are individuals who face needs that will eventually be general in the marketplace, but who face these needs before others in the marketplace, and are therefore well positioned to solve these needs themselves (von Hippel 1986). Emergent consumers are individuals who are especially capable of applying intuition and judgment to improve product concepts that mainstream consumers will find appealing and useful (Hoffman, Kopalle, and Novak 2010). Market mavens are individuals who have information about many kinds of products, places to shop, and other facets of the market, and have a high propensity to initiate discussions with and respond to information requests from other consumers (Feick and Price 1987) (ibid, p. 288).

Their motivation to participate, though, may differ. Financial reasons, social benefits, knowledge gain and/or experience increase, as well as psychological reasons, are identified as drivers for participation by Hoyer et al., (2010).

Next, Laitala, Boks, & Klepp (2015) developed four design aspects for sustainable behaviour (p. 104) that expand on the part of the designer/maker that build upon the concepts of Niinimäki and Hassi above. They focus on the quality of the materials and the construction of the garment, the design focused on longevity of style, individualization and maintenance of the garment, and the transition of the garment from designer/maker to the user via communication systems that convey garment information to the consumer. Essentially, through educating the consumer about the garment, the life span of the item will increase through the active agency of the consumer.

Hur, Beverley, & Cassidy (2013) focus on the consumer and work back to how they can interact and become active agents of the design process. These researchers have developed a tool-kit supporting sustainable fashion design. This tool-kit focuses on engaging questions that can be asked and answered by both consumer and designer/maker (p. 95 ff):

The foremost question is one of choice. For designers there are many choices throughout the process that can be made. These choices can be directed towards more sustainability by questioning current standard practices. From the design, production, and lifecycle of the garment, every stage of the process can be questioned and new techniques and materials can be sought. Many of the above-cited literature focuses on this in some capacity.

The next questions focus around optimisation. By increasing the degree of flexibility, can we rethink maximum impact? How could the potential for durability and biomimicry be explored? Is there a cradle-to-cradle approach? Can we offer modularity? Is there merging/zero waste? Is a dynamic upgrade possible? Is it multi-fashion? Are there updatable systems? Is a swap and share service possible? Essentially, how can each garment be designed and made to have the maximum reach with the minimum of resources used.

Next is the question of empowerment and how to create meaningful products and increase user involvement. Many have theorised the roles of personalisation, user as maker, and open source to explore empowerment. However, there are other means through which the user can be empowered such as by storytelling, magic, poetic, playfulness, partial completion, smart craft, or cultivating creativity.

The next step has focused on the importance of „education“. However, Hur et al. approach this through the idea of persuasion. How can designers/makers motivate users to engage in the empowerment process? Further, can we offer simplicity and commitment? Is there a shareholder incentive? Persuasion must work in conjunction with interaction. Designers/makers can study automatic responses between user and product. This allows them to explore any additional sensory effects or parameter changes that might occur when the user and the garment interact. Behaviour feedback becomes vital for designers and makers to adjust and adapt their product to the needs and desires of the end user.

Finally is the question of how the garment becomes a part of a larger social conversation. How do stakeholders build networks and utilise social interaction? Is there a symbiotic relationship between designer/maker and the larger social web of the consumer? Are there catalyst actors? Is there a possibility of community learning?

Though this summary of several approaches is not exhaustive, it still represents the current dialogue that exists in regards to sustainable design, most of which focuses on theory rather than practice. The author, nevertheless, finds a tendency not to distinguish between different types of clothes and thus one main gap in the current dialogue is the tendency to lump together all clothes. This completely disregards how people categorise and interact with their own clothing. Most consumers divide their wardrobe into use-specific categories such as sports clothes, casual clothes, and - most importantly for this thesis - business clothes.

In addition to offering generic conclusions and recommendations for design practice, most of the existing research work has limitations in both

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method and sampling, too. This study aims to fill this gap by looking at participation in a broader sense in order to develop a new approach to sustainable clothing design.

For example, Howard (2004) suggests a more general participatory design approach: “Participatory design encompasses a variety of strategies to give the people who will use a particular technology or technological system a direct role in decision making about its development” (p. 41).

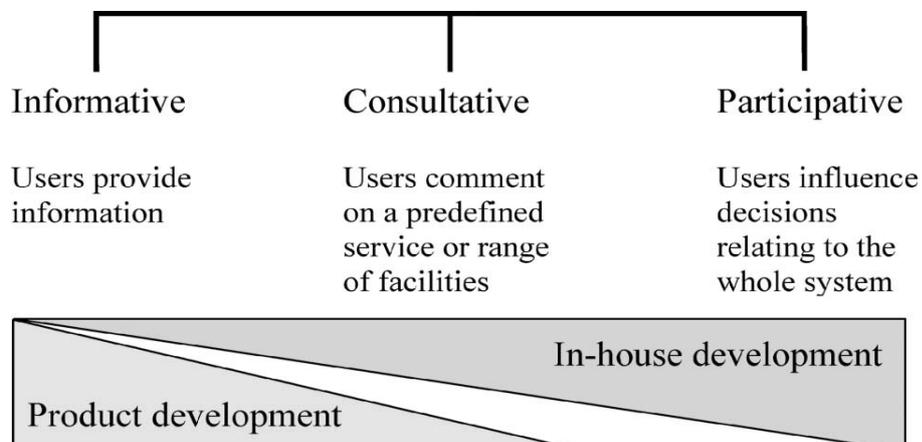
Participatory design emerged in the 1970s in Scandinavia, when trade unions urged for stronger inclusion of workers before deciding on new technology integration (Spinuzzi, 2005). The principal of participation builds on a constructivist theory: understanding of new knowledge is gained by doing and learning, reflecting on former experience and immediate actions. Often, users have what Spinuzzi calls tacit knowledge, a non-formalised approach to craft, which “participatory design focuses on exploring (...) and taking it into account when building new systems” (p. 166).

Participants often distinguish themselves through their individual role and unique skillset. Howard allocates three principle themes to participatory design to promote user agency:

1. Importance of the local: Participatory design should be rooted in a place
2. Importance of lay empowerment: Participants should be given the opportunity to make decisions about technology, despite being lay people.
3. Importance of organisation: Any participatory approach requires support, such as equipment, place, funding etc.

As well, Kujala (2008) distinguishes “how active users’ roles are, whether they influence decisions, or whether they even participate in development work” (p. 458) and the broader impact that this can have on design and production cycle (fig 1).

Figure 1
Kujala’s model of user involvement



Summarising the above, “participation” is a key term in these debates. Besides the role of participation, the depth of participation is often discussed.

Arnstein (1969), one of the most cited authors in the context of participation, describes eight types of participation, using a ladder as a model. Arnstein begins with pretended participation, which she names manipulation and therapy. The two bottom levels cover up for non-participation. Participation is only suggested to manipulate participants rather than profit from them. The following types, informing, consultation, and placation, are types of one-way participation. Participants are indeed heard and consulted, but it is a one-way progress. Participants lack real power. Partnership, delegated power and control form the three “true” participatory levels. Participants are able to negotiate and hold managerial competences. Arnstein stresses the point of participatory gradation, arguing for true participation rather than pretence.

Olphert and Damodaran expand this idea of true participation:

There is, however, now a wider body of evidence on which to draw when examining the benefits of participation. Many governments and government agencies have embraced the concept of ‘citizen engagement’. Citizen engagement can be defined as the active participation of citizens, in partnership with government, in decision and policy making processes. (...) Our analysis identified a number of key inputs that citizens contributed to the design/decision making process—knowledge and understanding of needs, problems and priorities, local knowledge and experience (e.g. of community interests, context), aspirations and values (Olphert and Damodaran, 2007, p. 494 ff).

Inspired by Olphert and Damodaran’s idea of building on the experiences of citizen participation in product development, the author proposes the following research question:

Research Question

What can we learn from citizen participation in order to develop a framework of sustainable participatory design?

Roberts (2008) locates the origins of citizen participation in the Greek city states, developing through the Middle Ages in the form of artisan groups and further evolution in colonial settings. Citizen participation can be defined

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as the process by which members of a society (those not holding office or administrative positions in government) share power with public officials in making substantive decisions and in taking actions related to the community. The focus is on direct participation (when citizens are personally involved and actively engaged) as opposed to indirect participation (when citizens elect others to represent them) in the decision process (ibid, 2008, p. 320).

During the first decades of the 20th century, citizen participation evolved in the form of direct participation. Advocates of citizen participation claim legitimacy, trust, effectiveness and education for both government and citizen participants (Irvin & Stansbury, 2004): in the decision-making process, citizen participants can learn from and inform representatives, support development and gain skills. Representatives can learn from and inform, build trust and gain legitimacy. Also, citizen participants gain control over outcomes, have their opinions implemented and show more satisfaction with decision-making. Representatives gain better policies, better ideas and trust (cf. p. 56).

On the other hand, opponents of direct participation blame the processes for increasing cost (both monetary and time), being superficial and trivial, and prompting a loss of control (cf. p. 58).

Direct participation is not without dilemmas, and this research will shed light on some basic principles of citizen participation by looking at research from the past ten years.

Chapter Two

Following the Introduction (Chapter One), the overall research approach is discussed in Chapter Two using Crotty's practical theories examining objectivism, constructionism and subjectivism as well as his theories on positivism and post-positivism, interpretivism (including symbolic interactionism, phenomenology, and hermeneutics), critical inquiry, feminism, and postmodernism. The author will use these various theories to critique the current design practices.

Chapter Three

Chapter Three first presents a definition of business attire with a content analysis approach. The content analysis focuses on a sample size of a total of 102 fashion and lifestyle magazines for both men and women, published between May and October 2015. This approach facilitated the identification of both appropriate and inappropriate dress codes for the workplace (for both men and women), and habits relating to business attire.

Chapter Four

Chapter Four presents a study that examines patterns of disposal, laundry habits and emotional attachment to business dress in order to

confirm or challenge existing findings in the research. This chapter aims to document actual patterns of business dress in comparison with evidence from studies on sustainable fashion. The collected data gives an insight into behaviour associated with the wearing, disposal and laundering of clothing within the focus group of knowledge workers. The findings of the study could inform the future design of business dress that meets the wearer's demands, eventually initiating a more sustainable use-behaviour. The cases presented here are focused culturally, locally and seasonally, and consist of in-depth interviews about the attitudes and behaviour of five participants from two business sectors in Berlin, Germany, held weekly during September and October 2015.

Chapter Five establishes a definition and groundwork of participation based on the content analysis of research on citizen participation between 2005 and 2015. The results from the content analysis demonstrate models of participation, roles and involvement, amongst others. The author aims to build a framework for sustainable participatory design approaches, following former research work on citizen participation, hypothesising that a participatory design approach leads to sustainable behaviour. Using the results from the content analysis to build the framework, the framework itself represents a sustainable fashion design model.

Chapter Six presents the framework, using Design Thinking as an inspiration and similar approach for the structure and communication of the sustainable fashion design framework. The framework is then compared to a common fashion design process and discussed in the context of participatory and sustainable design practices. The overall research results are put into context, giving advice for interpretation of this thesis.

The thesis concludes with Chapter Seven discussing a brief summary of the overall research results, strengths and limitations of the research, and recommendations for further research.

In summary, the environmental impact of clothes is a major concern starting with the raw material and water consumption, continuing with the textile process chain and followed by issues during maintenance (such as laundry) or with the impact of fast fashion consumption and the increasing disposability of garments. This thesis focuses on how to address the various reasons for the devaluation of textile goods through the avoidance of fast fashion and preventing reasons for disposal by arguing that a participatory design approach will lead to increased value recognition and thus result in less frequent disposal and prolonged garment lifespan. By focusing especially on the area of participatory design that utilizes citizen participation, this thesis aims to build a framework for sustainable fashion design which can

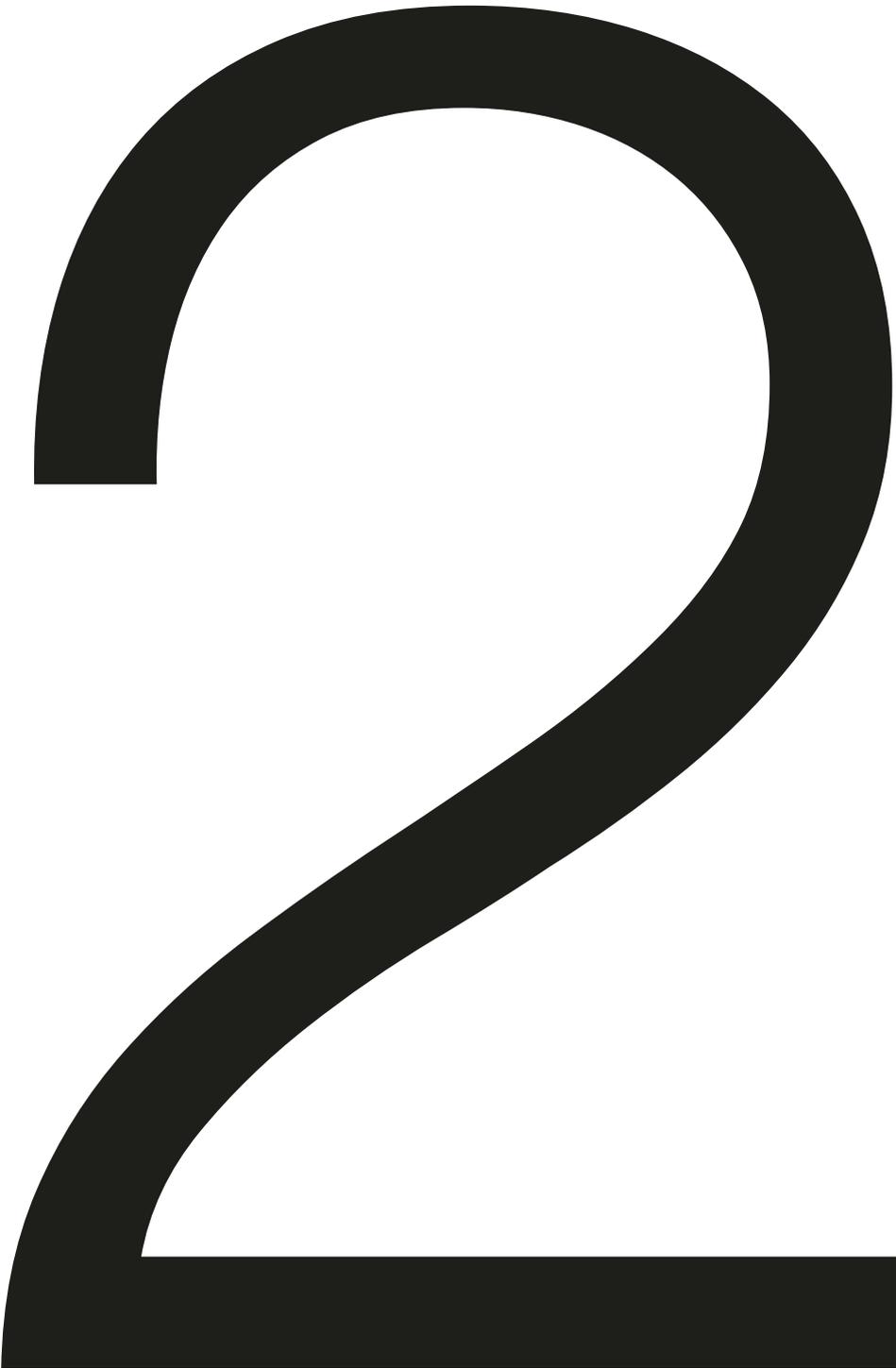
Chapter Five

Chapter Six

Chapter Seven

Summary

be adapted by fashion designers and clothing manufacturers. In this thesis, business wear becomes a case-study to examine how my proposed methods could be put into practice. The focus on one “type” of clothing, i.e. business wear, highlights the advantages of differentiating between different types of garments rather than considering garments as an entity, and demonstrating the sustainable potential behind business attire.



2.1 Introduction

In this chapter I discuss the choices I made regarding the design of the research, my rationale and the validity of my choices, as well as my position as a researcher.

A study is shaped by the researcher's guiding principles associated with a paradigm or world view, which encompasses (...) epistemological and methodological assumptions (Jeon, 2004, p. 249)

Following Jeon, a social constructionist epistemology, with a symbolic interactionist and hermeneutic background, grounded theory methodology and content analysis, as well as case study methods, shape this research, which will be discussed further in this chapter.

Crotty (1998) identifies three main epistemological directions: objectivism, constructionism and subjectivism. He defines objectivism as “the notion that truth and meaning reside in their objects independently of any consciousness” (p. 42); in subjectivism “meaning does not come out of an interplay between subject and object but is imposed on the object by the subject. Here the object as such makes no contribution to the generation of meaning” (p. 9).

I do not share the belief in an objective truth that can be discovered by adequate methods, nor do I agree with the idea that only subjects create meanings for objects. I agree, though, that meaning is constructed in interplay between subject and object. My tendency toward social constructionism lies in my training as a designer and engineer: when I create objects, I do this with the intention of giving meaning to a form. The form did not pre-exist before making and therefore cannot hold any intrinsic meaning but the one I personally imposed on the object. I cannot control how individuals (subjects) interpret my objects later on.

For example, I design a dress for a woman. It is a short dress with floral print. Let's say the dress is worn for a funeral. Initially, this dress was supposed to communicate the meaning of “a nice summer dress on a hot day” and will be interpreted as an “inappropriate and ugly” dress during a funeral on a rainy day. It is the context and the negotiation between individual and group in that particular situation that constructs the meaning of the dress. In short: the dress does not hold an objective intrinsic truth (meaning changes in different contexts), nor is meaning only imposed by others (the design limits the choices of meaning). Thus, I cannot agree to an objectivist

and subjectivist epistemology in the context of this design-led work, but I do agree to social constructionism.

Further, Crotty (1998) identifies the following theoretical perspectives: positivism and post-positivism, interpretivism (including symbolic interactionism, phenomenology, and hermeneutics), critical inquiry, feminism, and postmodernism. Table 1 shows the relationships between epistemology and theoretical perspective.

Since I have already justified my choice of social constructionism on an epistemological level, those theoretical perspectives that could not be associated with social constructionism were excluded.

Objectivism	Subjectivism	Social Constructionism
Positivism	Postmodernism	Symbolic Interactionism
Post-positivism	Structuralism	Phenomenology
	Post-structuralism	Hermeneutics

Table 1
Epistemology
and theoretical
perspectives

The theoretical perspectives that can be clearly associated with social constructionism are symbolic interactionism, hermeneutics and phenomenology. Since I built on symbolic interactionism and hermeneutics in this research, I will give a reason why I excluded a phenomenological approach.

Heidegger (1977) describes phenomenology as “the science of phenomena” (p. 74). Husserl (1931) argues that phenomenology invites us to see the things themselves after stripping away any previous habits. Merleau-Ponty (1962) suggests putting aside inherited meanings and awakening a culturally untamed rediscovery of the world. Today, phenomenology “is generally seen as a study of people’s subjective and everyday experience. (...) It is geared towards collecting and analysing data in ways that do not prejudice their subjective character. It puts in place a number of procedures to prevent, or at least minimize, the imposition of the researcher’s presuppositions and constructions on the data” (Crotty, 1998, p. 82).

In my opinion, phenomenological approaches put too little emphasis on cultural meaning, especially in the negation of a system of significant symbols. Further, the idea on an unbiased perspective seems hard to achieve. This thesis rather follows Eco & Trabant (2002) who trace the comprehension of objects and their meanings back to our cultural heritage and the significance of codes within symbols and I tend to follow his argument in this thesis and in my general design practice. Jaccard (2010) even says:

2.1 Introduction

Whether consciously or not, the scientist brings to any setting a prior schema (...) that is used to filter, interpret, and analyse the world about him or her. This is an inevitable feature of human nature and human thinking (p. 33).

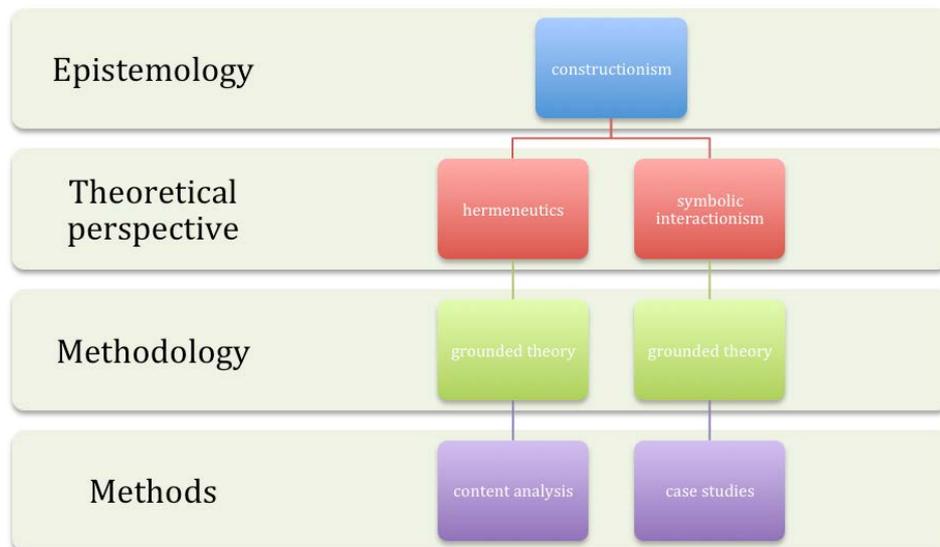
The relationship between symbolic interactionism, hermeneutics and the consequential grounded theory methodology, as well as the methods of content analysis and case study, will be further explained in this chapter.

In summary, the central importance of language and the influence of schools of thoughts (from symbolic interactionism) on the methodology of grounded theory dictated the use of the proposed methods.

Having said that, there is also a critique of each research design aspect, which I have thematised in the following sections and will discuss in the context of research results individually in the following chapters on sustainability, business dress and participation.

Resulting from preliminary thoughts on the design of the research, Figure 2 and Table 2 summarize the overall research approach.

Figure 2
Overall research strategy



Theoretical Perspective	Methods
Hermeneutics:	Content Analysis:
Chapter 3: Business Dress	Magazines
Chapter 5: Participation	Research articles
Symbolic Interactionism:	Case Studies:
Chapter 4: Sustainability	Knowledge worker

Table 2
Correlation of chapters to theoretical perspectives and research methods

2.2 Epistemology: Social Constructionism

Generally speaking, constructionists believe that meaning is constructed, rather than being discovered or created, by human beings. Any consciousness is directed towards objects, which in return are shaped by consciousness. On an epistemological level, social constructionists believe that there is no single true or valid interpretation of data but many useful and situationally appropriate ones. Social constructionism adds – as the word suggests – the social aspect of reality and meaning construction: the means by which objects are made are social. Social systems create systems of significant symbols, which are largely given and already present in any community. Thus, we depend on culture to direct our behaviour and social organisation (cf. Crotty, 1998).

Burr (2003), following Gergen (1985), and Berger & Luckmann (1990) defines key concepts as foundations of social constructionism. In summary, these are:

1. There is no objective truth discoverable by unbiased observation. Instead, we construct categories by which we apprehend the world and its phenomena under research. Knowledge, in other words, should not be taken for granted and the researcher is to keep a critical stance towards any assumptions made.
2. The way we understand the world is culturally and historically biased. Our meaning depends on when and where we live. Our understanding of phenomena can be seen as products of our particular social and economic surroundings. What we consider “truth” cannot be seen as any better than any other potential “truth” that exists.

2.2 Epistemology: Social Constructionism

3. Knowledge is constructed during interaction between people. Any form of participation in social life forms versions of knowledge. The forms of participation and language (as a symbol system) are of great interest.

4. Social constructionism is anti-essentialism: there is no essential truth within people or in the world waiting to be discovered and giving a description of an objective and unbiased truth.

5. We construct only versions of reality between us. There is no objective fact or knowledge in reality. Everything comes looking from a cultural or societal perspective.

6. Knowledge is timely and culturally bound. Therefore, interpretation of data is also a singular description of what is now and not a once-and-for-all description. Any research conclusion should not impose imperialism on a discipline but should instead be seen in context.

7. Frameworks already exist and are acquired by and through language. As a result, language is a major focus of social constructionism. Language shapes our thoughts and the categories, which define our reality. Language itself is again dependent on its historical and cultural background. The language we use shapes our reality and our knowledge.

8. Language is also a form of social interaction. When we speak our reality becomes constructed. Language is thus more than a form of expression. The performative role of language actively produces social phenomena.

9. Social constructionism aspires to explain not only social interactions, but also individuals' characters and behaviour. What is around us and how we participate shapes who we are and what we call "personalities". In other words: we treat different personalities according to the situations we are in and share with others. Personality is specific to the situation we are in, rather than finding it in ourselves.

10. Social constructionism stresses the role of process rather than structures. Knowledge, reality, meaning and interpretation are something that is done (together) instead being the result of a decoupled process.

As stated above, in the heart of constructionism lies language. Berger & Luckmann (1990) write that "language used in everyday life continuously provides me with the necessary objectifications and posits the other within

which these make sense and within which everyday life has meaning for me. (...) In this manner language marks the co-ordinates of my life in society and fills that life with meaningful objects” (p. 22). Burr (2003) even says “... the person cannot pre-exist language because it is language which brings the person into being in the first place” (p. 47). And as Saussure (1974) suggests, language, along with its signs, has no intrinsic purpose: only in relation to other signs does it achieve meaning to us. Language as a system, in his sense, therefore brings categories and frameworks to our world as part of our constructed reality.

Having said this, language is only possible because we exist. And it is here that social constructionism can be criticised: do individuals and our social process determine language or does language really determine individuals within the social process? Berger & Luckmann (1990) see this relationship operating in both ways: we construct a reality with language which then becomes a reality to which others must respond. It is here that symbolic interactionism bridges the gap, and this will be discussed as a theoretical perspective in the next chapter.

Often, constructivism and constructionism are used interchangeably. Burr (2003) writes “the essential difference between (...) constructivism and social constructionism are twofold: in the extent to which the individual is seen as an agent who is in control of this construction process, and in the extent to which our constructions are the product of social forces, either structural or interactional” (p. 20). The point being made contrasting both is that constructivism believes there is an essential nature behind phenomena and a perception of a truthful world. As seen above, social constructionism follows a quite different concept. Therefore, this thesis follows her contrast and distinguishes between constructivism and social constructionism in Burr’s sense.

The rationale for choosing a social constructionist approach is as follows: the researcher defends the position that all objects are constructed (designed), as are their (social) meanings and use by participation in any social process. A social constructionist approach in this research is prevalent since the research focus is on fashion as designed objects and ways of participation in comparison with and in the context of designed objects. Written text, particularly, as a form of language and symbolic forms, has a major impact on this thesis.

On an epistemological level, the researcher takes the position that there is no definite objective truth nor an exclusive subjective interpretation, but a constructed reality by analysis and interpretation of data with specific methods and a theoretical perspective.

2.3 Theoretical Perspective: Symbolic Interactionism

As the key assumptions of social constructionism take language (and other symbolic forms) as a major force, it leads in practice to research methods such as interviews and the analysis of written texts.

2.3 Theoretical Perspective: Symbolic Interactionism

Symbolic interactionism (SI), as a term, was coined by Blumer in his article 'Man and Society' in 1937 (Blumer, 2009). The Chicago sociological tradition, represented by George Herbert Mead and John Dewey, was the main influence on Blumer's symbolic interactionist approach. "While Mead's contribution was primarily philosophical, Blumer was more concerned with symbolic interaction as a sociological theory and a research approach (Jeon, 2004, p. 250). Blumer's symbolic interactionism is particularly rooted in Mead's concepts of „I“, „Me“ and „Self“ and the recurring discussions between them in the context of social interaction, and Dewey's idea that "symbolism expressed in language was the element that differentiated humans from other species and that linguistic communication made human society possible" (Benzies & Allen, 2001, p. 543).

A central feature of SI is the inseparability of the individual and the context within which the individual exists. Because of this, SI has been considered a powerful framework to guide research that is intended to lead toward an understanding of human (...) behavior within a social context (Handberg, Thorne, Midtgaard, Nielsen, & Lomborg, 2015, p. 1023).

Blumer (2009) describes three premises of a symbolic interactionist world-view and describes six basic ideas of SI, which he names "root images" (p. 6): human groups, social interaction, objects, the human being as an actor, human action, and interlinkage of action:

The first premise is that human beings act towards things on the basis of the meanings that the things have for them. (...). The second premise is that the meaning of such things is derived from, or arises out of, the social interaction that one has with one's fellows. The third premise is that these meanings are handled in, and modified through, an interpretative process used by the person in dealing with the things he encounters (ibid, p.2).

First, meaning is neither taken for granted nor neutral in regard to human behaviour. Meaning is central in its own right in human behaviour.

The source of meaning is neither intrinsic in an object (e.g. an attribute) nor a neutral part of the object. Meaning comes from the interaction between humans, and is a social product. And finally, making meaning involves a two-phase interpretative process: through self-communication, humans need to become aware of the things they are acting towards. By virtue of self-communication, humans start to interpret by negotiating meaning. Interpretation is a formative process that guides any action. Human group life consists of people engaged in action. Activities constitute human groups. Culture, as well as social structures, originates from the way people act towards each other. The nature of social interaction can be twofold – either non-symbolic (which is a direct response to action without interpretation) or symbolic (which is a direct response to action with prior interpretation).

The world consists of objects, and these objects are social creations. There are three categories of objects: a) physical objects (e.g. tree, car...) b) social objects (e.g. teachers, doctors...) c) abstract objects (e.g. ideas, religion...). “The nature of an object (...) consists of the meaning that it has for the person for whom it is an object” (Blumer, 2009, p.11). Any object can have different meanings, which arise out of an interpretative process in social interaction.

A person can also become an object of his own action. The process is possible because of a notion of self and a process of role-taking. We see ourselves through the eyes of others and thus form objects of ourselves. “The capacity of the human being to make indications to himself gives a distinctive character to human action” (ibid, p.15). Consequently, individuals synchronising their lines of actions define societal behaviour. These joint actions can be seen as entities in their own right instead of as broken down into separate acts. Recurring patterns of joint actions are apparent in concepts such as culture and social order.

Kaiser, Nagasawa, & Hutton (1995), based on Blumer’s work, built a symbolic interactionist theory of fashion. They present five key principles “to explain why styles continue to emerge, be adopted, and change” (p. 172):

1. The principle of human ambivalence: ambivalence is a basic human condition.
2. The principle of appearance-modifying commodities in the capitalist marketplace: appearance-modifying commodities (AMCs) are products used in appearance management, including clothes, hair styling products and make-up. Together with ambivalence and a capitalist marketplace, new AMCs lead to experimentation, and likewise new AMCs emerge to express ambivalence.

2.3 Theoretical Perspective: Symbolic Interactionism

3. The principle of symbolic ambiguity: new AMCs create symbolic ambiguity, as their meanings need to be first negotiated in social interaction.

4. The principles of meaning negotiation and style adoption: any meaning negotiation requires a collective interpretative process in social interaction. Only those styles that are meaningful become adopted, then, by the majority of individuals.

5. The principle of an ongoing dialectic: rarely will any interpretative meaning resolve ambivalence fully; thus AMCs will undergo change in an ongoing dialectic between ambivalence and style change.

In response to the theory of fashion proposed by Kaiser et. al., Kean (1997) argues that the model is one-sided, since “industry, rather than the consumer, is the more powerful change agent in the fashion system” (p. 172). His point is that before fashion is in the marketplace, industry has already made a choice between different fashion designs, and that choice is based on technology, feasibility and cost reduction.

Pannabecker (1997), on the other hand, questions the first and second premise in detail and the overall theory-building in general. For example, he replies to the first principle, ‘ambivalence is a basic human condition’: “Yet I point out that not all world views perceive the human condition in this way, and that is why the premise must be stated as an assumption” (p. 181). He then continues with regard to the second principle of ‘appearance-modifying commodities in the capitalist marketplace’: “First, it is an assumption based on a materialist philosophy. Left unsaid is the counter-assumption that humans will seek and the market place will offer non-material means to express ambivalence” (p. 181). Also, he argues that societies offer other alternative ways for us to represent ourselves to the world, such as cars or accommodation.

Whether the critique of Kean and Pannabecker is justified or not, the rationale for choosing symbolic interactionism as a theoretical perspective lies in Blumer’s basic foundation of SI and the idea of Kaiser et al. that SI indeed explains fashion phenomena to a certain extent.

2.4 Theoretical Perspective: Hermeneutics

The study of business attire (Chapter Three) and of citizen participation (Chapter Five) builds on hermeneutics as a theoretical perspective. As language has a prominent role in social constructionism, the thesis uses the written form of language for further data analysis and interpretation.

While the historical role of hermeneutics has been to describe and guide the interpretation of biblical texts, it has, over time, experienced prominence in many other research areas, for example in design theory. In the past century, in particular, Heidegger, Schleiermacher, Dilthey, Ricoeur, and Gadamer all developed hermeneutical philosophies that conceptualise worldviews of understanding and interpretation (Crotty, 1998).

Today, many scholars build on these hermeneutical philosophies in the form of hermeneutical theories, hermeneutical circles, critical hermeneutics, phenomenological hermeneutics and derivations such as semiotic-structural analysis, reading theory and literary criticism (Arnold & Fischer, 1994). Gadamer (1995), for example, describes the hermeneutic circle in the common understanding as „the movement (...) from the whole to the part and back to the whole“ (p. 291). More specifically, the idea of the hermeneutic circle can be seen as a principle of the transition from the initial whole by an analysis of its parts into a new whole. A sense of understanding of the whole helps to guide an analysis of its parts. Finally, when the parts are analysed and meanings interpreted, interpretation creates a new whole. Bengtsson (1991) points out that

the actual knowledge about the whole generates questions about the parts and knowledge about the parts new questions about the whole. The answers to these questions have with them that new detail knowledge and whole knowledge comes into existence, which in turn generates new questions (Bengtsson, 1991, p, in Dahlberg et al, 2008, p. 239).

Another important principle of hermeneutical analysis, Gadamer (1995) points out, is that „a text must be understood in its own terms“ (p. 291). He argues against a general confidence in methods. The encounter of the researcher with a text and its context, „being present to the data as given“ (Dahlberg et al 2008, p. 237), should provide the basis for understanding. Dahlberg et al. (2008), with reference to Heidegger and Gadamer, formulated a number of key methodological directions for hermeneutic interpretation:

1. The researcher should be aware of his / her pre-understanding, temporally restrain any influence and thus allow a more open access to data and its meaning.
2. In the course of analysis the focus should be on otherness, a way of seeing something new, rather than confirming or discovering what is already known, or what the researcher wants to see.

2.3 Theoretical Perspective: Symbolic Interactionism

3. The data and the research question, not fixed rules, should lead the research.
4. First readings always offer a sense of the whole, preliminary understanding of the phenomenon and its context.
5. The preparation of preliminary structure by topics and subtopics helps to determine what meanings there are.

Dahlberg et al (2008) suggest leading a dialogue with the original text for interpretation. This dialogue continues until all major issues are covered. The first results are interpretations that highlight the various provisional aspects of the research. This facilitates the formulation of the main interpretation, and it is often a more productive and comparative analysis of the initial interpretations. In this process small important segments are summarised to see structures and patterns that were previously hidden or partially hidden. If this search for new meanings is successful, it is often possible to arrive at a common denominator: a main interpretation that extends the meanings given in the first interpretations and binds them together.

It is true that a tentative interpretation must start in the data itself, but a lack of sensitivity for hidden meanings, a strong ambition to follow methodological rules, together with a very concrete way of thinking can indeed prevent creative and meaningful interpretations (ibid, p. 282).

Having said this, Crotty's description of modern hermeneutics is also of interest for this study as a link that transmits meaning from a text to the reader and "a form of inquiry into how texts can and should be applied" (p. 91). He defines three paths of inquiry: empathic, interactive and transactional. At the centre of an empathic approach the reader is involved in taking on the author's perspective by delving into the deeper meaning of the text. The interactive approach constitutes a dialogue between the reader and the author's message. The reader brings their own ideas to the text and interweaves these with the author's intentions. The transactional approach describes the evolution of something new, the development of ideas and thoughts that go beyond the author's intention.

Eco (Eco & Collini, 1992) argues against the strong roles the reader and the author have been given by hermeneutical philosophies: "(...) between the intention of the author (very difficult to find out and frequently irrelevant for the interpretation of the text) and the intention of the interpreter

who (to quote Richard Rorty) simply 'beats the text into a shape which will serve for his purpose', there is a third possibility. There is an intention of the text" (p. 25). And it is in Eco's caricature of "hermetism" (p. 39) that this study recognises its understanding of a hermeneutical approach to the content analysis of businesswear in magazines, for example: texts do not have infinite ways of interpretation, texts do not conceal secret meanings; instead, the language transfers a clear and unique message.

From a hermeneutics perspective the intention of the content in question of the thesis is Crotty's transactional approach and Eco's intention of the text: here the intention of the content in question is to inform the reader about latest business fashion and/or dress codes (and probably stimulate an increase in sales) respectively about the latest research results relating to participation: there is no secret or deeper meaning in the text intended by the author or hidden in an interpretative cycle; instead, the language used transfers a clear message and the interested reader can develop new ideas about businesswear (e.g. how to combine suggested styles of businesswear in a new and individual way) and understand progress in participation research.

2.5 Methodology: Grounded Theory

Glaser and Strauss developed grounded theory in the late 1960s during their study of death and dying. Glaser and Strauss were influenced by the work of George Herbert Mead and later by the work of Herbert Blumer, which we know as symbolic interactionism. Grounded theory is a form of qualitative methodology, flexible in design and dynamic in nature. What makes this approach unique is that theory is not chosen prior to research, but is developed during the process. Also, data analysis and collection are inter-related in an ongoing cycle. Grounded theory is not limited to a specific kind of data, and analysis happens by constant comparison of different kinds of data.

The study builds on a grounded theory methodology, as proposed by Corbin and Strauss (Corbin, 2008; Corbin & Strauss, 1990) "for the purpose of constructing theory grounded in data" (Corbin, 2008, p. 6). Corbin distinguishes three kinds of theories: substantive, middle-range, and formal. While a substantive theory explains results on a micro level within a study, a formal theory is applicable to a wider range of different cases on a macro level. The intention here is to construct formal theory. Jaccard and Jacoby (2010) explain theory development as follows:

The process of formulating conceptual systems and converting them into symbolic expressions is termed theorization or theory construction. (...) Although theories differ in many aspects, we contend that (...) all theories consist of concepts and relationships between those concepts. (...) A theory is a set of statements about the relationship(s) between two or more concepts or constructs (p. 28).

Further, Jaccard and Jacoby use models, hypothesis and theory interchangeably, as will this research:

Like theories and models, hypotheses are statements that involve concepts and relationships between them. For this reason, we do not distinguish them from theoretical and model-based statements. All three types of conceptual systems - theories, models, and hypotheses - can be classified (...) under the more generic term theoretical expression (p. 29).

Theories can be evaluated by a number of principles, summarised in the following as questions (cf. Jaccard and Jacoby, p. 21 ff):

1. Does the theory help to understand a phenomenon and offer guidance?
2. Are the theoretical statements non-contradictory?
3. Is the theory in agreement with known data and facts?
4. Is the theory testable?
5. Is the theory expressed in terms that can be understood and communicated?
6. Does the theory explain a phenomenon with a minimum of concepts and principles?
7. Is the theory consistent with existing theories (does it integrate into the existing body of theories?)
8. Does the theory provide a novel insight into an interesting matter?
9. Does the theory generate new research activity?

As noted above, this study builds on grounded theory, but does not follow its canon strictly. The author first analysed data for clues, but data collection and analysis were not always an interrelated process throughout the study. The development of concepts and categories were in some cases a priori constructions, rather than mere open or axial coding. Units of analysis, e.g. knowledge, magazines and research articles, matched pre-selected categories.

However small these adaptations, they depart from the grounded theory canon (cf. Corbin and Strauss 1990).

The study achieves a formal theory with a continuous comparison of data within and between data that seeks similarities and differences. “Themes or concepts derived from another study may have relevance to a researcher’s present investigation in the sense that a researcher continues to develop or expand upon the concept” (Corbin, 2008, p. 50).

Wolcott (1994) writes, that “analysis addresses the identification of essential features and the systematic description of interrelationships among them” (p. 12). He says that “the truly analytical moments will occur during brief bursts of insight or pattern recognition” (p. 24). Analysis, put simply, is a structured way of identifying patterns during the coding process.

The process of constant comparison constitutes here the systematic data analysis process. Similar data is grouped under a concept, similar concepts are grouped to form categories and each category is integrated around a core category (cf. Corbin, 2008, p. 7ff). Theory, in short, is built around core categories:

Concepts are derived from data. They represent the analysts’ interpretation of the meaning expressed in words. (...) Concepts vary in level of abstraction. Basic-level concepts are the conceptual names given by a researcher to ‘raw data’. There are also higher-level concepts that we call categories. Categories are more abstract terms that denote the major theme that a group of basic-level concepts are pointing to. (...) While basic level concepts provide the foundation, higher-level, more abstract concepts provide the structure or framework of a theory (Corbin, 2008, p. 76 ff).

The coding process – that is, the organisation of data according to its properties and dimensions into concepts, categories and core categories – transfers the logic behind the analysis by using different analytical strategies. There are five types of strategies (Table 3) used in this study, with seven different techniques. The use of analytical strategies aims to define the properties and dimensions of concepts and their relationships; uncover the various meanings of words and their opposites; support abstract thinking; examine the emotions that are expressed and look for words that indicate time, events and conditions; find terms of underlying metaphors and similes, and spot negative/ unusual cases.

2.6 Method: Content Analysis

Table 3
Types of strategies
(Corbin, 2008)

General strategy	Applied technique
Questioning	Theoretical questions
Making comparisons	Constant comparison
	Theoretical comparison
	Abstract comparison
Word meaning	
Flip-Flop	
Language	Emotional expressions
	Time considerations
	Metaphorical use
Negative case	

2.6 Method: Content Analysis

The data on business dress included in Chapter Three and on participation research in Chapter Five were analysed using a content analysis method following Holsti (1969) within the theoretical perspective of hermeneutics and a grounded theory methodology. As the social constructionist approach sees language taking an important role in shaping our knowledge and our reality, it seems likely to integrate data from written texts (representing a form of language) in this research. Hermeneutics was chosen to particularly inform the interpretative process, or, as Eco and Collini (1992) put it, avoid overinterpretation.

According to Holsti (1969), it makes sense to use content analysis when data accessibility is a problem and is limited to documentary evidence; as a supplementary source of data for data comparison, and when there are technical advantages. Having said that, the rationale for using content analysis in this research is explained above.

Leedy & Ormrod (2013) define content analysis as “a detailed and systematic examination of the contents of a particular body of material for

the purpose of identifying patterns, themes, or biases” (p. 148). Silverman (2011) describes content analysis as “an accepted method of textual investigation, particularly in the field of mass communications” (p. 116).

Holsti (1969) defines content analysis as “the application of scientific methods to documentary evidence” (p. 5). He formulated three requirements any kind of content analysis should follow. In summary these are:

1. Objectivity: the content analysis is carried out with the use of established rules and procedures
2. Systematic: inclusion, and exclusion, of content follows established rules
3. Generality: any findings should have theoretical relevance. Descriptive information is of little value

A point of much controversy is the manifest-latent (cf. Holsti, 1969) message within the text, which – from a different perspective – is also widely discussed in hermeneutics (cf. Eco, 1992). Krippendorff (2004) adds:

It is a major epistemological mistake to assume that texts have inherent meanings or speak for themselves. It is equally problematic for qualitative text analysts to assume that their categorizations are self-evident, implying no need to question whether other readers/analysts would come up with same or similar categories and no need to tell the users of their findings what their coding criteria were. It is these naïve conceptions of text that obviate reliability considerations (p. 5).

Krippendorff and Hayes (2007) suggest a reliability measure for coding data: “Among the kinds of reliability—stability, reproducibility, and accuracy—reproducibility arguably is the strongest and most feasible kind to test” (p. 78). Krippendorff’s alpha, as the method is called, “counts pairs of categories or scale points that observers have assigned to individual units, treating observers as freely permutable and being unaffected by their numbers. This dispels the common belief that reliability is the more difficult the more observers are involved” (p. 82). However good this test might be for reliability, it was discarded because of its lack of a number of different observers.

Instead, Holsti’s requirements for content analysis are followed and the researcher is of the opinion that a objective, systematic, and generalising approach gives enough validity.

2.6.1 BODY OF DATA CHAPTER THREE: BUSINESS DRESS

Elo & Kyngäs (2008) distinguish between inductive and deductive content analysis. Although inductive content analysis involves working with data from the ground up, and therefore works in an equivalent way to grounded theory, a deductive approach was chosen. Comparison with the literature showed that it is feasible to build this study on Barthes' (1967) semiotic work on fashion magazines, while the author wished to retest the existing analysis in a new context. This approach is comparable to what Hsieh (2005) calls "directed content analysis" : "using existing theory or prior research, researchers begin by identifying key concepts or variables as initial coding categories" (p. 1281).

2.6.1 BODY OF DATA CHAPTER THREE: BUSINESS DRESS

The body of data comprised men's and women's fashion magazines that focus on businesswear (in German). Issues from May to October 2015 were obtained. Table 4 lists the magazines that were chosen. Each magazine was quickly scanned for content relating to businesswear before being integrated into this study. Data within the magazines were coded if the words business and/or office (and their German equivalents) appeared in the text in the direct context of fashion.

Table 4
Magazines for
content analysis

Women's magazines	Men's magazines
Vogue	Tweed
In Touch Style	In Style Men
Freundin	Men's Health
In Style Women	GQ
Elle	Gala Men
Madame	
Burda Style	
Glamour	
Cosmopolitan	
Maxi	
Brigitte	
Gala Style	

2.6.2 DATA TREATMENT CHAPTER THREE: BUSINESS DRESS

In the late 1950s and early 1960s Barthes revolutionised the understanding of dress by proposing a new model which builds on the methods of structural linguistics: he explained fashion as a communication system, similar to language, which can be explained and researched as language. Clothing items assemble in a system: together they have specific meaning and are meant to be read as part of a social system (Carter, 2012). It is this idea of a social dress code based on meaning and communication that prompted the author to use Barthes’ linguistic model for this study.

Barthes (1967), in his structural linguistic analysis of women’s fashion magazines, described two core categories: V and W. V is concerned with everything vestimental; W corresponds to the real world. For example, if a description says: *This winter features coats with generous necklines*, *winter* belongs to the real world whereas *coats* and *necklines* are vestimental. Therefore, the term *winter* would be coded with W, and the terms *coat* and *necklines* with V:

This winter features coats with generous necklines		
W	V	V

The second coding level determines V and W in detail. W, representing the real world, can refer to situations, occasions, seasons, weather, and so on. V, representing everything vestimental, can be further categorized into O, C and v. O stands for object, C for carrier, and v for version. O and C describe the carrier, and v the variety or version of clothing. For example:

This winter features coats with generous necklines		
W	V	V
s	O, C	v

Winter is further coded with s=season, *coats* is the main object and therefore coded with O and at the same time is the carrier of necklines and thus also C, and *generous* is one version of necklines (the necklines could also have a bow, or be high necklines, or something else).

2.5.3 BODY OF DATA CHAPTER FIVE: PARTICIPATION

Simply put, in data interpretation the relationship of *W* and *O*, as well as *O* and *v*, is of interest. Taking this example, there is a relationship between *winter* and *coats*, and *coats with generous necklines*. These findings later lead to generalised findings; e.g. coats are only worn in winter and winter coats should have generous necklines in order to be fashionable or follow an accepted (business) dress code.

If *O*, *C* and *v* occur repeatedly, they can be further summarised as *t* = types. Types can be sleeves, necklines, colours, and so on. To describe types further, they can be sorted into *k* = kinds, such as raglan sleeves, or by colour, and so on.

Data was coded according to the categories (Table 5) on a personal computer using the qualitative data analysis software NVivo. This software allowed for easy coding of text and pictures.

Table 5
Coding categories
content analysis

V Vestimental	W real world
Object <i>O</i> has <i>t</i> types and <i>k</i> kinds	Occasions
Carrier <i>C</i> has <i>t</i> types and <i>k</i> kinds	Seasons
version <i>v</i> has <i>t</i> types and <i>k</i> kinds	Styles
	Silhouettes
	Properties

2.6.3 BODY OF DATA CHAPTER FIVE: PARTICIPATION

To permit theory development, samples were methodically drawn (Table 6) within specified rules: For this systematic and explorative content analysis sampling was limited to English peer-reviewed journal articles from the last ten years (2005 to 2015). To retrieve the articles online, the search programme PRIMO was used. PRIMO is the knowledge portal of the Technical University Berlin. Search parameters were limited to the words “citizen participation” in the title of the articles.

In total, four different units of analysis (Table 7) were used for coding: the smallest unit of analysis was a single word unit. Next, thematic units, which held single assertions about a subject (category), were coded. Thematic units occurred within one or several sentences or paragraphs. Context units were the largest coding units.

Once a single word or theme was identified as relevant for coding, the context in which it occurred was coded for evidence and further explanation of the single word or thematic unit. Items, as units of analysis, were the whole articles.

Only those units of analysis which actually appeared in the text were coded; therefore, only manifest units were analysed, and latent or interpretative meaning excluded from coding, respectively discussed in the wider context of theory building.

The units of analysis and units of enumeration were identical. Enumerated were appearance and frequency (Table 8) of content units. Appearance was either yes (1) or no (0). Preliminary for the enumeration of frequency were two assumptions: that frequency is a valid indicator of importance and that each unit should be given equal weight. Enumerations were used for ranking re-occurring patterns (main themes). The ranking of patterns informed the theory-building process.

Time	2005 - 2015
Type of document	Peer-reviewed research-based journal articles
Source	“Citizen participation” in title
Language	English
Search program	PRIMO; only articles available online for download

Table 6
Sampling rules

Single word	Smallest unit
Theme	Thematic units of which structural properties were precisely defined by coding categories
Context	Characterises a coding unit
Item	Research article in whole

Table 7
Units of analysis

Appearance	Does the content unit appear (1) or not (0)?
Frequency	How often does a content unit appear?

Table 8
Enumerations

2.6.4 DATA TREATMENT CHAPTER FIVE: PARTICIPATION

Coding rules defined which criteria were followed, placing a unit of analysis in one category rather than another. Before the coding process (Table 9) began, coding variables were defined (Table 10) according to the conceptual definition and indicators (operational definition).

These a priori variables were chosen to answer the overall research problem at hand and reflect the purpose of the research. In the absence of standard norms of classification, similar concepts were grouped under main themes (Table 11) by trial and error, thus following a more grounded theory approach for pattern identification after the a priori coding in the beginning.

This process consisted of moving back and forth from data and tentatively testing main themes in the light of data. After the main themes were built, these were ranked according to frequency and appearance. The main themes (or core categories) were used for theory development in combination with the ranking.

This study draws conclusions from patterns on the basis of appearance and frequency ranking.

Table 9
Coding procedure

Step	Content Analysis glossary	Grounded Theory glossary
Development and definition of variables	Conceptual definition	-
Identifying units of analysis	Identification	Concept development
Classification into a category	Classification	Category development
Finding patterns within categories	Main themes	Core categories
Ranking frequency	Enumeration	Theory building

Conceptual definition	Operational Definition
Definition	When the word 'definition' occurred in the text, or the unit of analysis answered the question "what is participation?"
Method	When the word 'method' occurred in the text, or the unit of analysis answered the question "what are participatory methods"?
Outcomes	When the unit of analysis answered the question "what is the outcome of a participatory approach?"
Benefits	When the unit of analysis answered the question "what is the benefit of participation?"
Danger	When the unit of analysis answered the question "what is the drawback of participation?"
Role	When the unit of analysis answered the question "what role does participation have?"
Involvement	When the unit of analysis answered the question "how are participants involved? To what extend are participants involved? At what stages are participants involved?"

Table 10
A priori variables

Conceptual definition	Operational Definition
Role Organiser	What are the roles of organisers?
Field of application	Where is participation applied?
Tool	Which tools are used for participation?
Building on	On what is participation built?
Procedure	What constitutes the procedure of participation?

Table 11
Main themes
(constructed during coding)

2.7 Method: Case Studies

Eisenhardt (1989) describes the process for case studies as an eight-step one, starting with an initial definition of the research area. A strong focus helps in specifying the kinds of data and the organisation of data gathering. She stresses the fact that there is no consideration of theory or testing hypothesis at this stage, though.

Next, cases need to be selected from a population. The aim of a purposeful sampling is to limit possible generalisations in a positive sense. The control over sampling helps to keep extraneous variables out of theory building. Typically, the data from samples are collected by multiple methods. As in grounded theory, Eisenhardt, too, proposes an overlap of data gathering and data analysis. However, the degree may vary according to the researchers' skills and the volume of data at hand.

She recommends at least writing field notes of impressions and thoughts during data gathering. These notes help in making useful adjustments to the research design during the process. In any case, adjustments help to take advantage of unexpected opportunities or unexpected data. Later, after data collection and during data analysis, the choices can be made either by a within-case or cross-case comparison, or both. "This process allows the unique patterns of each case to emerge before investigators push to generalize patterns across cases" (p. 540).

Putting data in context, such as results from other research studies in the literature, puts the interpretation and conclusion into context. "This involves asking what is this similar to, what does it contradict, and why. A key to this process is to consider a broad range of literature" (p. 544).

Reaching closure is probably the most complicated part. The researcher should stop adding cases when theoretical saturation is reached: "Theoretical saturation is simply the point at which incremental learning is minimal because the researchers are observing phenomena seen before" (p. 545). Also, pragmatic considerations, such as time and resource limitation, help in reaching closure.

Yin (2014) defines case studies "as an empirical enquiry that investigates a contemporary phenomenon in depth and within a real-world context, especially when the boundaries between phenomenon and context may not be clearly evident" (p. 16). On a more general level, he identifies five components of case study design as important:

1. Study question(s): questions of how or why, as opposed to 'what', 'where' or 'when' questions, are suitable for case studies.

2. Study propositions: propositions point to the right direction of inquiry. Explorative case studies are a legitimate exception to starting without a proposition.
3. Units of analysis: units of analysis (or body of data) make the case of the study. If the units of analysis are of individuals (as is the case in this research), these individuals - or units of analysis - need to be clearly defined and distinguishable from those who are of no interest to the study. Also, time boundaries (the start and finish of the study), as well as spatial boundaries, help define the units of analysis.
4. Linking data to proposition: This is the tentative preparation of data analysis. The researcher should be aware of the analytic techniques which best suit the later data analysis stage.
5. Interpretation criteria: preparing interpretation criteria supports giving meaning to the data after analysis, and building generalisations.

However, Yin notes:

A fatal flaw in doing case studies is to consider statistical generalization to be the way of generalizing the findings from your case study. This is because your case or cases are not sampling units and also will be too small in number to serve as an adequately sized sample to represent any larger population (p. 40).

Following Yin (2014) and Eisenhardt (1989), the author gathered information with a single-case study design on individuals' business dress, and their disposal, laundry and emotional habits in detail. The exploratory aim of the study had the advantage of focusing on five cases with weekly in-depth interviews and visual fashion documentation during September and October 2015.

2.7.1 BODY OF DATA CHAPTER FOUR: SUSTAINABILITY

The subjects of this study are knowledge workers in their workplace environments (e.g. offices). Peter Drucker first coined the term 'knowledge worker' in 1969 (cf. Drucker, 1969). He used the term to distinguish those who increasingly worked with information from workers doing manual activity.

The emergence of this distinction between knowledge workers and manual workers can be seen in the radical changes in economic

structures during the late 1970s and early 1980s. Information and communication technologies made the trading of information possible, in contrast to traditional product-based markets.

The main feature differentiating knowledge work from other conventional work is that the basic task of knowledge work is thinking. Although all types of jobs entail a mix of physical, social, and mental work, it is the perennial processing of non-routine problems that require non-linear and creative thinking that characterizes knowledge work (Reinhardt, Schmidt, Sloep, & Drachsler, 2011, p. 150).

To determine the business sectors for participant selection, this study drew on statistics relating to the average proportion of workers employed by industry sectors in Germany in 2013. To obtain interviewees, knowledge workers were chosen from these two major sectors:

- The production sector
- The public service sector

Reinhardt et al. (2011) present a typology of knowledge workers' actions (Table 12) and a characterisation of their roles (Table 13). Both – role and actions – were used as selection criteria for participants: roles and actions often change during work activities and one individual can take on different roles and actions, either simultaneously or in a linear way, over a period of time. The author chose typology and characterisation as additional guiding systems for the interviewee selection.

Table 12
Typology of
knowledge work
actions by Rein-
hardt et al (2011)

Activity	Typical actions
Acquisition	Gathering information in aiming to develop personal skills or a project
Analysis	Examining a matter carefully and fully understanding it
Authoring	Technology-based creation of textual or media content
Co-authoring	Collaborative creation of assets
Dissemination	Spreading information and work results over various channels

Feedback	Evaluation of ideas according to community or individual rules
Information organization	Organising ideas to support knowledge work
Information searching	Looking for information on a particular topic in a determined form
Learning	Informal learning through work execution and with others, as well as during courses
Monitoring	Keeping up to date on a relevant topic
Networking	Interaction with other people or organisations to exchange information and develop contacts
Service searching	Retrieval of specialised services to secure work

Role	Description
Controller	Analyses, disseminates and monitors raw information for the organisation
Helper	Transfers information for feedback and teaching purposes
Learner	Uses information for self-improvement
Networker	Creates connections to share and support
Organiser	Plans work-related activities
Retriever	Searches for and retrieves information
Sharer	Disseminates information in a community
Solver	Solves problems
Tracker	Reacts to actions that might become organisational problems

Table 13
Role of knowledge worker by Reinhardt et al (2011)

The participants (Table 14) were pre-selected before the interviews following the typologies of knowledge worker (Table 12 and 13): they consist of one male and one female from companies in the production sector and two males and one female from the public sector (the German Ministry). Each conformed to the typology and action of knowledge workers.

The participants specified their hierarchy and income subjectively. The hierarchy related to their position in the social milieu: participants were requested to choose either a high, middle or low position within the hierarchy. Equally, income was estimated as high, middle or low.

Before starting each interview the exact time, date, space, and weather conditions were noted.

Table 14
Overview sampling

Participant	Gender	Age	Hierarchy	Income	Sector	Interviews/ Outfits
n1	male	40-50	high	high	Production	6
n2	male	40-50	high	middle	Public	4
n3	male	30-40	high	middle	Public	4
n4	female	40-50	high	high	Production	3
n5	female	30-40	middle	high	Public	4

The interviews were semi-structured and included some pre-defined questions, of which six were related to disposal, laundry and emotional attachment and three were related to environmental factors (e.g. travel); the others concerned purchasing and wearing behaviour, with an additional open question at the end. Interviews were conducted with the participants personally at their offices. Answers were written down in note form. Photographs of clothing were taken after each interview.

2.7.2 DATA TREATMENT CHAPTER FOUR: SUSTAINABILITY

For the analysis of data the computer-assisted tool NVivo was used. This computer-assisted qualitative data analysis software (CAQDAS) helped to code and categorise the large volume of interview data.

As a general data analysis approach, the researcher chose to follow the initial propositions: since the study was designed to explore individual

behaviour in relation to the design of individuals' business dress, and issues of disposal, laundry, and emotional attachment, these informed the analytic priorities.

As a data analysis technique, the researcher chose a variation of what Yin (2014) characterizes as "pattern matching" (p. 143): the initial idea behind this technique is to compare findings from the cases with predictions made before data collection. However, the researcher only used the data to explore patterns that evolved from the interview questions, without making prior predictions of outcome. This was done in the sense of a grounded theory, so as to work the data from ground up and explore possible patterns. A following cross-case synthesis compared each case with the other four cases in order to explore solid patterns in the data.

As coding categories, the researcher used the following (Table 15):

Coding category	Operational Definition
Ownership	How long does the individual the outfit parts?
Repeated purchase	Would the individual buy the outfit again?
Spending	How much in total did the whole outfit cost?
Attachment	Does the individual still like that outfit?
Laundry	How often does the individual clean the parts of the outfit?
Disposal reasons	When/why would the individual dispose of the outfit?

Table 15
Coding categories case study

After the first category coding, patterns were worked out within each category. At this stage, all five cases were merged in one category in the sense of cross-case synthesis. Time information (in numbers) within a category was added, and the sum divided by five. The average was then visualised in a graph and further explanation of the pattern given in the text.

In summary, this chapter presents my way of making methodological choices and following them through the study. The benefits and challenges of these are briefly discussed in each concluding section of each chapter, and in detail in chapter seven in the section strenght and limitations.

3

3.1 Introduction

Clothes are an essential part of our everyday routine and, as Buckley & Clark (2012) observe:

The clothes worn by most people going about their daily lives have been typically a synthesis of the new, old, bold, and mundane (...) By this, we mean that fashion as a practice of everyday life involves the acquisition of single garments that add to a wardrobe and help to reconfigure it, but at the same time, it can mean the purchase of a complete outfit that encapsulates a look (p. 22, ff).

Though integrated into our routine, our wardrobe is far from being a random or coincidental practice. Davis (1992), for example, as well as Eco & Trabant (2002), Barthes (1967), and Hoffmann (1985) attribute to fashion a language based on visual codes. However, Davis (1992) suggests that

the clothing-fashion code is highly context-dependent. That is, what some combination of clothes or a certain style emphasis "means" will vary tremendously depending upon the identity of the wearer, the occasion, the place, the company, and even something vague and transient as the wearer's and the viewer's moods (p. 8).

Simmel (1957) sees two streams that guide our choices: imitation and differentiation. While imitation satisfies our need to blend in, to follow uniformity, and satisfies "the demand for social adaption" (p. 543), differentiation satisfies our demand for dissimilarity because "fashion differs for different classes - the fashions of the upper stratum of society are never identical with those of the lower; in fact, they are abandoned by the former as soon as the latter prepares to appropriate them" (p. 543). Though Simmel's idea of class differentiation as a top-down theory is outdated (Kaiser et al, 1995) there is still some truth in his fundamental notion of imitation and differentiation, especially regarding imitation in the context of appropriate business wear (Portolese Dias, 2003).

Since our daily routine consists mostly of working, the choice of business wear is especially relevant. We as individuals are faced with a variety of dress options for work. Research has focused on business image and success through dress for women: the effect of gender and clothing colours and layering on the perception of competence (Littrell & Berger, 1986;

Scherbaum & Shepherd, 1987; Forsythe, 1988); the range and influence of dress standards in the workplace (Sommer, Kaiser & Sommer 1987); the influence of dress on the success of job applicants (Johnson & Roach-Higgins 1987; Goudge & Littrell 1989; Forsythe 1990); employee appearance and organisational identification (Yurchisin & Damhorst 2009); dress in student-professor interaction (Sebastian & Bristow 2008); dress as a symbol that facilitates women's performance of organisational roles (Rafaeli, Dutton, Harquail & Mackie-Lewis 1997), and the relationship between clothing preference, self-concept and career anchorage (Ericksen & Sirgy 1992).

Though this list of existing research may not be fully comprehensive, it still demonstrates the absence of contemporary research into business dress styles for both men and women. In addition to being out of date, most of the earlier research has limitations in both method and sampling.

This study aims to fill this gap by presenting results from a content analysis. The content analysis focused on a sample size of a total of 102 fashion and lifestyle magazines for both men and women, published between May and October 2015 in Germany. This approach helped to identify both appropriate and inappropriate dress codes for the workplace (for both men and women).

3.2 Results

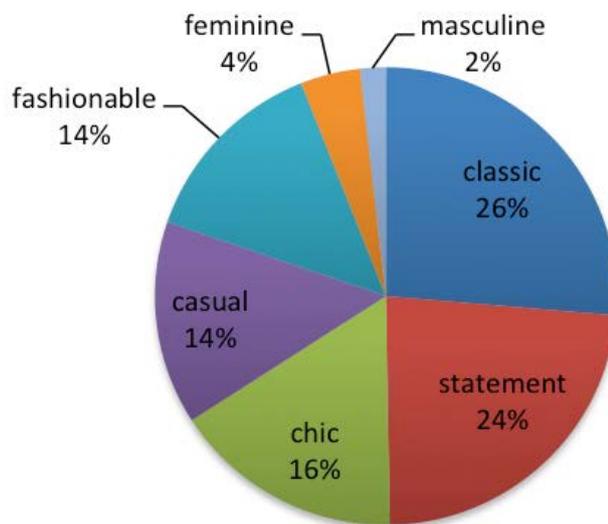


Figure 3
Business attire styles

The author identified seven different business dress styles (fig 3) with the content analysis method (cf. CH 2.5.2) featured in the magazines.

3.2 Results

The ‘classic’ style is dominant, with 26.34% coverage, followed closely by the ‘statement’ style, with 23.38%. Table 16 shows that most versions of the statement style feature very specific style directions, and probably change seasonally. The ‘chic’ style (16.16%) contrasts with the ‘casual’ style (14.37%). While the chic style is often described in words that have a connotation with quality, the casual style is more relaxed in appearance. The ‘fashionable’ style, with 13.77%, is in fifth place. The ‘feminine’ and ‘masculine’ styles were mentioned less often than others, and do not refer to gender but to the ‘look’ of clothes. An untidy appearance, visible sweat on clothes, boring combinations or a bourgeois or uniform look are completely unacceptable.

In terms of the silhouette of business dress, the only one featured in magazines is the ‘slim fit’, in which clothes fit closely and tightly to the body. Interestingly, the images sometimes showed a different silhouette – for example, wide trousers or oversized tops. Conflicting with the slim-fit silhouette are the properties which are expected of business dress: the one mentioned most often is ‘comfort’ (or ‘comfortable to wear’), followed by ‘sweat-free’, ‘breathable’ and ‘crease-resistant’.

Table 16
Styles and their
descriptive words

Style	Frequently used words
Classic	Simple, decent, fitting, classy, serious, well-chosen, fine, select, conservative, reserved, basic, formal, traditional, purist
Statement	Striking, statement piece, city-style, twists, signal, retro, hybrid-look, miss dandy, tough girl, action player, business punk, anti-establishment, oversized trend, seventies-comeback
Chic	Elegant, noble, luxurious, dressy, aesthetic, exquisite
Casual	Cool, easy-going, sporty, relaxed, careless, messy
Fashionable	Fresh, modern, trendy, hip, exciting, up-to-date
Feminine	Ladylike, girlish, feminine
Masculine	Boyish, masculine
Unacceptable	Untidy, sweaty, boring, prim, bourgeois, uniform

Further, I discovered patterns regarding the clothes that define a particular style in terms of colours, materials and details. Tables 17 to 22 summarise the characteristics of these styles in greater detail.

	Women	Men
Clothes	Blouses, blazers, formal trousers, pencil skirts, sheath dresses, trouser suits, turtlenecks	Suits, fitted jackets, formal trousers, men's shirts
Colours	Camel, grey, black, white, muted shades, tone-on-tone	Grey, royal blue, navy blue, black, white, light blue, monochrome
Materials	Silk, cotton	Virgin wool, cotton with mohair, viscose, satin cotton, fil-à-fil, thick woven cotton
Details	Shiny buttons, knee-covering skirts, pleats, slim fit	Gold buttons on blue jacket, spread collar, cutaway collar, pearl buttons on shirts
Unacceptable		Fabric folds under arms, shiny areas on suits, silk and pique

Table 17
Classic style

I noticed that the white blouse and blazer combination was most often mentioned as a classic business style. Also, casual outfits were 'upgraded' with basics to be acceptable as office wear: for example, a white blouse in combination with jeans made the casual jeans office-compatible. Or a formal trouser suit in purple becomes a fashionable style due to its trendy colour. Conversely, classic colours mixed with more casual styles created a more formal look.

3.2 Results

Table 18
Statement style

	Women	Men
Clothes	Culottes, wide trousers, vest and blazer looks, double-breasted trouser suits, shirts, Bermuda shorts, flared trousers, overalls, singlet t-shirts, midi dresses, short-sleeved shirts	
Colours	Multi-colour, colour-blocking, stripes, prints, signal colours, checked patterns, green, mustard yellow	Signal blue, colour mix
Materials	Leather, suede, knitwear, tweed, denim, shiny materials, coarse wool	
Details	Eye-catching accessories, roughly-made accessories, collarless shirts, stand-up collar blouses, braces, oversized items	

The statement style comprises different individual styles that have not yet become fashionable: rather, these trends may become fashionable in the future. The statement style is never a complete outfit. Magazines mostly suggest highlighting a classic outfit with statement pieces. The lack of statement styles for men is noticeable, and the chic and casual styles have no versions for men. It seems that the only acceptable business dress codes for men are either classic or fashionable.

	Women	Men
Clothes	Blouses, women's shirts, skirt, trouser suits, pencil skirts, coats, blazers, cardigans	
Colours	Sandy, light blue, grey, tone-on-tone	
Materials	Silk, silk brocade, tweed, cashmere, fine wool	
Details	slim fit, arty accessories, shoulder pads, cardigans and skirts of matching length	

Table 19
Chic style

The chic style uses quality materials and classic cuts, which are slightly more elegant than the classic style. Fit and cut is slightly more fashionable than the classic style, but less eye-catching than the fashionable or statement style. Magazines suggest that the chic style can also be worn on special occasions, such as visiting art exhibitions or evening dinners.

3.2 Results

Table 20
Casual style

	Women	Men
Clothes	Waistcoats, skirts, knitted waistcoats, oversize waistcoats, oversize sweaters, jeans, t-shirts	
Colours	Pattern mix	
Materials	Suede, jeans, knitwear	
Details	Messy blouse collars, carded sleeves, raglan cut, elasticated, unbuttoned shirts	Straight fit men's shirts, cropped trousers

Casual style has an overall informal look and is on the cusp of approval. Though it is sometimes an accepted business dress code, magazines suggest the casual look for either a younger audience or for more informal businesses, such as start-ups. Classic pieces can be worn as casual style; however, they too can give the wearer a sloppy look, such as a messy collar of a blouse.

	Women	Men
Clothes	Trousers, mini skirts, tweed jackets, culottes, sweaters, women's shirts, short jackets, blousons, turtle-neck bodies, shirts with stripes, shirts with bows, long cardigans, turtlenecks, waterfall blazers	British checks, dark blue, large-scale tartan, blue-and-white striped shirts, brown, camel
Colours	Glen checks, cable stitch, pastels, pistachio green, lilac, navy blue, dark red, dark blue, russet, yellow embroidery, dark blue pinstripes, signal blue, berry	
Materials	Knitted, thin wool, cotton, tweed, cotton gabardine, suede, calfskin, denim, cashmere	
Details	Wide legs, Kent collars, high-waisted trousers, falling revers, decorative stitching, zips, three-quarter-length trousers, above-ankle trousers	Wide revers, vests, slim fit

Table 21
Fashionable style

Surprisingly, the fashionable style is not as dominant as the author had thought (fig 3). The fashionable style combines 'it' pieces with classic, elegant or statement clothes. In contrast to the statement style, the complete look can be fashionable, though a combination with classic styles is preferred: a fashionable culotte is combined with a classic blouse or comes in classic grey or a chic material, for instance. Wearers who prefer a fashionable style as business dress probably have to put some effort in staying up to date, as fashionable pieces vary and can quickly be replaced by others. In comparison to the statement style, the fashionable style offers suggestions that are established, whereas the statement style requires a confident and accurate taste (so as not to look inappropriately dressed).

3.3 Discussion

Table 22
Feminine and
masculine style

	Feminine	Masculine
Clothes	Shirts with bow collars, skirts	Double-breasted jackets, oversized suits, single-breasted jackets with three buttons
Colours	Rose pink, pastels	Pinstripes
Materials		
Details		Wide revers, wide shoulders, high revers

The feminine and masculine styles are both suitable for men and women, though magazines suggest both the masculine and feminine styles for women and only the masculine style for men. Both styles are extreme in look and suitable for less formal businesses. They are less often combined with classic pieces, but both styles are worn throughout.

3.3 Discussion

In the present study the author found seven different business dress styles: classic, statement, chic, casual, fashionable, feminine, and masculine. The author also observed which dress characteristics were inappropriate for businesswear: untidiness, being sweaty or having sweat marks, looking too boring, prim, bourgeois or uniform, or shiny areas on suit materials. I defined the preferred silhouette, which is slim fit, and also the desirable properties of business wear: comfortable to wear, sweat-free, breathable and crease-resistant. Next, I described the clothes, colours, materials and details of each dress style in greater detail both for men and women.

Rafaeli et al. (1997) found that women read articles on businesswear in fashion and management magazines and transferred dress suggestions to their own work environment. They did so to use “dress as a symbol to engage and execute their role schemata in organisations” (p. 10). Marcketti & Farrell-Beck (2008) concluded from their content analysis that “much prescriptive advice on how to dress for success, and the nature of success, has changed from 1900 to the present” (p. 23). And Damhorst’s (1985) results “demonstrate that clothing formality, at least in the business office settings presented, provided information about a number of characteristics of the

wearers” (p. 47).

Since I found significant evidence of content on men and women’s business dress in fashion and lifestyle magazines I concluded that there is a demand for this kind of information: women (and men) still seek inspiration in magazines for their business outfits, and I followed this with a much-needed update of research results.

Kimle & Damhorst (1997) found that “those who are reviewed as expressing organizational values in dress and other behaviors are likely to receive greater validation for their appearances from persons in power in organization” (p. 49). Through comparisons with peers people learn successful dress codes, and by imitating them they hope to progress in their careers. Kimle & Damhorst also demonstrate that “conservatism in dress is exhibited by classic and traditional style, fashion is trendy. (...) conservative was most often defined by the participants as a very tailored, suited look, similar to the male business image. (...) conservatism was demonstrated through muted colors and basic, classic styles” (p. 53ff).

While conformity is expected within some organisations, it is evidently also important not to look too old-fashioned or uniform. Individuals have to find a compromise between fitting in with the organizational culture and demonstrating some creativity with a fashionable touch. Conformity (through a classic look) demonstrates the individual’s ability “to maintain order and achieve the success of the company” (p. 55). In addition they state that “exaggerated individualism might imply that a person is not able to work within the group to accomplish tasks and might also be perceived as contempt for business standards. Eccentricity in dress may raise questions about one’s role credibility. Employees dressed in a manner perceived as eccentric would have set for themselves a barrier which they may or may not be able to overcome by virtue of performance or credentials” (p.57).

In this study the author can confirm that attributes of the classic style have changed very little, and that it is still the most dominant in business. However, in my study it is closely followed by the statement style, which allows the demonstration of individual creativity and personality in business-wear, with arty details. I add to the proposed conformity of Kimle & Damhorst the possibility of adding creativity and individuality with highlights from the statement style, and agree that a complete look using the statement style might look too eccentric.

Sommer et al. (1987) observe that most companies have dress codes with different standards for managers and employees lower in the hierarchy. They found that “for men, suitable office attire consisted of a suit, jacket and slacks, or suit worn without the coat, but with a vest. (...) For female models, acceptable dress for the manager or supervisor was a suit, dress, pantsuit

or slacks with a long-sleeved blouse. For the secretary/clerical worker, these were desirable with more casual clothes being deemed appropriate by many respondents” (p. 198 ff). Rafaeli et al. (1997) reported similar results, saying that top-level managers wear more of the professional components while lower-level employees wear fewer of these. Additionally, people functioning in an area with direct public contact wear the most conservative outfits, whereas people functioning in an area with little or no public contact wear the least conservative outfits (cf. p. 18). Johnson & Roach-Higgins (1987) come to a similar conclusion: “subjects rated the applicants in appropriate dress highest on competence and the applicants appearing in inappropriate dress lowest “ (p.4).

From the lack of suggestions for men in most of the styles I conclude that generally men are required to dress more formally than women, and that in general less variety is acceptable in business dress for men. Supporting this is the fact that “color and layers (wearing a jacket) do affect the perception of a business person’s competency” (Scherbaum & Shepherd, 1987, p. 396), and this has a stronger influence on men than on women, according to Scherbaum and Shepherd. Additionally, the different styles I found may address different hierarchical levels, e.g. the classic and chic style for top-level managers and the casual style possibility for lower-level employees. Of course, at this point it is only an assumption, which needs further validation. Previous research argued for the importance of an appropriate dress code and suggested the reason for its critical role in work environments. Not only does it influence our perception within organisations, it also influences our self-communication.

In short, I can say that my findings complemented and updated earlier studies by giving concrete details of different businesswear styles.

I found recurring patterns and summarised them under seven different headings, with descriptions of clothes, colours, materials and details. Fashion magazines function as a substitute for peer comparison, are independent from organisational boundaries and are more broadly applicable.

At the same time this limited my results, since magazines have an interest in increasing sales with attractive and non-repetitive content. These limitations may have affected the results to the extent that often styles might have been presented as acceptable businesswear merely because they were new rather than approved. Also, I do not know who reads these magazines, whether readers follow suggestions for businesswear at all and how frequently they seek inspiration for their wardrobe from magazines.

However, I tried to overcome this bias by accepting a style only if it recurred substantially and in quantity. In addition, I limited the choice to

German editions of magazines, which of course, implies that there will be cultural differences in styles in other countries. I hope that further research will explore and reveal the acceptance or rejection of certain styles of dress at hierarchical levels and in different organisations.

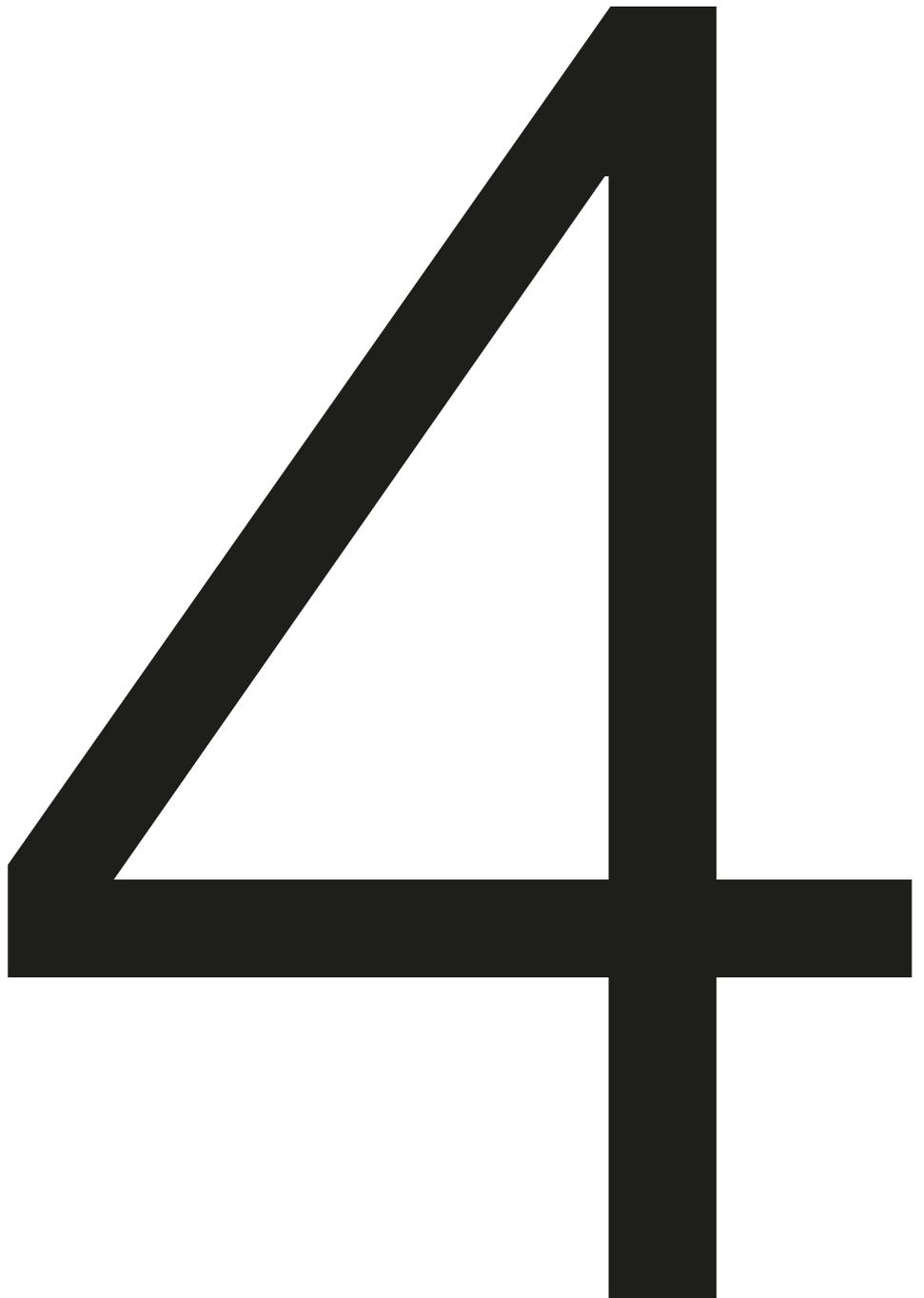
3.4 Conclusion

The author can conclude that in recent decades there has been a change in the nature of appropriate businesswear. Since clothes undergo frequent changes in fashion, earlier research results have had to be revised.

The author presented novel business dress styles based on an analysis of fashion and lifestyle magazines. Taken together the findings demonstrate the current variety of dress styles for work.

This study is important for designers as well as researchers in the wider context of social research and design theory. Businesswear influences the perception of our work performance and credibility significantly, for both men and women equally. In addition, most companies have a dress code, and it is essential that this is followed. However, due to the fast-changing nature of fashion, the inherent ambiguity of clothing might make it difficult to choose the most appropriate clothes for work.

The simplification of choice in businesswear, exemplified in the data presented here, is therefore long overdue. With this study I wanted to make a statement, arguing for more research on businesswear in future and to give guidance on what to wear for work.



4.1 Introduction

Within the last sixty-five years the consumption of textile fibres has increased by about 800 per cent (fig 4) and the production of textiles has experienced comparable growth (fig 5). The environmental impacts of clothing are huge: the most significant toxic emissions occur during the early stages in the textile chain (fig 6) and during the manufacturing process, textile dyeing, and finishing (Allwood, 2006; Madsen (2007). Chemical emission during the laundry process or after disposal should also be considered. Additionally, there is a high consumption of water and energy during the production process (fig 6):

Two billion pairs of jeans are produced every year, and a typical pair takes 7,000 litres of water to produce. For a t-shirt, it takes 2,700 litres of water to make just one – that's the amount of water an average person drinks over the course of 900 days. There's the dyeing process of which 1.7 million tonnes of various chemicals are used (...). An estimated 400 billion square meters of textiles are produced annually, of which 60 billion square meters are left on the cutting room floor. Each year over 80 billion pieces of clothing are produced worldwide, and after its short lifespan, three out of four garments will end up in landfills or be incinerated. Only a quarter will be recycled (Greenpeace)

Figure 4
Consumption
of textile fibres
in million tons
worldwide⁸

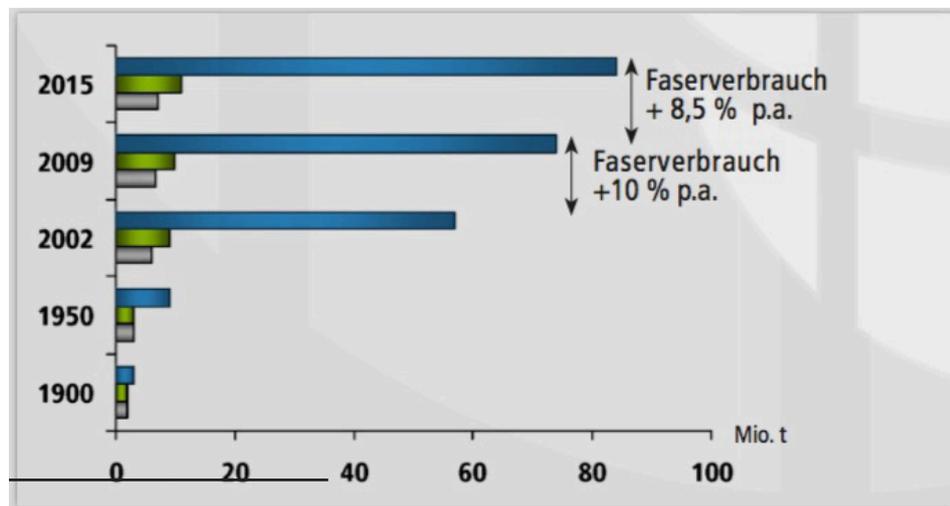


Figure 4-7 source: https://www.oeko-tex.com/de/press/newsroom/pressrelease_26432.html, p. 5 ff

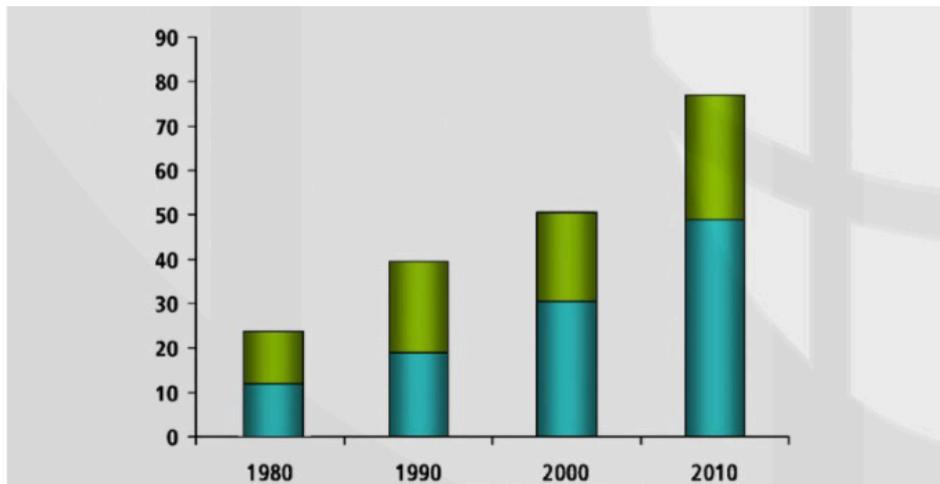


Figure 5
Development of textiles worldwide from 1980 - 2010 in million tons per year

	Baumwolle aus konventionellem Anbau	Viskose (Cellulosische Chemiefaser)	Polyester (Synthetische Chemiefaser)
Nachwachsender Rohstoff	ja	ja	nein
Energieverbrauch	gering	hoch	hoch
Wasserverbrauch	hoch	gering	gering
Landbedarf /Anbaufläche	hoch	gering	sehr gering
Einsatz von Pestiziden	hoch	nein	nein
Entsorgung/Recycling	recyclebar / biologisch abbaubar	biologisch abbaubar	recyclebar

Figure 6
Comparison of sustainability of cotton, viscose and polyester

Fertigungsstufe	Arbeitsschritte	Wichtige Aspekte der ökologische Nachhaltigkeit	Zahlen und Fakten
Faserherstellung	<ul style="list-style-type: none"> Landwirtschaftlicher Anbau Industrielle Fertigung 	<ul style="list-style-type: none"> Wasserverbrauch Landverbrauch Einsatz von Chemikalien (Pestizide, Herbizide) Erdölverbrauch 	<ul style="list-style-type: none"> 3.600-26.900 m² Wasser / Tonne BW ca. 20,6 Mio Hektar Ackerfläche. [1] Etwa 25% der weltweit verwendeten Insektizide und 11% der Pestizide werden für den Baumwollanbau benötigt. In Afrika gehen 80% aller eingesetzten Pestizide in die Baumwollproduktion [2] Jährlich 0,8% des gefördert Erdöls für die Faserherstellung
Textilerzeugung	<ul style="list-style-type: none"> Spinnen Weben Stricken 	<ul style="list-style-type: none"> Energieverbrauch 	<ul style="list-style-type: none"> Keine Daten
Textilveredlung	<ul style="list-style-type: none"> Mechanisch (kalandern, krumpfen, schmirgeln) Chemisch (bleichen, färben, ausrüsten, drucken) 	<ul style="list-style-type: none"> Wasserverbrauch Energieverbrauch Einsatz von Chemikalien (Farbstoffe, Hilfsmittel)* 	<ul style="list-style-type: none"> [3] 60 – 350 Liter/kg Textil [4] 5-6 kg CO₂ pro T-Shirt [5] Für die Produktion eines T-Shirts können bis zu 6 kg Chemie zum Einsatz kommen
Konfektion	<ul style="list-style-type: none"> Zuschneiden Nähen Verpacken 	<ul style="list-style-type: none"> Energieverbrauch Verpackungsmaterial 	<ul style="list-style-type: none"> Keine Daten
Distribution	<ul style="list-style-type: none"> Transport Einzel- und Großhandel 	<ul style="list-style-type: none"> Energieverbrauch 	<ul style="list-style-type: none"> [6] 33.000 km ca. 6-7 kg CO₂
Gebrauch	<ul style="list-style-type: none"> Pflege Wäsche Reinigung 	<ul style="list-style-type: none"> Wasserverbrauch Energieverbrauch 	<ul style="list-style-type: none"> [7] 350 – 400 L Wasser [8] Ein Vergleich mit der privaten Haushaltswäsche zeigt, dass gewerbliches Waschen 52% weniger Energie, 73% weniger Wasser und 85% weniger Waschmittel verbraucht und darüber hinaus 33% weniger CO₂ und 36% NO_x emittiert werden. [9] 1,7 kg CO₂
Verwertung	<ul style="list-style-type: none"> Recycling Entsorgung 	<ul style="list-style-type: none"> Energieverbrauch 	<ul style="list-style-type: none"> [10] Jährlich fallen allein in Deutschland 1.510.000 Alt-Textilien an: Knapp die Hälfte davon geht in die Altkleidersammlung, der Rest in Hausmüll und in der Folge auf eine der 300 Deponien bzw. 49 Verbrennungsanlagen

Figure 7
Resource consumption in the textile production chain

Within the existing research on sustainable fashion, authors often point to the inherent problems in fashion design: the quality of garments is declining and their lifespan shortening, and consumers are increasingly attracted to fast fashion (Niinimäki and Hassi, 2011; Fletcher 2012; Laitala, 2014). Researchers have thus examined factors relating to sustainability, such as the disposal of clothing (Bianchi and Birtwistle, 2010; Joung and Park-Poaps, 2013; Laitala 2014; Lang, Armstrong and Brannon, 2013), laundry habits (Jack, 2013; Kruschwitz et al., 2014; Laitala, Klepp, & Boks, 2012) and emotional attachment to fashion (Armstrong, et al., 2015; Choo et al., 2014; Fletcher, 2012; Laitala, Boks and Klepp, 2015; Niinimäki, 2010, 2015).

Conclusions from these studies commonly ignore the fact that our wardrobe usually consists of a range of types of clothing, including leisure wear, fashion items and business dress. Business dress – the object of this study – is designed to have a long lifespan, traditionally uses durable materials and does not reflect constant changes in style. The dress code of business clothing reflects slower-changing micro-cultures, as well as social interaction within organisations, and responds less to modern fashion trends. Business dress represents a slow-fashion approach, as opposed to a fast-fashion one. The author's hypothesis is thus that business dress challenges the conclusions of earlier studies of sustainable fashion.

This chapter presents a case study that examines patterns of disposal, laundry habits and emotional attachment to business dress in order to confirm or challenge existing findings. The study aims to document actual patterns of business dress in comparison with evidence from studies on sustainable fashion. The data collected gives an insight into the behaviour associated with the wearing, disposal and laundering of clothing within the focus group of knowledge workers.

These conclusions could inform the future design of business dress that meets the wearer's demands, eventually initiating a more sustainable use-behaviour. The case studies presented here are focused culturally, locally and seasonally, and consist of in-depth interviews about the attitudes and behaviour of participants from two business sectors in Berlin, Germany, held during September and October 2015.

In the concluding section, theories and recommendations involving broader applications and future challenges for the (sustainable) fashion design community are built from these results.

4.2 Results

Figure 8 summarises the average period of ownership of outfits (Table 23) in years. Most outfits were bought some years ago, especially suits and jackets (Table 24). Shirts were bought more frequently. Overall the period of ownership indicates that participants consumed more slow fashion than fast fashion at least in the context of business dress.

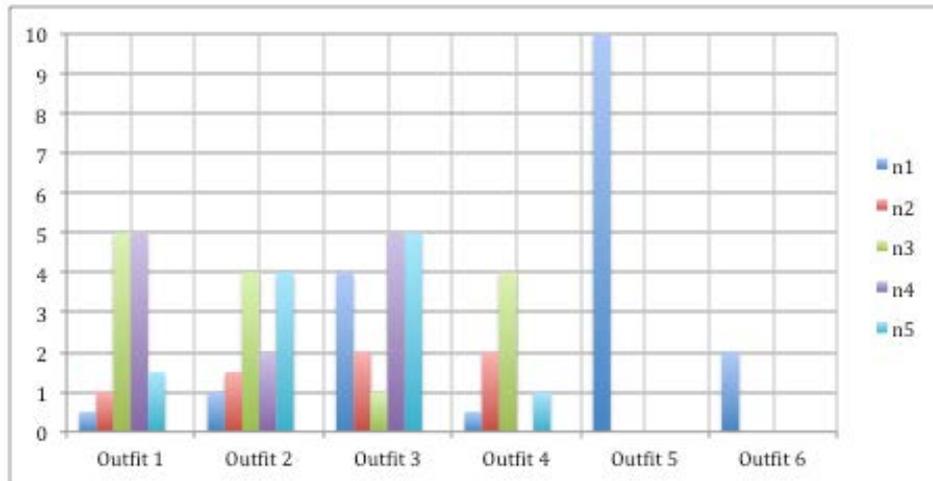


Figure 8
When did you buy your outfit?
Average ownership time in years

Participant	Outfit
n1	suits with white shirts only suits only dark colours, with and without stripes
n2	one suit three combinations: trousers, shirt, two with pullover
n3	two suits two combinations: trousers, shirt, jacket, one with and one without pullover
n4	one dress one suit one combination: trousers, blouse, jacket
n5	combinations only: with and without jacket; skirts and trousers; tops and blouses

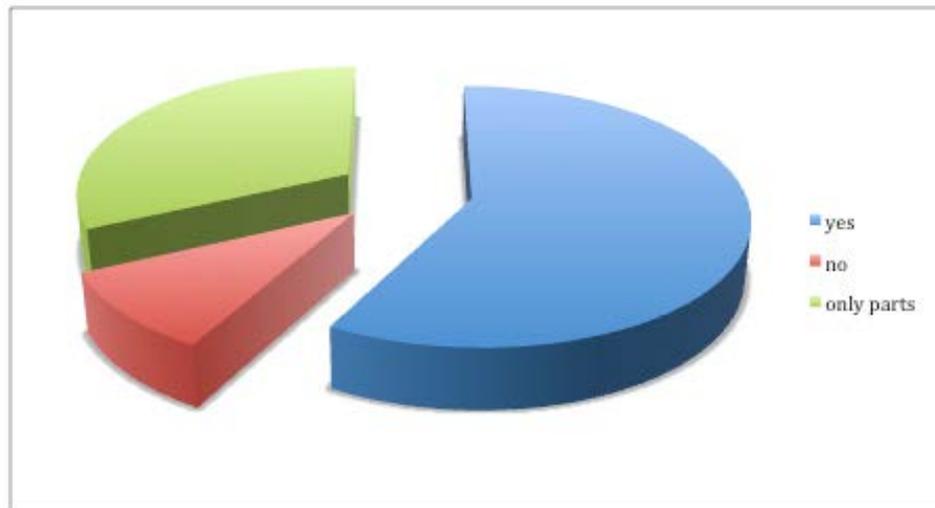
Table 23
Outfits of participants

4.2 Results

Table 24
Outfit elements
and average
period of ownership

Outfit element	Period of ownership
jackets	average: 4 years range: 1 year - 10 years
suits	average: 3 years range: 1 year - 10 years ago
pullovers	average: 1.5 years range: 6 months - 3 years
trousers	average: 1 year range: last week - 2 years
shirts (men's and women's)	average: 10 months range: 4 months - 2 years

Figure 9
Would you buy
your outfit again?



Participants often said that once they found outfits that met their needs (e.g. the right fit, good quality and appropriateness for business) they kept these pieces for as long as possible. Participants also demonstrated brand loyalty: if they had outfits by a brand that met their demands, participants tended to re-purchase the same pieces by the same brand. Usually this occurred without further fitting in the shop, as they expected the model to stay the same in online shops over the years. Some participants reported a develop-

ment from more experimental fashion approaches to the establishment of a business uniform over the years. Once a dress code was proven suitable, participants decided to favour these items to wear to work. One participant, for example, explained that he only wears suits with white shirts in the office nowadays; when he started his career, however, he had often worn different combinations. This standard outfit simplifies his preparation in the morning before going to work. Another participant explained that the suit is a uniform for her, and it is easier to blend in with other colleagues. Sometimes outfits were bought second hand, or in outlet stores. In the case of second-hand outfits, some clothes were worn for even longer than stated here.

In 58 per cent of cases participants said they would re-purchase their outfit (fig 9). Only twice did participants say they would not re-purchase their outfit. In 32 per cent of cases participants said they would buy only some elements of their outfit again.

Reasons for not re-purchasing were size (although the same model would be chosen again in a different size), quality of material, and style. When referring to style, participants complained about an out-of-date cut (too wide, too long) or the look of the material. When referring to the material, participants focused on its low quality, the pattern, the thickness, and the inappropriate shininess that appeared over time.

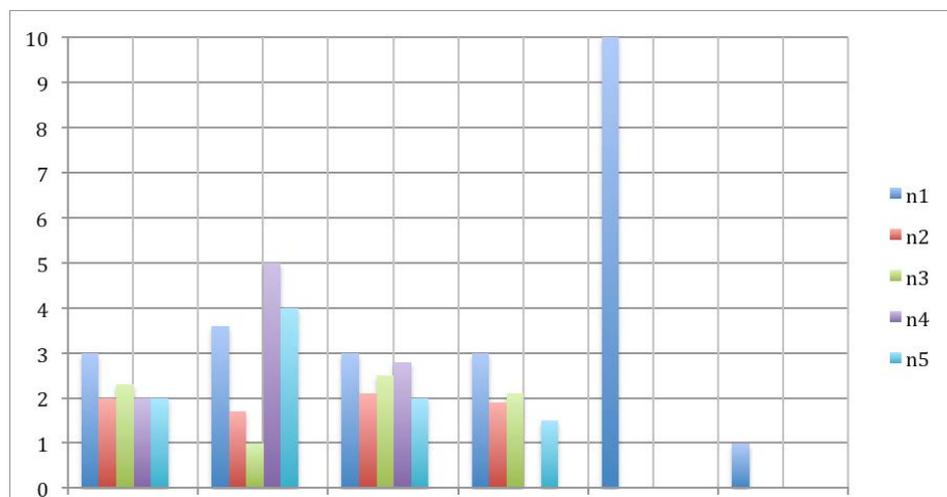


Figure 10
How much did you spend on your outfit? In 100 euros

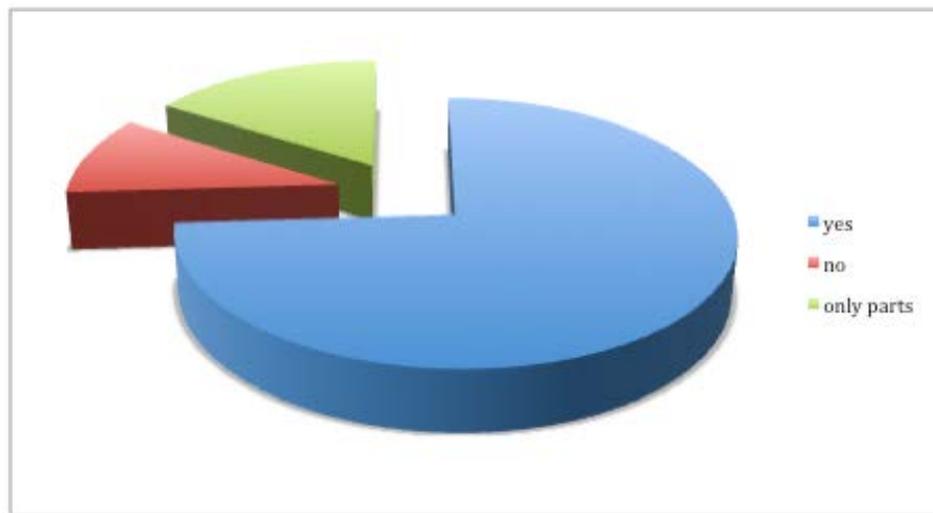
The average spending on outfits (fig 10) was around 200 euros. Outfits were mostly bought online and when needed. None of the participants bought clothes for fashionable reasons, only to replace discarded items and when the need for new items arose. There is a tendency to spend more on slow-fashion items than on fast-fashion ones, as the demand and expectation for quality and durability is high.

4.2 Results

In 74 per cent of cases participants still liked their outfits (fig 11). Two participants said they did not like their outfits. In 16 per cent of cases outfits were only partly liked. Participants often said that they possessed a number of the same item. Shirts and trousers, in particular, are bought repeatedly. Participants wore items they disliked as one-off replacements for their preferred pieces.

When asked how often they wear their outfits, answers confirmed that they wear favoured items more often than those they disliked. The items that were disliked were only worn in emergency situations: e.g., if other items were being laundered.

Figure 11
Do you still like your outfit?



Participants wear shirts and blouses only once before washing them (fig 12). Pullovers are worn from one to five times before washing (fig 13). Trousers are worn for five days (fig 14) and suits for either five days or ten days (fig 15) before cleaning. Only two participants said that they wear the same outfit two days in a row, though they prefer to change their outfit daily.

left:
Figure 12
Shirts, Blouses,
Tops, Dresses

Montag	Dienstag	Mittwoch	Donnerstag	Freitag	Samstag	Sonntag
				✗	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

right:
Figure 13
Pullovers

Montag	Dienstag	Mittwoch	Donnerstag	Freitag	Samstag	Sonntag
				✗	✗	✗
✗	✗	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Montag	Dienstag	Mittwoch	Donnerstag	Freitag	Samstag	Sonntag
				✗	✗	✗
✗	✗	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Montag	Dienstag	Mittwoch	Donnerstag	Freitag	Samstag	Sonntag
				✗	✗	✗
✗	✗	✗	✗	✗	✗	✗
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

left:
Figure 14
Trousers

right:
Figure 15
Suits

When asked how often outfits are cleaned, participants' answers ranged from every few weeks to every year. For example, suits are worn five times before cleaning, but over a period of three months. Rarely, some items, for instance a jacket, are worn only once or twice a year and the items that are disliked are worn only in emergency situations. In context of wearing frequency, outfits are cleaned less frequently than the figures above would suggest.

Often participants said that the frequency of cleaning/washing is less in winter than in summer. If participants experienced increased perspiration (e.g. after travel, in summer) they cleaned/washed their outfits immediately, or at least more often. The visual appearance is often an indicator that a garment needs washing/cleaning (it does not look fresh; one feels when the outfit needs to be cleaned).



Figure 16
Reasons for
disposal

4.3. Discussion

The reasons for disposal (fig 16) are (ranging from 1, more important and most mentioned, to 5, least important and least mentioned):

1. Signs of wear, such as fraying and abrasion, especially on the edges of sleeves and trousers; pilling of material, and shininess in the knee and elbow area. One participant mentioned the care he took when sitting on textile-covered chairs after having experiencing the material abrasion of his suit. In particular, suits have to be disposed of entirely if only one part is damaged, because it is not replaceable separately. Also, participants considered that repaired clothing was not acceptable as business dress
2. Since most participants wear their business outfits for years, items often become too small over time, when weight is gained. Participants said they often keep their outfits in the hope that they might regain their initial size
3. Sometimes participants complained about the unwanted change of colour that often appears in suits after too much cleaning
4. Participants also mentioned that the business dress code has changed over the years, either because they started a new job or because they had worn their outfits for a long time. Sometimes this led to the disposal of outfits
5. It was more unusual for participants to explain that their own style has changed, or that they disliked their outfits, which led to disposal. Participants usually either try to sell their clothes online, donate them or keep the outfits, hoping for a suitable occasion to wear them.

4.3 Discussion

The authors carried out a study designed to challenge earlier assumptions about sustainable fashion.

In this study I found that business outfits are on average more than three years old. Participants' own jackets and suits last for the longest, and shirts and tops the shortest, period of time. Business clothes are not bought for fashionable reasons but to provide (and replace) a business uniform. Once individuals have established a dress code, repetitive buying behaviour appeared: participants bought the same brand and models, from the same shops. Essentially, participants would buy the same pieces again and still like their clothes and wear them frequently.

Individuals are not afraid to invest a significant amount of financial outlay in good quality and fit. Similarly, participants regularly take their business

outfits to the dry-cleaners. The reasons for disposal are mainly signs of wear or serious damage to clothes, a change in body shape and the resulting bad fit, and less fashion-related reasons.

Bianchi & Birtwistle (2012) and Morgan & Birtwistle (2009) describe fast fashion as clothes that meet the latest trend and trigger impulsive buying behaviour, relating them to young consumers and fashion innovators. There is little expectation to wear fast fashion over an extended period of time. Thus they see a relationship between increasing waste and fast fashion.

Most kept items for as long as they were wearable and stopped wearing the cheaper clothing for three main reasons: lower quality, new fashion trend and clothes were bought for a one-off event. They were more likely to retain expensive clothing, even if they no longer wore it. There were feelings of guilt related to the disposal of expensive, higher-quality items worn only a few times, and these tended to be donated to charities, whereas cheaper clothing used for socializing would quickly become unwearable because of wear and tear and were simply discarded. (...) A few had sold items via eBay or in second-hand shops, some mentioned handing clothing on to other family members (...). Older consumers, however, stated that work clothes were more likely to be worn until they were no longer wearable and would be thrown out (...) (Morgan & Birtwistle, 2012, p. 195 ff).

Similarly, Lang et al. (2013) describe fast fashion as “lower quality items that last a shorter period of time” (p. 707) and found that consumers with a high shopping frequency also tend to have a high disposal frequency:

According to the findings, consumers who are sensitive to fashion trends also dispose of their unwanted clothing more frequently than those who are less sensitive to fashion trends. This is especially the case for young and female consumers (p. 710).

Clearly, this study shows that business dress does not match any of the descriptions of fast fashion: business dress is not bought impulsively, and participants expected to wear items more than a few times; I found no significant fashionable reasons for the purchase or disposal of clothes. I therefore present business dress correctly as slow fashion. The results from older consumers support this argument (wearing behaviour and selling/donating second hand).

In this context, it is unlikely that business dress has as destructive an impact on the increasing textile waste problem as, for example, that of fast fashion. In terms of cost, the participants in the study were likely to buy clothing at a significant price, which suggests that pricing has an impact on wearing and disposal behaviour. Lang et al. (2013) made a similar observation:

Respondents who say they are more concerned about purchasing clothing at a reasonable price also report they tend to dispose of their clothing less frequently than those who are not as concerned with cost (p. 712).

Further, it is likely that a higher cost influences the consumer towards a more sustainable way of wearing and disposing of clothing.

The author compared the results of this study of disposal behaviour patterns to studies from Laitala (2014) and Laitala et al (2015). They found a number of reasons for disposal: the user had grown out of garments, or a garment was damaged, consumers found better garments, and consumers disliked their garments or found stains on the garment (in this order). These findings show a stronger focus on objective than subjective reasons: the decision to dispose of the item stems from the unsatisfactory condition of the material.

Fletcher (2012) discusses durability in the context of sustainability. While she shifts the focus from material longevity to a longer use of clothing and emotional durability, this study argues for both: material durability, as well as emotional and use durability, enhances sustainable wearing behaviour.

For garments that physically wear out and no longer function and for those that are made obsolete by economics—that is where it is cheaper to buy a new piece rather than mend an existing one—material- and product-level durability delivers benefits. (...) Anecdotal evidence suggests that for certain garments, such as workwear, it may be the case that durable fabrics and construction enable overalls and protective gear to be worn longer and delay replacement consumption. But for fashion clothes, which already endure physically long past their period of use, putting resources and effort into enhancing the physical durability of seams and fabrics is worth little if it is aesthetics or social preferences—or even changing waistlines—not material robustness that determines a piece's lifespan. (...) Such evidence tentatively reinforces the view that durability is

not fostered through resilient materials and design intention, but through the practices of use. (...) Long-life garments exist, but that their extended lives are determined more by an ideology of use than by a garment's physical robustness or the strength of the user-object relationship. In short, durability is user-based rather than product-based, though played out in material form (Fletcher, 2012, p. 226 ff).

The reasons for disposal that emerge from this study indicate that clothes would be worn for an even longer period of time if the material used for business dress were more resilient. I argue that a longer practice of use and emotional durability are also inherent in business dress. This claim is supported by the high percentage of favoured and well-worn outfits I found, and assertions by participants that support this: for instance, that business dress constitutes a work-wear uniform, and that they tended to purchase the same items again.

Further, according to symbolic interactionism, meaning in business dress is constituted from social interaction within work environments, and these environments – as explained by the participants in the study – have a clear dress code to be followed, which changes slowly, if at all. Therefore, materials that are more resilient can enhance sustainable behaviour, in addition to characteristics of emotional durability and longevity of use.

A comparison of laundry habits from studies in Germany (Kruschwitz et al., 2014), Australia (Jack, 2013), and Norway (Laitala et al., 2012) confirm this study's results (the number of times an item is worn before cleaning). However, since most participants said they wear their clothes over a longer period of weeks or months – for example, a suit is worn five times before being cleaned, but over a period of three months – it is difficult to make exact comparisons with earlier studies.

The conclusions from this study are limited with respect to the small and culturally narrow sample size. Results from five participants in one geographical location do not represent a statistically relevant sample size from which to generalise.

Also, there are unknown variables, such as the wearing of fashionable clothes outside the work environment. I have only considered patterns that occur in the context of business dress to argue for a focus from unsustainable fast fashion to more sustainable slow fashion.

Nevertheless, results point to promising signs and design ideas that might prompt further scrutiny and (empirical) evidence. More precise studies

4.4 Conclusion

of business dress code, material durability and its effect on wearing longevity, as well as emotional attachment and pricing, are needed to test results and develop practical applications for the sustainability of business dress.

4.4 Conclusion

This study is important for nurturing the dialogue between researchers, designers and producers within sustainable fashion. I wanted to make a statement for business fashion, which is emerging as a promising sustainable slow-fashion product.

I argue that business fashion has less impact on the production of textile waste, and pricing that enables quality as well as durable materials can prompt sustainable buying and disposal behaviour.

I think that designers can learn much from the emotional attachment to business dress, and use-practices associated with it. In particular, the design of sustainable fashion can be informed by an understanding of dress codes, which play a role in emotional attachment and use-practices.

5

5.1 Introduction

*Interview with Dr. Angela Jain
Head of Unit „Infrastructure and Society“
Nexus Institute for Cooperation Management and Interdisciplinary
Research GmbH
Otto-Suhr-Allee 59
D-10585 Berlin*

1. Was ist Partizipation?

Für mich ist Partizipation eigentlich tatsächlich ähnlich wie eine offizielle Teilhabe der Bevölkerung an politischen Entscheidungsprozessen oder Gestaltung der Bürger an Gesellschaft und Gemeinwesen.

2. Wo sehen Sie den Ursprung der Partizipation?

Ich sehe den Bezug zum Ursprung bei der Frage: Warum ist es heute so wichtig? Die heutige Forderung nach mehr Partizipation besteht, weil Menschen mehr Einfluss nehmen wollen. Das hat wiederum in unserer Gesellschaft (Deutschland, Mitteleuropa) mit einem höheren Bildungsstand zu tun. Wir sind weg von autoritär hin zu kooperativ. Daher kommt das auch, dass mehr Partizipation eingefordert wird.

Ich sehe eigentlich beides: zum einen der Ursprung in der Frage heute, zum anderen in der Antike Griechenlands. Da kommt die Idee von Demokratie her und Demokratie hat mit Partizipation zu tun, im Unterschied zu Monarchie. Und spannend finde ich auch, dass damals das System so funktioniert hat, dass viele (auch Laien) an politischen Prozessen beteiligt wurden. Aber mehr vor dem Hintergrund "was ist Demokratie".

Als Begriff hat Partizipation in den 60er Jahren einen Boom erfahren. In dem Kontext Arnstein's "Ladder of participation" ist es glaub ich sehr bekannt geworden. Auch einer breiteren Öffentlichkeit. Es geht unglaublich viel auf Arnstein zurück. Sie war die Erste, die es versucht hat zu definieren. Deswegen wird es heute noch verwendet.

3. Wann macht Partizipation Ihrer Meinung nach Sinn? (Wann nicht?)

Eigentlich macht es Sinn bei allen Entscheidungsprozessen, in denen die Lebenswirklichkeit und Zukunft von Menschen betroffen ist. Bei Allem was politisch entschieden wird. Es geht natürlich nur, wenn man die Meinungen gegen andere Interessen abwägt, z.B. Naturschutz, Klimaschutz, übergeordnete nationale Interessen... Es ist nicht so, dass es nicht über Allem stecken kann, sondern es muss in einen Abwägungsprozess rein. Dafür brauchen wir immernoch das politische System. Ich komme aus der Planung und dort ist es so... natürlich ist es wichtig zu wissen was sind Wünsche und Befürfnisse, aber man muss schauen was ist z.B. mit dem Naturschutz. Was hat dann Vorrang? Das ist keine einfache Entscheidung. Dafür haben wir Rappresentanten, die die Entscheidung verantworten und tragen müssen.

Wenn du einen Kreativprozess hast geht es nicht so sehr um eine „Entweder oder Entscheidung“, sondern mehr um den kreativen Prozess. Am Ende steht auch irgendwie eine Entscheidung, aber das Ergebnis steht im Mittelpunkt. Bei politischen Prozessen muss eine Entscheidung getroffen und Interessen abgewogen werden. Das können nicht nur Menschen aus deinem Meeting sein, die dort gesessen und abgestimmt haben. Die Politik hält ja den Kopf hin.

Deswegen sehe ich Beteiligung als komplementär zur parlamentarischen Demokratie und nicht als Gefährdung oder Ersatz der parlamentarischen Demokratie. Am ende steht eben die Entscheidung desjenigen, der für die Entscheidung die Verantwortung trägt. Die letzte Instanz ist der Designer oder Politiker oder wer auch immer...

4. Was sind die Vorteile der Partizipation?

Die Lösungen oder Vorschläge sind starker an Wünschen und Bedürfnissen der Menschen orientiert. Je direkter von der Entscheidung betroffen, z.B. auf lokaler Ebene die Stadtentwicklung, desto eher können sie Alltagswissen und Wissen über lokale Gegebenheiten weitergeben. Das kann auch relevant für Designprozess sein. Die Leute müssen Mode im Alltag tragen und ihren Alltag damit überstehen. Z.B. radfahren usw. Alle möglichen Menschen könnten ihr Wissen einbringen, ob etwas

funktioniert oder nicht.

Es kommt immer drauf an, wie man den Prozess der Beteiligung gestaltet. Zuerst muss man empowern, dann können Leute auch komplexe Probleme begreifen und darüber sprechen. Wenn man ihnen etwas zu den Hintergründen erzählt, dann können sie durchaus etwas erzählen, auch wenn sie keine Experten sind. Politiker sind meistens auch keine Experten. Frau von der Leyen war früher Arbeitsministerin heute Verteidigungsministerin, die muss sich auch erstmal reinarbeiten.

5. Was sind mögliche Fallstricke?

Fallstricke sehe ich da vor allen Dingen wenn es eine emotionalisierte Debatte um ein Thema gibt. Wenn ein Thema ohne Beteiligung schon sehr hoch gekocht ist und die Debatte nur noch emotionalisiert und so geführt wird, z.B der Wahlkampf in den USA gerade, das hat nichts mehr mit Sacheentscheidung zu tun, sondern ist nur emotional. Wenn man die Prozesse sehr frühzeitig beginnt und kontinuierlich beteiligt kann man diesem Fallstrick begegnen. Das finde ich insgesamt - der Trend ist ja da, dass man Beteiligungsevents macht, gibt viel Geld aus und macht viel Tra-ja, und danach hören die Leute nichts mehr davon - das muss sich aus meiner Sicht ändern. Mehr hin zu einer kontinuierlichen Beteiligung.

Und ein weiterer Fallstrick ist manchmal zu beteiligen, wenn es um ganz neue Entwicklungen geht oder ganz innovative Vorschläge. Bei Beteiligung geht es oft um Konsenz, der ist mehrheitsfähig, aber nicht unbedingt innovativ. Der Trend geht zu Konsenz... Konsenz kann nicht innovativ sein, weil die Menschen verschieden sind und Konsenz der kleinste gemeinsame Nenner. Mit Innovation hat das nichts zu tun. Das ist eine Frage der Abwägung. Wollen wir Konsenz oder etwas innovatives fragen. In der Architektur ist das oft sehr plastisch, wenn die Leute irgendwelche Entwürfe sehen reagieren sie oft ablehnend und wenn es einer dann doch gebaut hat, ist die Begeisterung oft groß.

Die Angst vor dem Neuen und Unbekannten ... Angst ist vielleicht ein zu starker Begriff ... man kann es sich halt nicht vorstellen und deswegen ist man erstmal skeptisch. Was Neues, Unbekanntes setzt sich in der Mehrheit nicht unbedingt durch.

Thank you, Dr. Jain, for your time and patience to answer the question and share your experiences.

5.2 Results

This chapter summarises the results of the content analysis of research on citizen participation between 2005 and 2015. After coding, categories were joined to core categories and presented here in context.

5.2.1 DEFINITION OF PARTICIPATION

There are, as expected, many different definitions of participation in the literature. Key terms in these definitions are, for instance, “individuals gain mastery”, “a planning problem is conceived”, “formats for exchange”, “development process”, “involvement”, “engaged”, “empowerment” and “inclusion”, among others.

Patterns show that citizen participation is often defined in the context of activities (such as involvement, engagement, contributions, dialogue and so on) that are carried out by individuals (respectively participants) in groups.

Some definitions enlarge upon the variety of approaches, such as designing, implementing, monitoring, evaluating, maintaining, sharing information and the contribution of ideas, development processes, and the identification of problems.

Others stress the exchange between two parties: for example, citizens as representatives and (political or administrative) stakeholders. Extracted from the data, this thesis presents the following definition:

Participation comprises approaches for active exchange between individuals (and/or groups) with related stakeholders throughout any stages in the product development process.

The author deliberately excluded direct involvement, as the next chapters will show that indirect involvement can also be a measure for participation.

Also, participation may take place between individuals and stakeholders as well as groups and stakeholders. Some authors tend to narrow it down to group interaction. However, the author feels that this would unnecessarily constrict the definition.

Further, the definition's focus is on the product development process: this is an interpretative measure owing to the nature of this thesis. Of course, definitions of citizen participation often refer to policymaking or public decision-making processes. Here, the focus is on sustainable product development, and therefore I feel the definition should reflect the purpose of the thesis by explicitly demonstrating usefulness.

Last but not least, there are many different stakeholders in a product development process, in comparison to one political or administrative representation. Thus, stakeholders may change and participation should allow flexibility of interaction with different stakeholders at any time during the process.

5.2.2 MODELS OF PARTICIPATION

The content analysis showed that there are many diverse approaches to citizen participation. This means that there is not one model of citizen participation but many different models to engage citizens, which are, in summary:

- | | |
|--|---|
| The citizen jury | 1. The citizen jury: a group of representative citizens hears witnesses on a topic, deliberates on the issue and provides a recommendation to the public. |
| The planning cell | 2. The planning cell: groups of randomly selected citizens deliberate over the course of a few days in smaller sub-groups over a topic and then present their conclusions and recommendations. During panel sessions experts present information on the topics at hand. |
| The consensus conference method | 3. The consensus conference method, developed in Denmark in the 1980s: a group of panellists meets several times, hears testimonies and deliberates on the topic at hand before coming to a conclusion and writing a report, which is made publicly available. |
| Open Innovation | 4. Open Innovation: prominently defended by Chesborough, it is aimed at technologically focused industry. Instead of developing innovation within a company, successfully case studies successfully argue for innovation from outside the company. |
| Crowdsourcing | 5. Crowdsourcing: made prominent with the use of the Internet, where an interested crowd is presented with a challenge and asked to work on the problem at hand. This is often used for product development. |
| Dialogue Circles | 6. Dialogue Circles: A group of people is presented with a topic and discusses the theme after agreeing on the rules of discussion. |
| Public Choice Framework | 7. Public Choice Framework: a rational-choice model is used for decision-making. |

- | | |
|---|--|
| 8. Participatory Design (PD), which evolved in the 1970s: the integration of users in the product development process. | Participatory Design (PD) |
| 9. The learning circle concept (Canada): Learning circles are organised in different units. Within a unit a short introduction is presented, then the group engages in several activities to answer questions on the topic. | The learning circle concept |
| 10. Participatory scenario construction: participants agree on a scenario related to a topic and outline it. | Participatory scenario construction |
| 11. The Forum model, originally propounded by the Kettering Foundation: a shared learning platform to inform citizens about matters of public interest. | The Forum model |
| 12. Public Conversations Project: based on the Reflective Structured Dialogue Method to facilitate group conversations about a topic. | Public Conversations Project |
| 13. Action Research: individuals and stakeholders engage in activities to take informed action. | Action Research |

From a wider perspective, many methods seem interchangeable. Indeed, often they differ only in details, such as the way participants are recruited, the way groups are organised, how input and information is given and the activities during the participatory process. Also, the degree of involvement distinguishes the methods. While some use structured conversations, others carry out activities.

Common to all models is a very structured and formalised procedure. Though in theory it is often argued that a participatory process should allow flexibility, most models are rigidly organised. The literature suggests that this is a trade-off between planning and allocating resources, and aims at an outcome versus allowing flexibility and acting in the situation. In other words, pragmatism rules over idealism.

5.2.3 FIELDS OF APPLICATION

The applications for participation are manifold: they include science and technology, public administration, urban planning and environment programmes and healthcare: there is no boundary for citizen participation.

The most common field of application is in public administration. Here, citizen participation solves problems in bureaucracy, helps in policy-making, supports civic and community planning, revitalises neighborhoods and assists court decisions. Even fiscal choices or budgetary planning can involve

participation.

In the field of science and technology, participation is often used to develop new products or to improve existing ones. Even brands and brand values benefit from participation. A few use participation to analyse risk and debate about technological choices where it concerns the public.

In urban and environmental planning, citizen participation is used to develop or vote on plans. Waste management, place management or sustainability issues are often discussed and voted on, if not solved, with citizen participation.

Participation is also used in organisational decision-making, in new media, or in anti-poverty programmes. It seems, therefore, that participation is not confined to a particular field, and makes it thus a promising tool for sustainable design.

5.2.4 OUTCOMES OF PARTICIPATION

The outcomes of citizen involvement can be material or immaterial. Material outcomes include reports, products, tangible solutions, plans, activities, and so on. Immaterial outcomes dominate, though.

The list of outcomes attributed to participation ranges from agenda congruence, giving voice and articulation to citizen feelings and opinions, citizen feedback, the providing of information, legitimisation, the building of partnerships, the establishing of sustainable societies, giving a direct say development of knowledge, and so on. Whether these outcomes are reached at all, and to what degree, or if a participatory approach reaches these outcomes partially or fully is often left to interpretation.

So far, a valid evaluation of outcome – beyond the conclusion from case studies – has not yet been presented in the literature. There is some agreement on the need for quality evaluation. The author agrees that a framework should have in mind some outcome-control in order to validate further work on the result of a participatory process.

5.2.5 PARTICIPATION PROCEDURE

Looking at the process of participation from a product lifecycle perspective, participation can be used at any stage, whether selectively or as an accompanying process: participation can facilitate throughout the product life cycle (from its proposal to its use and its discarding) or be used at particular stages, such as strategic planning, decision-making, identifying needs and so on. Research suggests that participation is best used throughout the whole process, however, not just at specific points.

The purpose of participation ranges from discovering, or searching for, alternatives (if faced with a problem), educating the public about an issue (the potential of learning) and voting on a solution, measuring public opinion, persuading the public about an alternative, legitimising public decisions, deliberation as an end in itself, the provision of specific recommendations, the incorporation of more people into the development process, making social connections, and finally bridging conflict situations.

The participatory process itself comprises five different stages: setting the agenda (planning), recruiting (getting participants), producing an outcome (using different methods), presenting an outcome (written or oral) and implementing an outcome or follow-ups (realisation). These stages appear in all models of participation.

1. Setting the Agenda: it is essential to clarify the relation between the issue at hand, the participants and the administrative system. Answering these questions will help to define and prepare the procedure.

**Stage 1:
Setting the agenda**

When does it make sense to propose participation at all?

What is the context for the participatory process?

How will the issue at hand be defined?

For what reasons is participation suggested?

At what stages is participation suggested?

At what types of outcome is the event aimed?

How many events will take place?

How will the event be organised? Who is manager, who is administrator?

Which framework for the participatory process is used?

Will different frameworks be combined?

What makes the model legitimate (producing an outcome in the best possible way), and respectively efficient (ensuring the best possible outcomes)?

What are the degree, content, extent, and influence of and during participation?

How are interests considered during the process?

Is there a budget for the realisation of outcomes? Is there funding for the event?

Is there any technical support needed?

After this is done, an outline should be developed, and used not only internally for planning, but also for external communication, even with (potential) participants. This adds transparency and increases trust in the whole process.

Stage 2: Recruiting the participants

2. Recruiting Participants: there is much discussion about recruiting representative lay people, knowledgeable, random or selected participants. Some research suggests using a randomised recruiting method in order to recruit representative or socially heterogenic groups. Others argue for identifying willing participants and recruiting participants with a particular interest in the topic at hand, and readily definable individuals. Others argue against participants with instrumental interests, viewpoints or perspectives on the topic at hand. Another issue is the levels of knowledge participants bring to the event. Recently authors have agreed on educating participants on the topic at hand and on the process which awaits them. Informed participants are more active during the process and less intimidated during the activities. I suggest choosing one recruitment approach before conducting any event, and answering the following questions:

Who is supposed to participate (lay people, people with an interest, random or representative people), and whom are they to represent?

Do people want to participate (and can they at all)?

What selection/recruiting method is used?

How are possible participants invited?

How many are intended to participate?

How will they get education, training and support so that they become more knowledgeable?

How are they enabled during the process?

Are they paid to attend?

Recruiting participants and making them competent partners is essential for the success of any participatory process. This makes the recruiting stage difficult and challenging. Case studies report that a number of different angles for recruitment lead to the best results.

Stage 3: Production of Outcome

3. Production of Outcome: once the agenda is set, a recruitment approach is chosen and the planning completed, the event itself needs to be managed. There are different kinds of processes, ranging from smaller, more informal processes to larger, public processes.

More informal processes, such as public conversations or study circles, may focus on communication and storytelling, while more formal processes depend on predetermined structures and suit rational discourse. A bottom-up approach is in any case favourable, as it can foster motivation and lead to lasting engagement. Participants can be engaged in small groups or large groups, electronically or individually. This depends on the resources available for the participatory process.

The characteristics of a participatory process are best described as open and creative. Any process should encourage multiple styles, patterns and levels of engagement for a broad base of participation. It is a collaborative process where participants and stakeholders outline strategies together. As such, it should be free, open, equal and cooperative, involving diverse knowledge, expertise and perspectives.

Conflicting interests should be constructively explored and solutions developed together, going beyond what is individually thought possible.

A process should thus encourage interaction and sharing ideas, a mutual flow of communication, and the exploration of diverse experiences. Suitable ways achieving this are consultation (the participants' needs influence the process), representation (participants are represented during the process), and consensus (participants are involved throughout the process).

Crowdsourcing, learning circles, partisan forums, community capacity building programs, discourse formations, networks, task forces, consortia, action centres, meetings, internet chat groups, public meetings, newsletters and service announcements are just a few ways that are mentioned in the literature as suitable types of process for participatory events.

Regardless of process type, most processes require adjustment during the process. A certain degree of flexibility is therefore necessary. Combining different media, paying attention and offering support during the process can assist flexibility. If large groups are participating, dividing participants into smaller groups makes the whole process more manageable.

A participation activity can take place only once; however, any organiser should aim for sustainable processes and involvement. This requires organising structures for the community to engage frequently, for example by facilitating self-organisation for follow-up meetings or the incorporation of participants into the development process after the participatory event. Also, allowing participants to actually influence the result (even after the event) increases sustainable commitment.

Sustainable commitment can also be linked to attitudes, the availability of resources, environmental pressures and demographics. The process of participation should create a foundation where these factors are considered.

4. Implementation and Evaluation: The success of a participatory event depends upon the organisation of the event and the nature of the process, as well as the participants, of course. Formally organised events are more effective than those that are informally planned. The different types of participation will lead to different outcomes.

To ensure successful outcomes, any organiser should formulate expectations about the result, the content and the impact of outcomes and

Stage 4: Implementation and Evaluation

give guidelines during the process. Having a clear plan helps to prevent disappointment. Tangible outcomes have proved to increase satisfaction for both organisers and participants. Seeing the impact and outcomes builds trust and encourages further participation and engagement.

Participants should be educated before the event. Capable participants are better able to engage during the process. This includes knowledge about both the issue at hand and the rules of the event. Discipline is needed in any kind of participatory event, and a transparent process supports the work of convincing people they can really participate usefully. Confidence-building among participants is key to successful participation.

The opposite situation, involving disorganised administration and a lack of clarity about the techniques of participation, leads to failure. Uncertainty makes participants question the act of participating. This also includes the full involvement of participants. Simply expressing the intent of empowerment and creating a framework does not itself create participation.

A participant's actual level of involvement may differ from that which they desire, which affects their satisfaction. Any pseudo-involvement should be avoided, as people who are not allowed to participate fully may not accept the result as fully legitimate.

Also, participants may feel they have little to contribute. In this case, staff must offer adequate support, consider the knowledge of participants and prepare data accordingly.

Not to forget, participation is for most people a leisure-time activity and competes with other ways in which the participants spend their time. Context cannot be ignored and the process should be as fair, comfortable and supportive as possible.

There is little agreement on how to evaluate participatory events. Some see legitimacy as grounded in participation itself, others refers to evaluation after the event has taken place. Research has focused on the preparation and execution of process, and too little on the evaluation.

5.2.6 METHODS

As mentioned before, there are many models, methods, and approaches of citizen participation: for example, deliberative democracy, e-democracy, public conversations, participatory budgeting, citizen juries, study circles, collaborative policy making, workshops, town meetings, round-tables, learning circles, public hearings, initiatives, public surveys, negotiated rule-making, citizen review panels, public discourse, common ground governance, networks, citizen forums, and many more. These designations are often used

interchangeably. One method can be tagged under different designations, or entirely different methods can be tagged under one designation. The literature is not consistent about the definition of methods and under which labels the methods operate. In the following, I will discuss different approaches given in the literature⁸.

1. Citizens' POLIS

POLIS is a multi-method hypermedia system. For recruitment, opportunity sampling was used (as the quickest and most convenient method). Adverts on the website called for volunteers for the study. The shortcomings of non-randomisation included the fact that participants would possibly know each other.

To help set the agenda, the organising researcher became familiar with the substantive field and positions, as well as the arguments within it, by methods of data collection from interviews, document analysis and audio-visual data. Of course, any methods used in research are possible. Here, the data came mainly from interviews with stakeholders on the issue and was supplemented with multi-media sources, for example video, audio and other websites. Stakeholders from various fields related to the topic of deliberation were interviewed. Two interviews from each stakeholder group were found to be sufficient.

The agenda was then set, based on the background search, and mapped out provisionally and adaptively so that the researcher could make changes throughout the experiment.

Also, the flexibility of the agenda allowed citizens to challenge the agenda while they became more familiar with the topic during deliberation. In total, five themes from the research on the subject formed the provisional agenda.

Once the agenda was set, the researcher had to produce evidence from his/her research. The researcher had to make sure that his/her raw data was converted into workable evidence. Citizens cannot be expected to work through a huge amount of raw data.

The evidence was then presented on the website. The website linked the various sources of evidence together while maintaining the five themes for practicality. Citizens were encouraged to use the evidence for deliberation and enquire further independently while they proceeded.

Citizens' POLIS

⁸ They vary in degree of detail (richness of description) as not all research articles provided an exhaustive description of their cases. Also, the designations used in literature are kept for authenticity. This means that the descriptions offered here are not generalizable for these designations.

The advantage of this approach is that citizens can access the evidence any time and repeatedly, and are prepared before the deliberation takes place. In case citizens had questions, they were able to post questions on the website which could then be answered later by experts.

Also, citizens were allowed to make suggestions to the agenda or voice their general opinion and thoughts.

The deliberation itself took place online. During two-hour-long sessions citizens had the opportunity to chat and discuss the topics. The chat-room was embedded into the website and the outcomes recorded.

Branding

2. Branding

Residents were invited to participate in the development and implementation of place marketing. They participated regularly but indirectly with the organising campaign. The indirect involvement allowed the aggregation of voices with surveys.

Direct involvement was selective, and occurred during the determination of the brand values in which they had a say in the brand identity.

In panels, citizens had the chance to express their ideas and feelings regarding the style of the brand.

A marketing agency translated the value into a logo, images, slogan and a story behind the brand.

Consensus Conference

3. Consensus Conference

The consensus conference provided a platform for fine-tuning a city's vision and strategy for improvement. The conference included three moderated meetings, each lasting two to three days, over a period of three months. Between the meetings, participants discussed the topic online and conducted self-paced learning. This cyclical nature allowed greater knowledge acquisition.

For recruitment, an advertisement was placed, with subsequent telephone interviews, leading to a choice of twenty (out of the 100 who answered the advertisement) participants. The choice focused on demographic representation.

Before the first two-day meeting was held, a background paper was sent to the participants. The paper summarised the conference theme from various perspectives.

The first meeting, held over a weekend, was aimed at group formation and an exploration of the theme. For this purpose, the author of the background paper was present and answered questions from participants.

During the second two-day meeting, representatives relevant to the topic held a panel discussion, informing participants on various perspectives

and ideas. After questions were posed to the panellists, the participants split up in smaller groups and discussed the information received and possible conclusions. They also framed questions to be posed to experts during the third meeting. These questions were sent to experts who had time to prepare answers before the next meeting.

The third meeting was held for three days, and included the expert panel and the writing of the report. As with the panel, after questions were posed to the experts, participants retreated into small groups for discussion.

For writing the report, the groups divided into sub-groups, each focusing on a small matter within the report. The final report was handed over officially to the city's public administration and made public via the press.

Consensus conferences involve: background reading preparations by participants, facilitated discussions between participants, interaction with participants and experts and the development of recommendations by participants.

Some cases have the background reading done before the first session. Others conduct the second session – the interaction with experts – online as a virtual session.

The consensus conferences usually take place on three weekends, lasting between six hours and three days (one day per weekend).

Participants represent a wide demographic, and there is less representation of political positions. Newspaper advertisements serve as the primary recruitment tool. Additionally, some use websites, local newspapers, or community groups. Some even hold prior community presentations to call for participants. In response, interested participants provide demographic data (age, educational background, race, income, political affiliation) and their motivation to participate. Some cases include face-to-face interviews for shortlisting participants. Participants with a strong opinion or stakes in the topic are often excluded.

In total, around 15 participants (out of 100 to 200 responses) are invited to participate during the conference weekends. Participants usually receive monetary benefits; however, some merely offer free lunches or paid childcare for parents.

The whole organisation takes between 10 and 18 months.

4. Deliberation Forums

There are several examples of deliberation forums at local level: New England Town Meetings, Neighbourhood Associations, the 21st Century Town Meeting and Citizen Summits.

Most of these formats use a large representative sample of citizens, typically hundreds, or even thousands.

Deliberation Forums

Neighbourhood Conversations

5. Neighbourhood Conversations

The aim of neighbourhood conversations is to foster discussions between civic leaders and citizens. Meetings are initiated by the municipality and held at a local school or community centre. Dates are published around the neighbourhood via direct mailing, street posters, and local newspapers. Citizens are invited to send questions before meetings. Around 200 citizens attended, who had the chance to ask their questions (prepared or spontaneous) to the municipality officials.

The Knowledge Café

6. The Knowledge Café

Knowledge Café sessions are brainstorming sessions for a large group of people. Managers, stakeholders and administrators sit in small groups and discuss strategic issues over a cup of coffee, maintaining a level of intimacy during sessions. Knowledge Café principles are:

clarifying the context, explaining the situation, the process and its outcome to participants

creating a hospitable place

exploring meaningful questions

connecting diverse perspectives

encouraging personal contribution

listening together for deeper patterns, insights and questions

sharing collective discoveries

At the beginning of each session these principles are presented and the hosts ensure that the principles are maintained at all times. The sessions start with the presentation of the problem, turning it into the topic for the brainstorming session in small groups. After group brainstorming, one member of each group presents the findings to the other participants.

Crowdsourcing, CrowdSC

7. Crowdsourcing, CrowdSC

Crowdsourcing uses different approaches, such as crowdfunding, crowd voting, crowd creation, crowd intelligence or a combination of these.

Crowdsourcing is an ongoing process and works best as such. Choosing the right crowd is thus essential. To maintain motivation, crowdsourcing needs to offer an incentive for participation, which should match the desired outcome. Generally, incentives can be given for the winning idea or for submitting ideas. Crowdsourcing needs capacity for maintenance and ongoing stewardship. Crowdsourcing activities often need moderation, as well. Problems should be well defined, fairly easy and simple to handle.

Threadless, a t-shirt company, calls for t-shirt designs. Designs from the crowd are displayed online where the crowd can vote on the best design.

The winning design is printed on the next t-shirt collection. The winner receives store credit for their design.

OpenIDEO frames a question posed to the crowd on the website and breaks it down into three phases: inspiration, conception, and evaluation.

Phase one, inspiration, enables the crowd to be educated on the problem. Idea submissions are voted on, and the ones with most votes get into the next phase.

The second phase, conception, refines a solution (narrowed down to twenty) and again ideas are voted on.

In the third phase, evaluation, the crowd expands the 20 ideas. After the last phase, a list of winning ideas is selected. Other crowdsourcing models use simple yes/no voting, surveys and curated commenting.

CrowdSC used crowdsourcing for street maintenance. For data collection, people were asked to send photos of roads that needed repair.

For data selection, the crowd had to choose which photos were most representative of the damaged road.

For data assessment, again the crowd was asked to determine the priority for repair.

This example shows how simple tasks can be handled by the crowd, and how citizens can easily participate in public issues. As with any crowdsourcing project, a moderator needs to monitor human errors and misbehaviour.

8. Open Innovation

Open innovation follows the philosophy of interaction with units outside the system. Outside ideas are combined with ideas from within the system through partnering.

This is similar to crowdsourcing; however, participants get paid for their work, and usually open innovation relies on the relationship of systems rather than participating individuals.

Open Innovation

9. Learning Circles

Learning circles focus on adult education, offering opportunities for lifelong learning. They are informal, person-centred groups of people who share a common interest in a theme.

After setting the agenda, a group of people held a series of meetings (six to ten) with specific goals.

For recruitment, local authorities helped to identify possible participants. Flyers (less useful) and phone or in-person interviews determined the final selection of participants.

The process included issue analysis, development of recommenda-

Learning Circles

tions and plans for implementation.

During the process, education techniques were applied. A forum offered space for follow-up meetings and ensuring further activity. Furthermore, representatives from different learning circles met for the exchange and sharing of ideas.

Capacity Building

10. Capacity Building

Capacity building is a cyclical process of visioning, planning, action, observation and reflection for collaboration between government and citizens. Outcomes are subject to evaluation, which leads back to refined planning.

Mobile Technology and New Technology

11. Mobile Technology and New Technology

Technology, not as a method but as a tool, is part of many citizen participation processes.

Radio stations, for example, integrate listeners in various ways, always utilising new technology. Via free apps and mobile-friendly websites, people can become engaged in the programmes.

Social media, such as Facebook, Twitter, Myspace and YouTube, engage people even further. Mobile alerts keep the listeners informed, while they can also send out messages with breaking news to the stations. Employees keep blogs on the station's website and people are invited to be part of the programmes.

Websites are generally a tool for participation in new technology approaches. People can be sourced beforehand or made aware of projects through social media.

The advantages are the low maintenance costs, the widening beyond local areas and long-term use. Surveys, prototypes, blogs, and voting formats are just a few possible formats for new technology participation.

The Kettering Foundation

12. The Kettering Foundation

The Kettering Foundation organises large-scale processes through informed deliberation in sub-groups on specific action choices taking place.

Briefing booklets provide participants with information supporting the group work. The booklets contain a limited number of options regarding the issue at hand, which participants can discuss and compare.

Study Circles

13. Study Circles

Study circles produce materials that help people from a community work in groups and deliberate on an issue.

After some time working in parallel, these groups come together and share ideas for solving problems. A facilitator accompanies the process.

14. Public Conversation Project (PCP)

The PCP organised several small group dialogues over the course of years on, for example, the issue of abortion.

The processes included a moderator to facilitate the organisation and dialogues.

Evaluation was done via email, telephone interviews, face-to-face interviews and self-assessment meetings. Additionally, participants had to fill out surveys after participation.

Public Conversation Project (PCP)

15. BEKO (Bürger- und Öffentlichkeitsbeteiligung am integrierten Energie- und Klimaschutzkonzept; Citizens' and Public Participation on an Integrated Energy and Climate Program)

Stakeholders, as well as citizens, participated in the BEKO event. Stakeholders were divided into seven thematic groups, the citizens into five.

During two half-day sessions, stakeholders and participants discussed each topic in their group and had the chance to pose questions to the administration for further clarification.

Further, a public participation process was initiated, with 110 action items. These items were published online and citizens had the chance to vote for and comment on the solutions.

The event took seven months, and afterwards a response paper was published, with suggestions that were adopted and reasons for those rejected.

BEKO

16. Referendums

Referendums are described as meetings open to the public. Because of their open nature, the participants are self-selected. As a result, it is usually those with high motivational interest who participate.

Their main aim is to hear people's views on a matter, and the opinions can be binding or non-binding. Participants are approached as individuals in contrast to formats with group participation.

Exchange of arguments and opinion formation are more in focus than decision-making.

Usually a large range of participants are involved. Some referendums comprise around 100 participants; some tour through different districts and comprise around 22,000 participants.

Referendums

Dialogue Circles

17. Dialogue Circles

Citizens participate in small groups with eight to 10 people for five two-hour long sessions.

These sessions are professionally moderated and follow a structure: first, each group becomes familiar with the group members. Then they discuss why and how the topic is important for them. After this, they aim to create a consensus and reach goals and objectives relevant for their topic.

They also identify challenges and problems related to the topic and propose solutions for these problems. Each solution is evaluated according to feasibility, effectiveness, implementation time-frame, costs, capabilities for implementation, and coordination needs. They vote on what they believe to be the top three solutions.

Afterwards, each group assigns one member to represent the group during a subsequent deliberation forum where each solution is discussed (and voted on again) in a wider context.

Office of Sustainability

18. Office of Sustainability

The Office of Sustainability works with residents on environmental topics. For example, residents are asked to report any evidence of truck idling within the city through a hotline.

Also, participants can make recommendations to the Office of Sustainability for more sustainable behaviour and share ideas as members during group meetings. This way, the city reduces monitoring costs and fosters a democratic decision-making process.

Deliberative Mapping

19. Deliberative Mapping

Scenarios which comprise a set of images illustrating future means of transport, for example, are used to engage both citizens and specialists in a face-to-face discussion. The scenarios are not predictions for the future, but contribute to a general debate about future possibilities.

To recruit participants for a deliberative mapping forum, notes at the local noticeboard were put, personal contacts used, local businesses informed, and local organisations invited. These invitations explicitly stated that participants need not be experts but should be committed to the area.

During the workshops, different scenarios were presented to participants for discussion. These scenarios were built by the researcher before the event.

After the first workshop, a second workshop included not only the scenarios but also the results from the previous workshop.

After these two workshops, all participants were asked to evaluate the workshops with a survey.

20. Action Research

Action research involves citizens directly in the research and analysis process. In contrast to more traditional approaches in which participants are asked to choose between options, participants in action research processes guide the actions.

Another aspect of action research is the equality of participants, experts and other stakeholders and the collaborative nature. This heightens the outcome and will be supported by all.

Workshops are usually scheduled at the beginning (or before) the process and during the process. Citizens are notified by newspaper, flyers, and local advertisements. Several invitations were hand-delivered to local shops and businesses. A hotline at the local administration gave to those interested additional information for the upcoming event.

The first meeting was held in the early evening of a weekday, with food and beverages provided. On entering, participants were given the agenda as well as a brief survey about the topic.

The workshop was structured in six steps: introduction, overview of the project, two mapping sessions, a visioning session, and closing arguments. Each activity was scheduled for 15-25 minutes.

Participants were asked to divide into groups during activities. 21 participants attended the first workshops, 34 the second.

Between the workshops, meetings were held with other stakeholders, such as business owners, to hear their opinion on the topic and on the results from the first workshop.

Action Research

21. Co-Design

Co-design is a deep collaborative process and involves people directly in the making process of a product or system.

First, designers (or other makers) set the initial conditions for the product in question, such as its construction and use, values and purposes.

After this initial setting, designers, developers and citizens work together. Together they have to determine how they can work together, considering possible stages of involvement, which methods are appropriate, and what is needed in advance to enable the citizens.

For example, kits can be used to inform the citizens before the process, comprising an overview, a description of the process and information on the product.

Co-Design

22. Deliberative Participation

Citizens first are informed on a topic, and after becoming experts discuss the topic in small groups, reaching a consensus and developing possible

Deliberative Participation

solutions. Participants need not be representative but rather bring their interest in the topic and the wish to solve problems.

In general, participation can be divided into four classes: individual, small group, large group, and electronic.

Desirable group sizes vary from eight to 20 to many thousands. Smaller, informal group processes aim to build trust, while larger, more formal, processes aim to build relationships.

Digital methods can be used for long-term participation and reach groups which are traditionally less willing to engage. Face-to-face procedures are more intimate and richer in exchange and knowledge-building. Anonymity in digital approaches can lead to a lack of trust and accountability.

Some argue for representative sampling, some for random sampling. Some choose a structured recruitment process while some go for the 'take it all' solution.

One of the most important elements is setting the agenda before participation takes place. While some agendas are structured, others are flexible and adaptable during the process. Each method should have an element of reflexivity or evaluation built in.

Methods depend on the exchange of experts and citizens, which can take place either during participation (e.g. panels) or before participation (e.g. using websites).

As for the evaluation of participatory methods, the level of engagement can be measured by the average attendance rate and the number of items proposed per participating citizen. The proportion of solutions that are approved and adopted can measure efficiency.

5.2.7 INVOLVEMENT

To make participation work, strong motivation is needed. Motivation can be intrinsic or extrinsic, on an individual or community level. What makes people participate is the desire to learn and try something new. People are often interested in having a voice in future processes.

Some authors argue the decision to participate rests on the rational evaluation of advantages and drawbacks. Others state that emotions and the perception of participation as a satisfying experience are strong motivational drivers.

In any case, participants need to know about the possible benefits to be gained and the assurance that concerns and voices will be heard.

Participation should offer direct effect and personal empowerment. People participate so that their needs are met and desires taken into account. If they see immediate tangible outcomes of their contribution, people

perceive themselves as agents of beneficial change and feel more responsible for decisions made.

Participation also strengthens a shared collective identity and often they feel obliged to improve the community. Some expect to form new friendships and meet influential people, or want to gain new knowledge.

As for the extrinsic motivation, financial compensation can be a significant factor. Also, continued participation may depend on financial compensation and free meals.

People decide against participation because of personal time commitment and the burden of human interaction. If time costs are minimised and the interaction well prepared, people are more likely to attend.

A mix of incentives, such as increasing positive emotions and offering financial compensation, reducing the personal time commitment and the burden of human interaction, have proved to be most successful for motivation.

To ensure a positive experience during the process, involvement should be practical, balanced and realistic, and people should be encouraged to express their opinions regardless of their competence. They need to articulate what matters to them, and why. Equal opportunities and fairness reduce the burden of human interaction. As mentioned before, providing the participants with knowledge about the matter and hand and the consequences of their decisions is essential.

The process itself should activate the tacit knowledge of participants and integrate the experiences of lay people. Maximising information-sharing increases the understanding of the issues under consideration. This is mainly achieved by collaboration, dialogue, negotiation, voting and decision-making.

Barriers to involvement lie in inadequate expertise in relation to complex problems and decisions, and occasions when people cannot contribute to the problem. People may be more hesitant in front of experts or more experienced speakers. Many need first to build confidence in smaller sub-groups before they feel comfortable to join the discussion. If the results have no more than advisory force, or there is little influence over the outcome, people are hesitant to participate at all.

Dissatisfaction with the participatory experience constitutes the main barrier to sustained involvement. The process needs to ensure that nobody is excluded, the agenda is not constrained, experts or invited guests do not do most of the speaking and the experience is not trivial.

People can be involved at every critical stage of a process; however, it is most effective when they are involved throughout and from the earliest stages of development, from agenda setting and selection to the develop-

ment of new services or technologies: there is no boundary for involvement. People can participate in the selection, design, implementation, monitoring, and evaluation of a design, technology, process or service. They can contribute prior to, during, and after the construction of goods. They can have an active role in the process of collecting, reporting, analysing, and dissemination of input.

The kind of involvement is often reduced to conversation. People mainly make decisions. Some include negotiation and consultation in a participatory process. Those processes that require active involvement, collaboration, and direct participation are under-represented. People can organise, design solutions, set technical objectives or implement a system, to name but a few possibilities for involvement.

In short, involvement needs motivation. The role of emotions and satisfaction with the experience influences involvement. Seeing the process as fair increases the positive feeling. It is important to reduce the hours and days for participants and make the procedure as efficient as possible. The location should be at a convenient place to shorten the journey time. Ordinary people need appropriate training before participation: capable people are more likely to engage. Engagement leads to the sharing of knowledge and ideas in the social process. The experience of engagement leads to growth in confidence so people articulate and share their views. Trusting relationships with the organisers and other participants are important in facilitating involvement.

5.2.8 ROLES

Participants, as well as organisers/administrators, have clearly defined roles.

The organiser needs to define and clarify the problem addressed to make the activity successful. He needs to organise the place and procedure by creating the institutional space for deliberation. Before the activity he needs to establish the agenda and produce input related to the agenda. He also takes on the role of recruiting the participants and identifying potential stakeholders and partners. His duty is to enable participants before the activity takes place by providing them with the necessary knowledge, skills, and resources.

During the activities, the organiser has to enhance the participants' skills and knowledge, disseminate information (if necessary), highlight issues, and raise questions. He facilitates the process and guides the group towards consensus. He has to ensure that all forms of expert knowledge are fed into the process and at the same time ensures that bias is minimised. He has to take care that individuals are not marginalised but that all are included. He has to establish and keep a cooperative culture, work towards

understanding and agreement, guide and moderate the process. He also needs to be aware of his power and hold back his expert opinion. His authority as moderator might be harmed if he brings his expert knowledge into the process.

After the activity, he has to implement any results, write a report (or have it written by the participants), produce an explanation as to why suggestions were rejected, organise follow-up meetings, ensure further resources are used effectively by the community, administrates sub-projects, and enhance continuous feedback between the administration and the participants.

Any organiser needs certain skills which comprise reviewing their own work, debating their own powers, working closely with networks, learning how to initiate, facilitate, and manage participation, being a team leader, becoming familiar with the substantive field of study, knowing how to avoid conflict and negotiate, being a good communicator, having a talent for relationship building and sustaining commitment and enthusiasm, and they are trained to address conflicts during the meeting.

Participants, on the other hand, need to acquire various skills before entering the debate and gaining knowledge of the matter at hand. They should know how to participate and be aware of the consequences of their future decision-making.

During the process, they need to identify good ideas and vote on a solution. They have to incorporate discussion and exchange as they develop that solution. Participants need to compromise and debate to produce collective solutions, discuss different positions, explore reasons behind their interests and find common interests. Coming together, sharing and reflecting, using their imagination as well as knowledge of the context, envisioning possibilities: all this is asked of participants. After participation, they are encouraged to harness, shape and develop their ideas further.

The role requires the participants to be actively engaged and encouraged to put their ideas forward in a manner in which the group can adapt and develop single ideas into a collective solution. They act as co-producers, monitor use and implementation of a solution, evaluate and produce change.

This list from the literature is a small part of the roles that are imposed on organisers and participants. They represent an ideal and research lacks scrutiny on the roles of participants and users in detail: which qualities are most important? How to achieve them? How to ensure quality? These questions will need further research.

At the moment, any organiser should be aware of these roles and ensure the best possible training before organising a participative activity.

5.2.9 ADVANTAGES AND DISADVANTAGES OF PARTICIPATION

The terms most associated with participation are efficiency, legitimacy, and trust. Citizen participation is often argued for as a tool that reduces bureaucracy and adds efficiency to public decision-making processes. It adds increased community support for government decisions, gaining wider acceptance from the public, and builds trust in government.

A few voice concerns over these assumptions, as the planning, execution and implementation require resources such as time, management and budget, and these costs should be weighed against the benefits.

Beyond the associations of efficiency, legitimacy and trust, participation supports inclusion on a societal level. Participation shifts the power from dominant minority groups to a more equitable distribution of power.

On an individual level, it encourages some to be more candid about their opinion and needs and those who are less confident may voice their needs.

Participation increases knowledge and skills among citizens and can change behaviour. It facilitates learning and education, especially when expert inputs are an integral part of the participatory process.

Participatory events can inform a large group of citizens, offer hands-on explanations and inform about emerging opportunities. The positive experience of weighing up different ideas and making a decision empowers lay people.

In exchange, participants are a source of lived and experienced knowledge, as opposed to expert knowledge. They offer special insight and contribution to solving problems. They elevate perspectives that are better aligned with the wider public and produce richer and fuller understandings of the matter in hand. They can serve as eyes and ears, being a first-hand source. The contribution of lived experience produces better outcomes and offsets failure.

During the process, participants develop ownership and increased responsibility. It encourages the acceptance of outcomes and a strong consensus on shared visions. Meaningful participation strengthens collective action by connecting people directly.

Enabling people to participate means enabling their direct involvement in planning, decision-making, resource allocation and other issues that affect their lives. An open, equal, cooperative, active process increases satisfaction during and after the creation of content.

Resulting outcomes are a better match between needs and ideas that are offered, workable systems that enhance lives, the improved design of products and services and the capture of requirements and satisfaction.

Participation improves sustainability by achieving sustainable community outcomes. It expands the role of people, develops integrity, increases willingness to engage in future, wider adoption of new practices and the better use of services, and promotes new values and attitudes.

There are a few things to be cautious about. The procedure is expensive: it increases administrative costs and funding is not always readily available.

Besides costs, there are problems with time and resources: participation requires commitment for both organisers and participants. The event can be difficult to organise because it consumes time and calls for extensive organisational skills, and the event itself depends on material support and hardware facilities.

The organisation can create new bureaucracies because of overly structured formats. Coordinating various demands is a challenge, especially on a large scale. Participants want constant feedback regarding what is happening and how outcomes are being used. There can easily be more results generated than can be dealt with.

On the other hand, people use their leisure time: attendance and participation during the process cannot be forced. This makes some processes sometimes overly slow before reaching an outcome. The danger lies in imposing narrow or pre-existing outcomes to speed up the process, which in return would lead to distrust and disappoint participants.

It is difficult to predict the outcomes participants will reach; however, any arrangement should provide participants with what they were led to expect. Getting participants to interact is a challenge and necessity. This largely depends on the moderator, the process and the incentive for participation. Factors such as age, disability, income, education, culture, language, and knowledge also influence performance.

5.3 Discussion

In the present study, participation is defined as an approach for active exchange between individuals (and/or groups) with related stakeholders throughout any stages in the product development process.

There are many models of participation, often similar in nature and only distinguishable in details.

The fields of application are manifold and not restricted. The outcomes can be material or immaterial.

The procedure comprises setting the agenda, recruiting participants, production of outcomes, and implementation and evaluation.

In the literature I found 22 different methods for participation, which

varied in description detail.

Involvement needs motivation, either intrinsic or extrinsic. The role of the organiser can be summarised as a facilitator whereas the participants need support.

The advantages of participatory processes are trust, legitimacy, and efficiency; however, the disadvantages are costs and effort.

Connor, (1988) looks to Arnstein's ladder as the basis for his theory. He starts by discussing its limitations and expanding the original theory to a broader application through education and empowering participants (cf p. 251). He explores information feedback, which is an exchange of views that leads to an increased possibility of an effective solution. However, his participatory model and my data contradict as to the effectiveness of the information feedback method. When education and information feedback fail it is necessary to rely on Connor's advisory feedback.

My results point to the direction of more active involvement and often, pure consultation is questioned as "real" participation. If participants are only consulted, then it becomes more of a pretend participation in which this method is used to legitimize already-made decisions. From here, joint planning sounds more like "real" participation, which can be compared with active involvement and which is supported by my results.

Connor's inclusion of mediation is only a partially explained as phenomenon—more of a step back towards passive participation by overseeing the results. Again, the success of any type of passive participation is not supported in my data.

The idea of litigation is the most costly suggestion from Connor as it requires the use of third-parties to be utilized correctly. While it can be advantageous to have a person working in the interests of a participant(s), the actual participant(s) is no longer at the center of the discussion. However, Connor oversimplifies this and does not make solid connections to the principles participation.

Finally is resolution and prevention. Again, these are not connected with how they actually are part of the participatory methods that Connor is trying to re-examine.

In short, Connor is cited frequently in the literature, but there is no added benefit in his remaking of the ladder. His argument doesn't actually focus on participation as central. So why does Connor discuss different types and degrees of involvement? Why his continued reliance on Arnstein's rigid structure?

Involvement by participants is not a fundamentally a hierarchy, but could be considered a potential tool to be used in the appropriate circumstances.

Putting the results into context and looking for examples, Lynam et al. (2007) advocates for a more flexible approach rather than the static ladder as laid out by Arnstein and expanded by Connor. Rather, Lynam et al. assign participatory methods to three main classes:

1. Methods that reveal knowledge and values from participants and include them in decision-making
2. Methods that change perspectives of all stakeholders and where results are supplied to the decision-making process
3. Methods that facilitate learning and where all stakeholders are included in the decision-making process

While I could not find clearly distinguishable classes within the content analysis, I find Lynam et al. categorizes methods in a way that is useful as a framework for examining participatory methods. Since method selection can have such a big influence over the outcome, Lynam et al. even go further by saying: “In this sense, the project design and the research questions and objectives should dictate the degree of participation necessary” (p. 3).

While Arnstein’s (1969) ladder of participation is often used as a way of to evaluate the degree of involvement, Lynam et al. argue for a more flexible attitude on the degree of involvement. For them, achieving useful involvement means that tools are necessary that can be used in the participatory process.

However, they do emphasize that “tool selection matters: success is not guaranteed by selecting the right tool, but it is excluded by selecting the wrong one” (p. 7). So how can researchers create a participatory toolbox that produces accurate, consistent, and reliable results? Lynam et al try to organize this into definable objectives by postulating that first

tools must: (1) support communication and learning between the insiders and outsiders who are using the tools; (2) be adaptable for implementation in various decision-making contexts and for use by diverse users, including those at the local level; and (3) produce data and information that are useful and valid as a basis for decision-making or can be used for further analyses (p. 8).

Then the tools can be evaluated on the basis of capabilities of their potential application, the content and condition of the use of the tool, and what the

tools produce. But, the tools do break down into either a means of extracting information or “participatory co-management” (p. 8).

In terms of the context of this paper, the latter is the more relevant focus of discussion. The more ownership a person can take over a result, the more value that person will place on the final product.

Silverman, Taylor & Crawford (2008) more recently integrate Arnstein’s ladder model with their “continuum for citizen participation (which) reveals additional nuances of the participation process” (p. 39).

Silverman’s model presents a citizen participation continuum with instrumental participation at one end and grassroots participation at the other end (cf p. 37). Silverman et al integrate Arnstein’s ladder into their continuum that is laid out like a ladder. The advantage of the continuum is “that it allows several dimensions of participation to be considered simultaneously” (ibid, p. 38).

This last point is important, as they are the only authors to approach participation as a multi-faceted, multi-layered process. Silverman et al integrate and merge different forms of participation without criticism.

In his study, Beierle (2002) analyzes cost-effectiveness of participation, joint gains among parties, contribution of participants, and knowledge of participants. His results contradict my results of cost-effective criteria in which he finds that more expensive solutions were required to satisfy the interests of parties involved (cf p. 744).

In terms of results, Beierle postulates that if people can participate they start to make wish lists—they don’t want just new but want the new to be the best and if you allow people to have a say then usually it goes beyond what is actually feasible.

Having said this, my results show that the related costs to the participation aren’t directly, and people don’t always produce outrageous wish lists.

However, people do need to have parameters and tools (as outlined by Lynam above). But the importance of participation is that it increases joint gains, which I regard as an important result. Participation becomes vital for enhancing the value of the outcome. In this instance, gains are more than limited to financial means.

For example, Beierle demonstrated that participation has been demonstrated as some contribution of ideas in 76 per cent of cases. In the cases in which there is no contribution, it is the result of the processes not being designed to do so. So a process must be designed to facilitate a contribution.

Additionally, Beierle found that the most ideas were contributed in the processes that were the most intensive. By creating parameters this narrowed participants' focus and produced the best results. In addition, participant's knowledge can have an influence on the outcome.

While Beierle's results show that most of participants have substantial knowledge, my research shows that participant's knowledge (specific or general) can support a positive outcome.

Rowe & Frewer (2000) also expound on how each situation calls for different methods to obtain the best results, "that the most appropriate method of public involvement will depend on the specifics of any particular situation" (p 6).

They lay out eight participation methods: referenda, public hearings, public opinion surveys, negotiated rule making, consensus conference, citizens juries, citizen public committee, and focus groups (cf p. 8-9). Their different methods do not absolutely support or disprove my research. Rather the results were quite variable.

Referenda is where each person gets one vote at a specified time with binding results. I could not find evidence for their description; neither significant proportion of participants, nor a single point in time, final outcome can be non-binding (according to my findings).

Public hearings have citizens listening to experts, i.e. "true participants" present their findings. I did not find "true participants" in my analysis and my results found that the time of the public hearings directly affected how many citizens were able to attend.

Public opinion surveys use large samples of data from representative samples. These were only marginally mentioned in my content analysis sources. However, this is not really a type of participation because there is no involvement in the final outcome.

Negotiated rule making uses a small group, usually mostly of stakeholders. This is the only method that does not rely on a strong citizen participant presence.

Consensus conference is a small, but representative group of people. This best supports my data as the most effective methods of citizen participation. The small groups (10-15 participants) can have a profound impact of the final decision. Usually the results of these conferences are available to the public so allow for a scrutiny of the procedures and methods.

Citizens juries are also a small group selected to be representative of the local population. I found only a few random examples in my content analysis and therefore have not included in my method list. Also, this particular application falls outside of the parameters of my study.

Citizen public committee is a small group chosen by the sponsor and so not guaranteed to be accurate representation of the population. This sounds again like the general aim of participation and not like a specific method.

And finally, focus groups that are small groups intended to be representative samples. There can be multiple focus groups that represent various sub-groups. Again, this method is a research method and I do not include it as a method in my body of data for participatory approach.

While Rowe and Frewer's methodology list above is extremely disparate, their overall evaluation criteria is extremely useful as it helps to synthesize the participation data in various ways to help achieve appropriate analysis parameters. They focus on two criteria: acceptance criteria and process criteria (cf p. 11).

The acceptance criteria is the effective construction and implementation of procedure. Rowe and Frewer break this down into five major categories:

1. Criterion of representativeness
2. Criterion of independence
3. Criterion of early involvement
4. Criterion of influence
5. Criterion of transparency

The first part is simply the idea that the participation sample should accurately reflect the affected public. Rowe and Frewer suggest that this be achieved either through a random sample of the affected population or through the use of questionnaires to determine how the community's attitudes could be best represented. They highlight the use of a panel as an effective means to bring together the various stakeholders. However, they do caution that exact representation is inefficient so the potential for bias can be a problem.

Following on the idea of bias, Rowe and Frewer acknowledge that the next criterion should focus on the process being conducted in an "independent, unbiased way" (p. 13). This independence could be achieved by using an independent group to oversee the process. Even though this reduces bias, it does also take out any potential benefits from including the (potential) expertise of the sponsoring organization.

Third is necessity for early involvement. The authors frame this as "the stage when value judgments become important" (p. 14). However, they do caution that too much/early involvement from the public could delay or confuse the final outcome.

The fourth criterion is that of influence. Essentially, the procedure

should “have a genuine impact on policy and be seen to do so” (p. 14).

Finally is the criterion of transparency. As will be further examined in the next section on process criteria, the entire process should be transparent so that all parties can see why and how decisions are being made and carried out.

Next, process criteria is the public’s perception and potential acceptance of a procedure. Here, Rowe & Frewer break it into four parts:

1. Criterion of resource accessibility
2. Criterion of task definition
3. Criterion of structured decision making
4. Criterion of cost-effectiveness

The first part represents an idea discussed by several other authors as the importance to access to information and resources, i.e. education about the procedure. Resources cover all areas from information to financial (to pay staff and to pay for materials) to time. Rowe and Frewer stress that this part is vital to ensure that the procedure has the greatest chance of success.

The second part regarding task definition is outlined as simply that the “nature and scope of the participation task should be clearly defined” (p. 16). While this has been criticized as potentially too prescribed, it is important to give clear parameters for all participants. Though there should be some flexibility to these parameters if the situation dictates.

Third is the task of structuring the decision making process. This follows upon the idea in the first part as part of the transparency process. By having this structure, all participants and outside observers will be able to see and understand how and why a decision was made.

Finally, and most-importantly to some, is the cost-effectiveness of a procedure. More in-depth discussions what defines something as “cost-effective”. While there is room for more research, many of the results of this criterion rest solidly on those organizing the procedure.

Despite the very clear criterion laid out by Rowe and Frewer, in reality, “the most appropriate techniques for public participation are likely to be hybrids of more traditional methods” (p. 24). As such, their methods laid out above become even more important in their ability to create a framework for analysis that helps all participants understand the true impact of their role in the citizen participation process.

Fung (2015) addresses the knowledge variance of participants by examining how participants are selected. Most participants are chosen through five

methods: “ self-selected subset of the general population, selectively recruit participants from subgroups that are less likely to engage, randomly selecting participants from among the general population, engag(ing) lay stakeholders in public discussions and decisions, and professional stakeholders (...) are frequently paid representatives” (p. 67-8).

Participants may lack the knowledge, competence etc. and some methods try to overcome this by choosing participants not to be representative but to be able to participate (cf p. 67).

Fung is the first study of participation recruitment. Other papers present conflicting assumptions as to who and how to recruit and so Fung's methods are vital to understanding how choosing participants can influence and affect an outcome.

My data finds that it is more beneficial to find willing participants than to focus on finding a representative group of participants. The willingness of participants means that they are more likely to engage and feel they have a stake in the outcome.

Irvin & Stansbury (2004) focus on the advantages and disadvantages of participation. It can also become a transformative tool to support behavioural change, especially since participation produces better outcomes and adds more efficiency to the project as well as educational benefits.

Additionally advantages are: produce more public-preference decisions and better appreciation, support the legitimization of the project and increasing trust. The latter point about trust is precipitous as trust has to be earned and cannot be proscribed. But ultimately, since the participation process is a transformative tool, it produces better outcomes and can be more efficient.

In contrast, the disadvantages are: potential high costs, the process works well in small and homogenous groups not as successful to influence larger communities, sometimes top-down decision making is more efficient than participation, potential for negative group dynamics, and that participation does not automatically guarantee a successful outcome (reiterating Lynam). Partisan participants may dominate the process as they are more encouraged to participate, and participants can be unhappy with the process or exaggerated expectations.

While this confirms my findings of disadvantages of participation, Irvin and Stansbury go on to explore how the disadvantages can be overcome, “commonly cited strategies are the careful selection of a representative group of stakeholders, a transparent decision-making process to build trust among the participants, clear authority in decision making, competent and unbiased group facilitators, regular meetings, and adequate financial resour-

ces to support the group process during the potentially long learning and decision-making process” (ibid, p.61).

Glass (1979) argues that participation fails because the process design does not match the objectives. The five general objectives of citizen participation may be identified: “information exchange, education, support building, decision-making supplement, and representational input” (p. 182).

To establish an order, Glass clusters participatory techniques into typologies, “unstructured, structured, active process, and passive process techniques” (p. 183).

The unstructured techniques “produce direct contact between the planner and the citizen” (p. 183) while the structured techniques allow planners to have control over “who and how many participate” (p. 183). Active process occurs when the process is “well developed and defined” (p. 184).

The passive process is broken down into the delphi method and citizen survey. Delphi method “produces information that can be projected as an aggregated consensus (...) that can be generalized” (p. 184). He supports the findings of Lynam et al that there is no exclusive technique to satisfy all five objectives. The chosen technique needs to be adequate to the objective that is aimed for. So, the objectives need to be pre-defined and the techniques need to be adapted.

Kathlene & Martin (1991), discuss the cost/benefit pay-off potential of participation. They point out the limitation to participation happens because individuals are not motivated (cf p. 48). Participants fail to be involved because they do not have enough knowledge, agency, or role in critical points of decision making.

My results support the necessity to have motivated participants. As well, it is critical of who participates, how many and how participants are integrated which is reiterating Glass with his structured technique.

Pretty (1995) outlines the use of participation as elusive and offers typology of participation. Pretty lays out this typology in seven categories of: “manipulative participation” where participation is a pretence and the participants have no real power, “passive participation” in which participants are informed of decisions or outcomes, “participation by consultation” where external agents define problems and then consult participants who have no control in the final decision, “participation for material incentives” which focuses on compensating the participants through financial, food, or other material mean but the participants are not actually involved in the experiment—they are simply being used for what they can contribute to the experiment in

terms of materials, next is “functional participation” where participants are simply a means to achieve goals or predetermined objectives. “Interactive participation” which allows participants to be a part of analysis and development of end results. This method views participation as a right where the larger the role the participant has, the greater their stake in a successful outcome. And finally, “self-mobilization” is presented as a proactive and independent participation through self-initiated programs (p. 1252).

Though not explicitly mentioned in these terms, my data strongly supports Pretty’s typology. Pretty also examines participatory methods (tools) as “group and team method dynamics”, “sampling methods”, “interviewing and dialogue”, and “visualization and diagramming methods” (p. 1254). These in-depth alternatives give an added layer to my results, which were more of a broad approach.

Wiedemann & Femers (1993) discuss conflicts that can arise from a hidden agenda on the part of the organizers (p. 361). If that agenda is made known to the the participants, this can cause the process to fail. Additionally, reasons for failure can come if participants are not educated enough about the subject matter. This lack of even a general knowledge or familiarity with the subject can cause uncertainty about the process and rules during participation. Wiedermann & Femers point out that uncertainty can come about during the process through a general climate of distrust, an unequal power distribution (between participants and organizer), or little knowledge of participants and unequal power (within participants).

However, by expanding upon the ideas presented by Beierle (see above), they suggest that with clear guidelines, participants can feel empowered while also allowing the participation process to be successful.

My data supports Wiedermann & Femers by proving that there need to be rules of participation that help to focus and direct participants throughout the process.

Reed (2008) stresses that “participation should be considered as early as possible and continued throughout the entire process” (p. 2422).

My data concurs with the importance of early participation in product design. Even though this confirms my data, it contradicts the methods of participatory design. Since there are multiple approaches to citizen participation, Reed confirms that clear objectives are important.

Additionally, he stresses that the methods require clear objectives that are tailored and facilitated by the organizer. Included in the continuous representation, Reed adds the need for stakeholder representation. My data does not support this latter theory.

In summary, the application of the myriad of participatory methods requires a compilation of the most effective parts from each of the above-mentioned authors. The various studies on citizen participation help add depth to my results.

Rowe and Frewer are the only authors to have results that are incongruous with the other authors. As such, there is no counter argument as to why findings should be not be valid.

In the next chapter, I will go into further detail about how citizen participation directly affects and influences the potential development for sustainable design in fashion.

5.4 Conclusion

The content analysis of citizen participation revealed patterns and shared knowledge of citizen participation. In short these are:

1. The definition of participation (in reference for this thesis in the case of product development) reads as follows:

Participation comprises approaches for active exchange between individuals (and/or groups) with related stakeholders throughout any stages in the product development process.

The definition of participation

2. The participatory process itself comprises five different stages (fig 17), which appear in all models of participation:



Figure 17
Stages of participation

Preparing the participation, including setting the agenda, anticipating outcomes, planning the design and choosing methods (preparation); recruitment, invitation and enabling of participants (recruitment); production of outcome by using different methods and designs (action); presentation of outcome (written or oral), implementation or realisation of outcome or follow-ups (implementation); and evaluation of either process or outcome (evaluation).

The preparation stage sets the design and agenda. Decisions on who is to participate, what methods to offer, length, timing and placing of participation, degree of flexibility and possible outcomes have to be made. The participation design is essential for success or failure of participation.

Next, recruitment needs to take place. There are several approaches for recruitment and research has not agreed on one approach. Some argue for representative sampling, some for random sampling, amongst others.

I am inclined for an open recruitment as several cases report the effort and costs it takes to recruit participants. I assume that for design participation, most budgets will be tight and any additional constraints on recruitment might impose unnecessary obstacles.

Any informational and knowledge building measures should be considered in this stage. If participants need to be enabled or given additional information, this stage is the right stage to do so.

Several authors stress the importance of actions during participation. Methods need to be considered with their strength and weaknesses. Any process design needs to match the purpose of participation and expected outcomes.

Involvement and motivation have been discussed at length, and the organiser can choose between intrinsic or extrinsic motivational factors and facilitate involvement.

Any outcomes from participatory actions should be implemented. It influences the satisfaction of participants with the whole experience of participation.

Also, the benefits of participation have been discussed and why spend time, costs and other resources if outcomes are not used?

Evaluation can be directed towards the experience with the event, the outcome or the process of participation. The organiser has to make a choice of evaluation in relation to his/her interests.

These findings in themselves are not novel and can be found partially in other research articles, however, the method of this content analysis and the volume of data offer a new primary and reliable source, which as the first puts different matters of participation together in context.

As such, results of the content analysis as presented here are an original contribution to the field of not only citizen participation but also participation in general.

The findings of the content analysis have been discussed in the wider context in this chapter and proven reliable. While some authors only discuss a single aspect of participation, this chapter provided a comparison of different positions in literature, for example on the matter of recruitment.

The strength, therefore, lies in the complex presentation of possibilities in the area of participation. These findings thus challenge some other findings, especially when researchers discuss only partial insights on participation without giving the wider picture.

There are some limitations, though. The sources were structurally sampled, but the sampling method offered no evaluation on how robust the analysed literature really was. I did not conduct any additional evaluation on the sources itself, for example whether an article can be considered an expert article or not.

Also, there was a huge amount of single cases in the body of data and I did not evaluate the validation of the findings within the body of data. If some of the research articles used for the content analysis failed to meet the quality of good research, it might have influenced the results. The amount of data should compensate for any unreliable source, though.

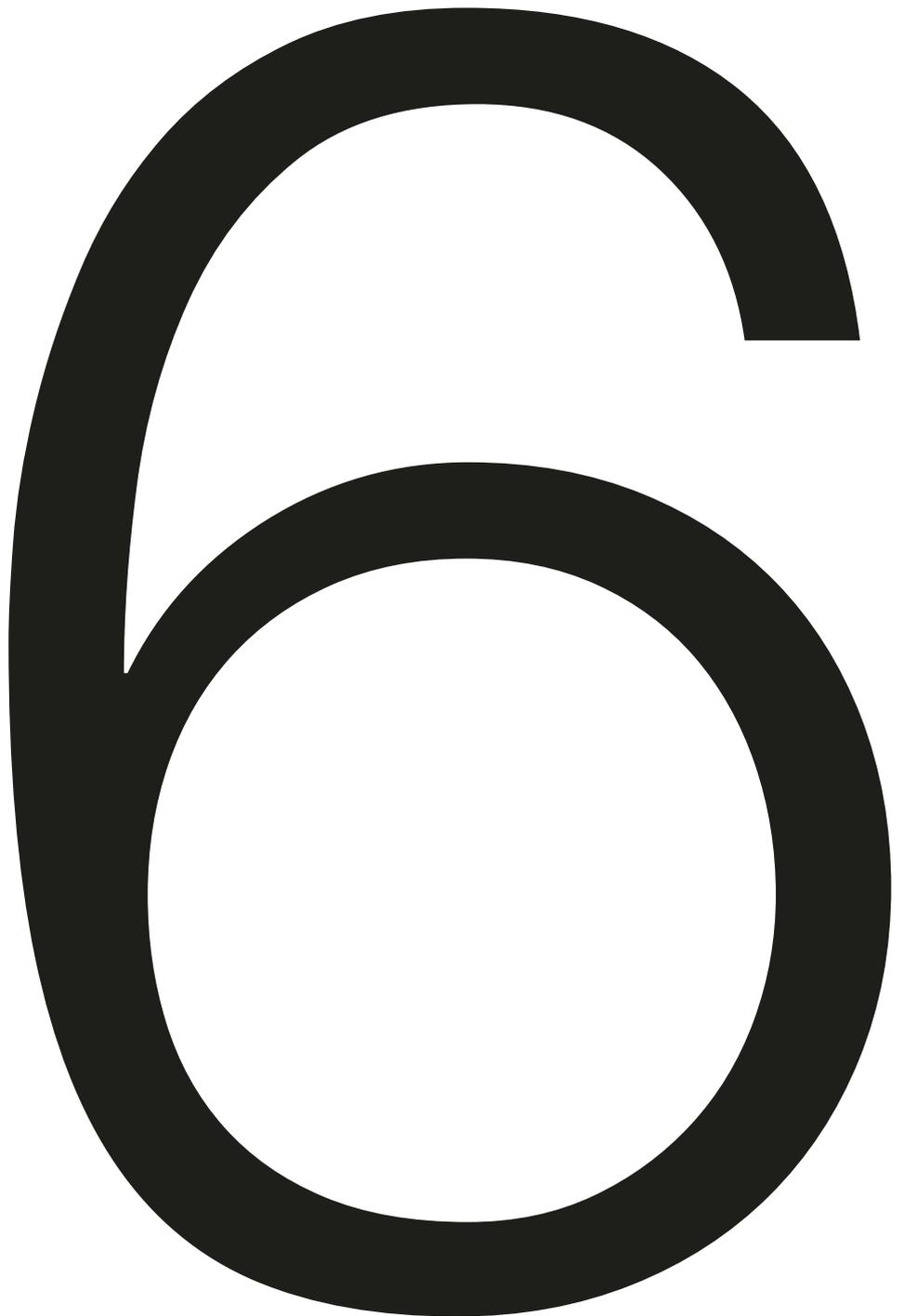
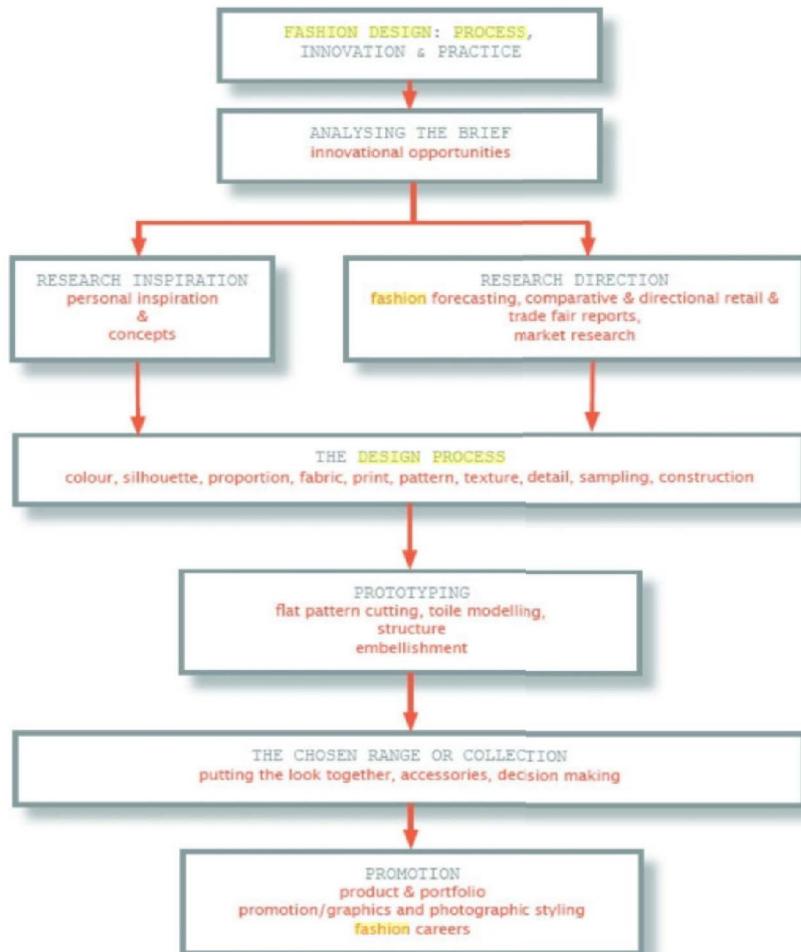


Figure 18
Fashion Design
Process by McKelvey
and Munslow (2012)



6.1 Building the framework, part I

As I mentioned in the introduction, one objective of this thesis is to look at citizen participation in order learn how we could be more sustainable in fashion design. This chapter aims to transfer the results from Chapter Five and develop a framework for sustainable fashion design.

The following chapter describes the framework and its elements, and discusses these in the context of fashion design, participatory design, sustainable design and sustainable fashion design.

Building the theoretical framework begins by looking at McKelvey & Munslow's (2012) fashion design process theory (fig 19). McKelvey and Munslow summarise the fashion design process in a way with which the author can identify her own practical experience.

They describe the fashion design process as a six-stage process, starting with the design brief. The brief sets the requirements for the outcome, and is either delivered by a client or by the designer himself/herself.

The research stage can be "categorized as either research in order to find and explore sources of inspiration or research in order to explore a specific area in depth" (p. 36). Other authors (cf. Jones, 2005; Seivewright, 2008) tend to focus on the research phase only, which indicates that the research phase is given special attention in fashion design. Inspiration for research can be drawn from films, exhibitions, galleries, museums, books, magazines, architecture, photography, theatre, travel, and the Internet, while research areas can include trade fairs, forecasting companies, extensive market research, and so on.

After first documenting the research in form of drawings and illustrations, which are then composed as a concept, mainly in the form of moodboards, the design development starts. Here the details, such as shapes and silhouettes, volume, proportion, scale, cut and construction, as well as fabric and colours/prints, are chosen and combined. More detailed drawings, often technical drawings, combine and visualise these elements in the form of a prototype on paper.

Following the prototype instruction on paper, a 3D prototype of each garment is manufactured. Together, these garments form a collection based on the concept developed earlier.

The last stage brings the collection to either the client or to the market. Portfolios (with pictures of the collection and concept) or fashion shows communicate the collection to the market, and if successful the collection is mass produced.

Of course McKelvey and Munslow's model is simplified, and devia-

6.1 Building the framework, part I

tions in practice are possible. However, assuming that the model captures the fashion design process well enough on a meta-level, I compare it to the stages of participation identified in the following. There are different ways of doing this (figs 20-24):

Figure 19
Framework for sustainable fashion design A



Figure 20
Framework for sustainable fashion design B



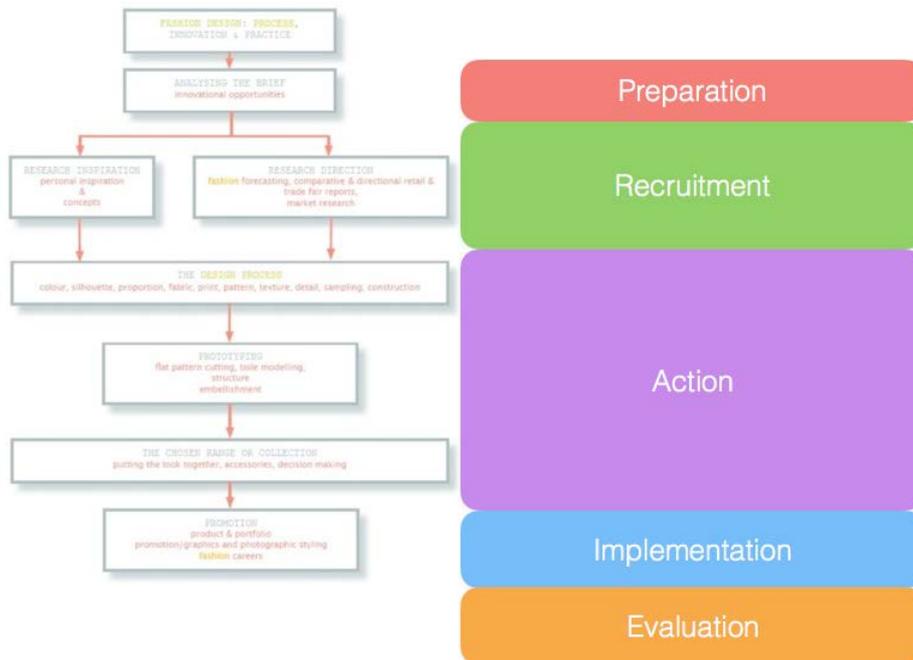


Figure 21
Framework for
sustainable
fashion design C

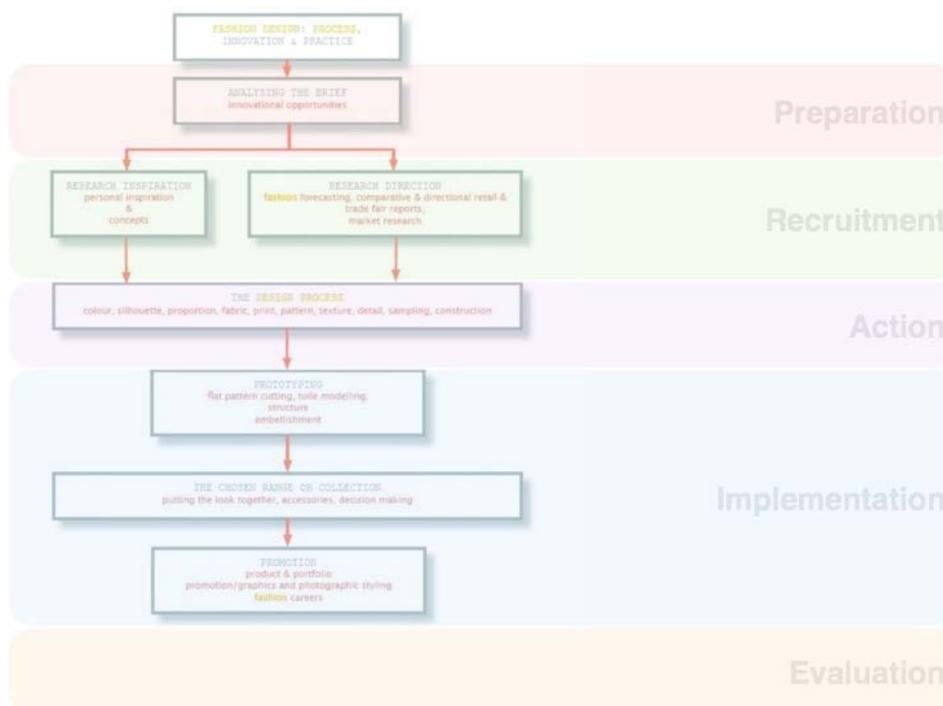


Figure 22
Framework for
sustainable
fashion design D

Frameworks A, B, C, and D (fig 19 - 22) relate the preparatory stage of participation to the design brief in the fashion design process.

In the fashion design process outcomes are defined by analysing the design brief and, most importantly, decisions have to be made: this compares to the participation preparation, where the participation process is planned and, similarly, decisions have to be made.

Next, the research phase sets the agenda for further design development. This stage correlates with the recruitment stage in the participatory process. In the main, sources (in design: inspiration and research areas; in participation: participants and information packages) define both stages, and are comparable.

Correlating the action posed some challenges. Versions A and D see action in comparison to the design development only. B goes further in including the prototyping, and C even the collection stages. For versions A and D it could be argued that the actual action only takes place during the development of the design. For B the idea of extending action to the development of prototyping is articulated. And in C the idea that decision-making is an essential part of participatory processes is discussed.

However, the final choice was D, because the design development is the phase in fashion design where the product is developed, and it is here that most can be taken from a participatory approach. Consequently, prototyping, collection and presentation are part of the implementation phase, because results from the design development are implemented, correlating with the idea that participation outcomes are implemented, too, and presented to the wider public.

The last phase, the evaluation phase, does not really compare to the fashion design process. The evaluation phase sums up what has worked and what not, which generally is not part of the fashion design process itself. Therefore, for the framework for sustainable fashion design, version D was chosen as the final version.

The next step is to merge the fashion design process and the participatory design process to create a new theoretical framework for sustainable fashion design. In other words, the content of the fashion design stages and the participatory design stages need to be translated into something suitable for a sustainable fashion design process.

Table 25 compares the contents of the fashion design process to the contents of the participatory stages:

Fashion Design	Participation	Table 25 Comparison of fashion design and participation processes
Translation of brief Setting outcomes	Setting the agenda Planning the process Choosing design and methods	
Research: - inspirations - areas	Recruitment of participants Invitation of participants Empowering participants	
Designing	Participatory actions	
Prototyping, Collection assemblance and promotion of Collection	Implementation Information	
	Evaluation	

Looking at the comparison, the design brief outlines the deliverables and outcomes of the design process, similar to the agenda as a planning instrument for the participatory process.

The research phase includes inspirational and areas as sources, while the recruitment phase treats participants as sources. Both have ways of approaching, handling and processing sources differently.

The designing phase comprises the actual design of garments, while in participation this is the part where participation actually takes place. Both have in common the use of appropriate methods and an overlaying process structure (flexible or formalised).

After the action phase, in both processes, outcomes are processed. In fashion design this is in the form of prototypes and a collection plus the communication of the collection; in participation this is by informing the public after decision-making.

The last stage, the evaluation, is particular to the participation process, where results and experiences are evaluated.

A crucial step here is to define a framework that takes into account the particularities of both the fashion design and the participation processes, and does justice to both approaches. In order to do so, a short excursion is taken into “design thinking”.

6.2 Excursion Design Thinking

Protzen: *It appears that DT is just a new catchphrase, which, at best, is confusing and at worst, plain meaningless*⁹

Brown: *David Kelley, also the founder of Stanford University's Hasso Plattner Institute of Design (aka the "d.school"), remarked that every time someone asked him about design, he found himself inserting the word "thinking" to explain what it was that designers do. Eventually, the term design thinking stuck*¹⁰

Wired journalist: *Design Thinking is created not only because Tim Brown (sic!) coined the word that became a buzzword*¹¹

Protzen: *What, however, shocked me most, is that in none of the new books and blogs I have consulted are there any references to earlier works, not even to the book *Design Thinking*, first published in 1987 by Peter Rowe, an urban designer and Harvard professor, who may actually have coined the phrase*¹²

Kimbell: *Design seems to have moved from being a specialized competence of professions rooted in industrialized economies, to become something we can all practice as part of our consumption activities*¹³

Imagine this as a spoken dialogue between practitioners and scholars and the controversy about design thinking becomes clear.

Design thinking divides the academic world and that of the practitioner: research in design evolved in the '60s and '70s, and special attention to generalising design emerged in the '70s and '80s.

Design thinking, as an approach and as a process, has increased in popularity over the last decade (Kimbell, 2011) and "the eagerness to adopt and apply these design practices in other fields has created a sudden demand for clear and definite knowledge about design thinking (including a definition and a toolbox)" (Dorst, 2011).

⁹Protzen,2010, p.1; http://www.ced.berkeley.edu/downloads/pubs/faculty/protzen_2010_design-thinking-what-is-that.pdf

¹⁰Brown and Wyatt, 2010, p.33; https://ssir.org/articles/entry/design_thinking_for_social_innovation

¹¹<https://www.wired.com/insights/2014/04/origins-design-thinking/>

¹²Protzen,2010, p.2

¹³Kimbell, 2011, p. 2

In the commercial sense, the popularity of design thinking was indeed established by IDEO¹⁴ and the d.school at Stanford University¹⁵ (Kimbell, 2011; Johansson-Sköldberg, Woodilla, and Çetinkaya, 2013; Carlgren, Rauth, & Elmquist, 2016). Design Thinking by IDEO/Stanford d.school comes with a formalised process and a set of tools, and it is probably this that makes it appealing to non-designers, understandable to a wider audience, quickly and easily applicable to a variety of fields, and hugely successful beyond the profession of design. Design Thinking is a “sparse account” of design, simple enough as a conceptual framework “to anchor the variety of approaches that designers take” (Dorst, 2011, p. 522).

What does the framework of Design Thinking look like? Figure 23 shows that the d.school “proposed a stepwise, iterative process framework which is often depicted as a sequence of activities that can be interpreted as linear: empathise (data collection based on, for example, ethnographic studies), define (data synthesis to gain a refined understanding of the problem), ideate (suggest ideas for solving the problem), prototype (develop tangible and representations of the ideas that can be experienced) and test (with potential users)” (Carlgren et al., 2016, p. 40).

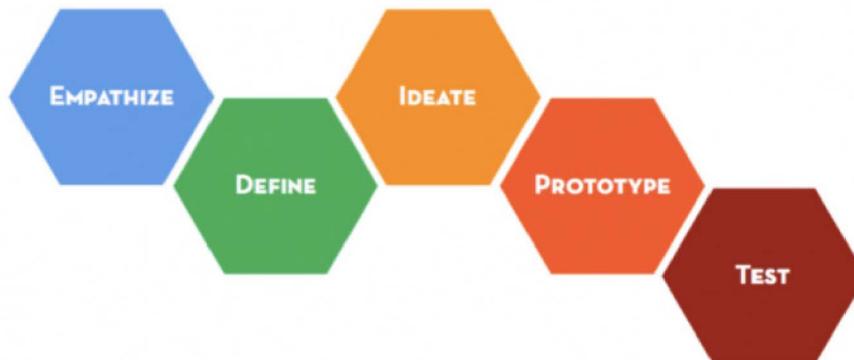


Figure 23
d.school Design
Thinking framework

¹⁴With Tim Brown as the CEO of IDEO

¹⁵With David Kelley, former Mechanical Engineering student at Stanford, founder of IDEO and founder of the d.school in Stanford

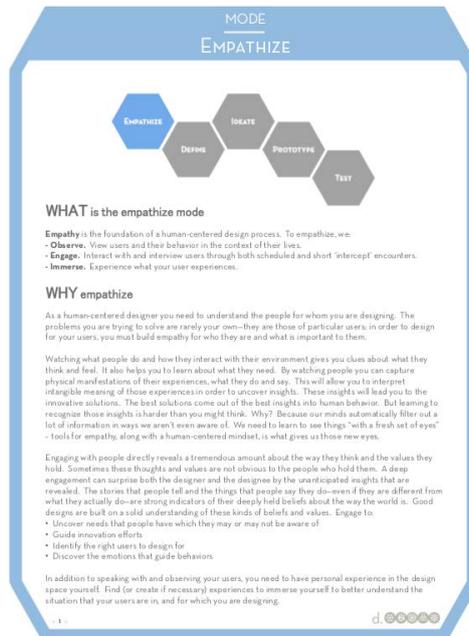
6.2 Excursion Design Thinking

In the d.school's accompanying Boot Camp 'Bootleg'¹⁶ document, each stage within the framework is described in detail (fig 24). The description consists of visualising the position within the process, explaining the stage (WHAT) and the background (WHY). Additionally, methods within each stage are described in greater detail (fig 25), explaining the reason to apply a method and how to do it.

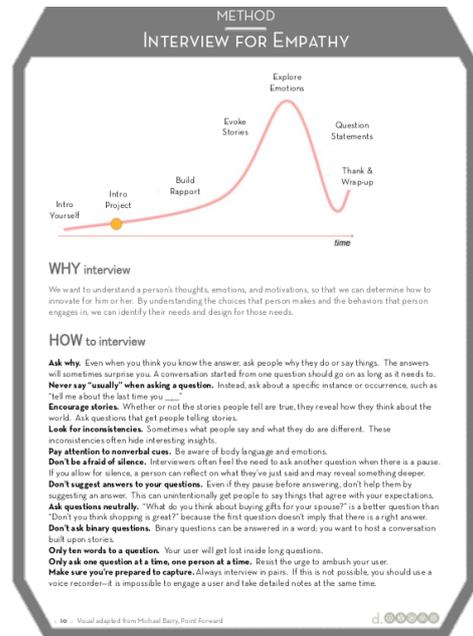
The Design Thinking framework, as presented by the d.school, provides a well-thought-out theoretical framework, simultaneously plotting the process of Design Thinking and, in combination with the accompanying bootleg document, giving details of the methods within each stage.

Since Design Thinking has experienced overwhelming success in recent years – whether justified or otherwise is not the question here – the author takes it as an inspiration and starting point for a framework for sustainable fashion design.

left:
Figure 24
Design Thinking
Framework
stage in detail



right:
Figure 25
Method of
Design Thinking



¹⁶<https://dschool.stanford.edu/wp-content/uploads/2011/03/BootcampBootleg2010v2SLIM.pdf>

6.3 Building the framework, part II

Taking the Design Thinking framework and the d.school Bootleg document as inspirational sources for further development of the framework for sustainable fashion design, I propose the following framework (fig 26):

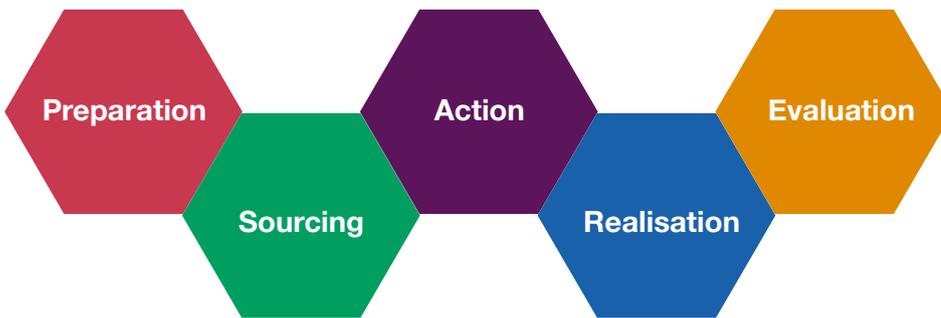


Figure 26
Framework for Sustainable Fashion Design

The overall structure suggests a linear, connected and sequential process, starting with preparation and ending with evaluation as the fundamental stages. Instead of suggesting a rigid form, the form here was chosen to suggest that additional activities could be added to one of the “arms” (fig 27). The form allows customisation or adaptation of the process according to the individual needs and specifics of projects, without changing the fundamental sequence of the framework. The colours were randomly chosen and any designer is invited to choose different colours while using the framework.



Figure 27
Customisation of the process

The nomenclature of the framework considers fashion design as well as the participatory process:

1. Preparation: in the fashion design process the first stage defines the brief and the outcome. In the participatory process, this stage sets the agenda and the process of designing. Both stages have a preparatory nature and thus the nomenclature of the framework's stage one was preparation.

2. Sourcing: in the fashion design process this stage deals with inspirational sources and research while the participatory process recruits participants. Both have in common the idea of using "sources", and thus the nomenclature of stage two of the framework was sourcing.

3. Action: both processes, fashion design and participation, have in common the need for either the designer or the participants to become active. Accordingly the stage was named action.

4. Realisation: this stage features prototyping and promotion: respectively, implementation and information. In this stage former activities are applied and brought to life. Hence the nomenclature realisation seemed most appropriate.

5. Evaluation: though not formally part of the fashion design process, but only of the participatory process, this stage was nonetheless added to the framework. The nomenclature of the participatory process was kept as a key reference to the participatory nature.

Similar to the d.school Design Thinking Bootleg document, I will give details for each stage in the following, using a format similar to the Bootleg. This will allow easy extraction of the detail of the framework detail for use beyond this thesis.

In the section following this, I will present the methods that are fundamental to the participatory nature of the process.

However, I exclude methods that are widespread and well known within the scope of fashion design, as I expect these to be already in use and thus well known by designers, and would also go beyond the scope of this thesis. Also, I claim that there is extensive relevant literature available on methods for the process of fashion design.

In summary, the overall structure of the framework suggests a linear, connected and sequential process, starting with preparation and ending with evaluation as the fundamental stages. There are several methods possible, which come from citizen participation and are indeed suitable for the new framework of sustainable fashion design.

The following pages will present the framework in a layout inspired by the d.school Bootleg document. It starts by presenting the process phases of participation and continues with diverse methods.



Preparation

WHAT is the preparation phase

The planning stage helps understand what the anticipated outcomes are and how to achieve the desired outcomes. The following questions might help clarify the planning and set the agenda:

How much work is expected?

Is there a deadline?

Is there a budget? How much is the budget?

Is participation used throughout the project or just at specific stages?

How many participatory events are there going to be?

How will the events be organized?

Which methods will be used?

What is the degree, content, extent, and influence of and during participation?

How will the interests of different stakeholders be considered?

Is there any technical support needed?

WHY prepare

The sustainable fashion framework builds on a participatory approach. The planning stage sets the participatory design and defines the methods, and while a certain flexibility is preferred the planning stage is crucial for the success or failure of the project. First and foremost, the organiser should consider possible outcomes and decide which are desired, whether these are material outcomes or immaterial outcomes. Participants can produce tangible solutions or just speak and articulate opinions or provide feedback.

Participation can be implemented at any stage of the development of a product, or just at specific stages. While most benefit comes from using participation throughout the stages of product development, this might not always be manageable.

The design process and methods depend on the degree of involvement and the desired outcome. Motivation is increased with transparency and a clear communication of the benefits to be gained.

An outline (agenda) will support the planning process and help with communication. The agenda should be easily accessible and distributed before recruitment and any activity.



WHAT is the sourcing phase

Finding sources for inspiration gives the planned fashion collection a mood and a thematic anchor. Also, carrying out market research will help to identify possible target groups and thus inform the recruitment of suitable participants.

Recruiting the participants sets the “quality standard”. Having motivated people participating ensures success for the whole process. There are several ways to recruit participants, ranging from representative or selected to randomised sampling. Some questions will help the recruitment process:

Who is supposed to participate (laypeople, people with an interest, random, or representative people) and whom are they to represent?

Do people want to participate (and can they at all)?

What selection/recruitment method is used?

How are possible participants invited?

How many are supposed to participate?

How will they receive education, training and support so they become more knowledgeable?

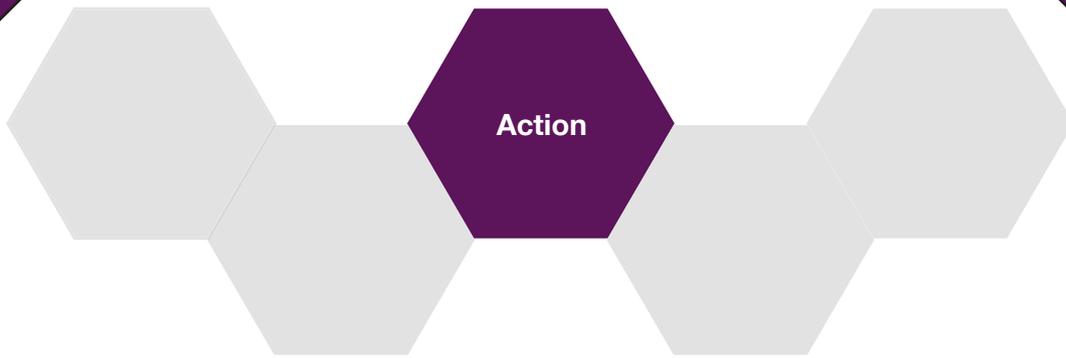
How are they enabled during the process?

Are they paid to attend?

WHY source

For any participatory event, participants are needed. They can be random laypeople or representative groups. The recruitment method depends on the desired outcome and how many participants are required.

Empowering participants before participation, making them knowledgeable, is an important facilitator. Educating future participants can happen in many ways, but it should happen before participation takes place. Expert interviews can be a good addition to pre-participation education.



WHAT is the action phase

Participation is at the heart of action. A designer or developer needs to understand the people he/she is designing for. Participatory methods derived from citizen participation are the fundamentals of the action phase.

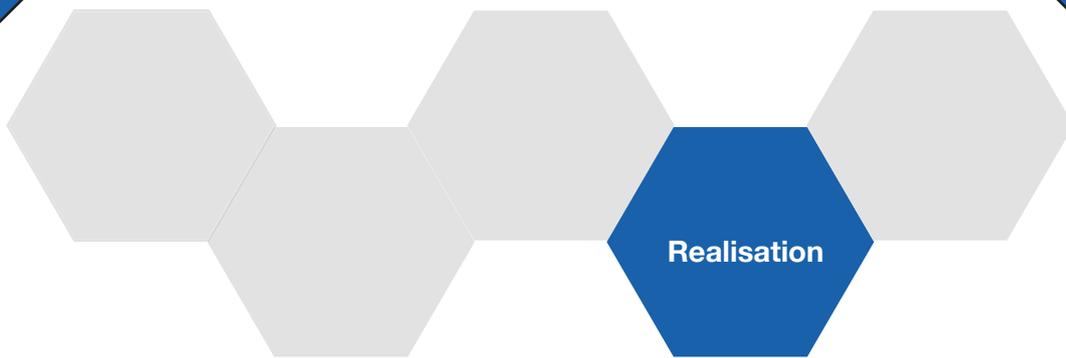
Generally, methods can be distinguished in

1. methods that reveal knowledge and values from participants and include them in decision-making
2. methods that change perspectives of all stakeholders and where results are supplied to the decision-making process
3. methods that facilitate learning and where all stakeholders are included in the decision-making process

WHY action

Engaging with people directly reveals what they want and the values they hold. Not only is the design outcome then close to the wishes and desires of actual users but participation also adds legitimacy and trust to the outcome. Hearing about what people have to say and integrating them into the actual design of the product leads to solutions that are both innovative and close to the users' needs.

Integrating the users with the actual design process can lead to material or immaterial outcomes, which results in products that fit the users' needs or offer useful recommendations for the actual design of clothes. The aim is to produce a satisfactory product that will prolong use and ultimately lead to fewer problems related to production-related environmental pollution and the disposal associated with fast fashion.



WHAT is the realisation phase

This phase embeds the designer's ideas and outcomes from participatory actions into the work. Sketches, mood boards, consensus from participation, user desires and decisions are merged and realised into 3D prototypes. These prototypes are then chosen for a collection, matching the theme and the associated market research.

WHY realise

The whole point of the design process is to develop garments to be bought and worn. The sustainable framework additionally aspires to prolong use-longevity by integrating a participatory approach. After participation, information leads to enhanced motivation, adds legitimacy to both participation itself and the outcome, and participants will feel they are taken seriously.

The promotion of the collection and the obtaining of information from participants and the wider public about the results is an important phase, as it moves the finished garments to the market and into a retail context.



WHAT is the evaluation phase

By measuring the process and the acceptance of the outcome, and observing the user and their use behaviour, the designer can learn and gain experience.

WHY evaluate

Evaluation offers the chance to refine the participatory process and learn about mistakes that have been made. Also, it helps to provide an understanding of how and to what extent the garments really lead to more sustainable wearing behaviour. Understanding the user and their use of the garments helps us make better choices and garments next time.

Method Recruitment



WHY recruit

Recruiting participants and making them competent partners is essential for the success of any participatory process, and there is much discussion about recruitment approaches. This makes the recruiting stage difficult and challenging. Generally, a number of different angles for recruitment lead to the best results.

Some suggest using a randomised recruiting method in order to recruit representative or socially heterogenic groups. Others argue for identifying willing participants and recruiting participants with a particular interest in the topic at hand, and readily identifiable individuals. And others argue against involving participants with instrumental interests, viewpoints or perspectives on the topic.

Every designer using a participatory approach should keep in mind the fact that what makes people participate is the desire to learn and try something new. People are often interested in having a voice in future processes.

HOW to recruit

Opportunity sampling is the quickest and most convenient method. Distributing flyers and adverts on websites, for example, or newspaper and magazine advertisements, serve as a recruitment tool. Some use local newspapers, or advertise in community groups. A shortcoming of non-randomisation is that participants might know each other. Local authorities can also help to identify possible participants.

A more extensive approach is to hold community presentations before the call for participants is sent out. In response, interested participants provide demographic data (age, educational background, race, income, political affiliation) and state their motivation for participating. Some even include face-to-face interviews for shortlisting participants. Participants with a strong opinion or a stake in the topic are often excluded.

Participants usually receive monetary benefits; however, some organisers just offer a free lunch or paid childcare for parents. Incentives can also include winning – for the having the best idea, or even just for submitting ideas.

In total, there are four group sizes: tiny (2-4 participants), small (6-8 participants), moderate (up to 40 participants), and big (up to 200 participants).

Method Empowering participants



WHY empower

Participants need to acquire various skills before entering the debate, and gain knowledge of the matter at hand. They should know how to participate and be aware of the consequences of their future decision-making. During the process they need to identify good ideas and vote on a solution. Informed participants are more active during the process and less intimidated during activities. Making them competent partners is essential for the success of any participatory process.

Discipline is also needed in any kind of participatory event, and a transparent process helps to convince people they can really participate usefully. Confidence among participants is key to successful participation.

HOW to empower

Pre-interviews with stakeholders on the issue at hand should be conducted before the event. Summaries of these interviews can be supplemented by multimedia sources: for example, video or audio material and other online links. Two interviews from each stakeholder group are usually sufficient. In total, five themes on the subject can form the provisional agenda.

It is important that any raw data is converted into workable evidence. Participants cannot be expected to work through a huge amount of raw data. The evidence can then be presented on a website. The website links the various sources of evidence together while maintaining the five themes for practicality. Participants can be encouraged during recruitment to use the evidence for deliberation and enquire further independently while they proceed.

The advantage is that participants can access the evidence on any number of occasions and at any time, and are prepared before the participation takes place. If participants have questions they can post these on the website, which can be answered later by experts or the organisers. Participants should also be allowed to make suggestions to the agenda or voice their general opinions and thoughts before participation.

If a website is not available, a background paper can be sent to the participants. The paper summarises the participation theme from various perspectives and should outline the agenda and the topic, and offer some expert knowledge. Additional briefing booklets provide participants with information supporting the group work and the general behavioural rules.

Method Online participation



WHY participate

The characteristics of a participatory process are best described as open and creative. Any process should encourage multiple styles, patterns and levels of engagement for a broad base of participation. It is a collaborative process where participants and stakeholders outline strategies together. As such, it should be free, open, equal and cooperative, involving diverse knowledge, expertise and perspectives. Conflicting interests should be constructively explored and solutions developed together, going beyond what individually might be thought possible. A process should thus encourage interaction and the sharing of ideas, a mutual communication flow, and the exploration of diverse experiences.

HOW to participate

The deliberation itself takes place online. During two-hour-long sessions, for example, participants have the opportunity to chat and discuss the designs. The chatroom can be embedded into a project or collection website and the outcomes are usually recorded.

Method Fashion Collection



HOW to participate

Involvement allows the aggregation of voices with surveys. These can occur during the determination of the brand or collection values, for example. In panels, participants have the chance to express their ideas and feelings regarding the style of the brand or a collection. The design team can then translate the value into a logo, images, slogans and a story behind the brand and the collection.

Method Design Conference



HOW to participate

A conference can include three moderated meetings, each two to three days, over a period of three months, for example. Between the meetings, participants discuss the topic online and conduct self-paced learning. This cyclical nature allows greater knowledge acquisition.

The first meeting is held over a weekend, and is aimed at group formation and the exploration of the theme. Background information is provided and questions from participants answered. During the second two-day meeting, representatives relevant to the topic hold a panel discussion, informing participants on various perspectives and ideas. After questions are posed to the panellists, the participants split up in smaller groups and discuss the information received and develop possible designs. They also frame questions to be posed to experts during the third meeting. These questions are then sent to experts who have time to prepare answers before the next meeting. The third meeting is held for three days, and includes the expert panel and the writing of a report. As with the panel, after questions are posed to the experts and participants retreat into small groups for discussion.

Sometimes the background reading is done before the first session. On other occasions, the second session – the interaction with experts – is done online as a virtual session.

Method Design Café



HOW to participate

Design Café sessions are brainstorming sessions for a large group of people. Participants sit in small groups with designers and discuss ideas or the new collection over a cup of coffee, maintaining an intimate level during sessions. Design Café principles involve:

- clarifying the context of a collection or ideas, explaining the situation, the process and its outcome to participants
- creating a hospitable place
- exploring meaningful ideas
- connecting diverse perspectives
- encouraging personal contributions
- listening together for deeper patterns, insights and new design directions
- sharing collective discoveries

At the beginning of each session these principles are presented and the hosts ensures that the principles are kept to at all times. The sessions start with presentation of a collection or a theme for a collection, turning it into the topic for the brainstorming session in small groups. After group brainstorming, one member of each group presents the findings to the other participants.

Method Fashion Crowdsourcing



HOW to participate

Crowdsourcing needs the capacity for maintenance and ongoing stewardship. Crowdsourcing activities often need moderation as well. Problems should be well defined, fairly easy and simple to handle.

Designs from the crowd can be displayed online, where the crowd can vote on the best design. The winning design is realised in the next collection. The winner receives store credit for their winning design, or the final garment for free.

Other crowdsourcing approaches frame a theme for a collection, which is then posed to the crowd on the website and broken down into three phases: inspiration, creating a concept and evaluation. Phase one, inspiration, aims to educate the crowd about the problem. Submissions of ideas are voted on, the ones with the most votes progressing to the next phase. The second phase, creating a concept, refines a solution (narrowed down to twenty) and again ideas are voted on. In the third phase, evaluation, the crowd expands the twenty ideas. After this last phase, a list of winning ideas is selected. Other crowdsourcing models use simple yes/no voting, surveys and curated commenting.

Crowdsourcing can also be used for existing collections and garments. To start the process, people can be asked to send photos of garments that need repair. The crowd has to choose which garments are the most damaged and offer the most potential for a re-design. The crowd is thus asked to determine the priority of repair. As with any crowdsourcing project, a moderator needs to determine human errors and misbehaviour.

Method Sustainable Education



HOW to participate

A forum for education about sustainable behaviour and the consequences of fast fashion offers the potential for behavioural change and further sustainable activity. Furthermore, people with different ideas for sustainable behaviour are encouraged to exchange and share these.

Via free apps and mobile-friendly websites, people can become engaged in the dialogue. Social media, such as Facebook, Twitter, MySpace and YouTube, engage people even further.

Websites generally offer a tool for participation and education in sustainable approaches. Participants can be found beforehand, or made aware of upcoming projects through social media. The advantages are the low maintenance costs, the opportunity to publicise projects beyond local areas and long-term use. Surveys, prototypes, blogs and voting formats are just a few possible formats for approaches to sustainable participation involving new technology.

Method Fashion Sustainability Referendums



HOW to participate

Referendums are meetings open to the public. Because of their open nature, the participants are self-selected. As a result, it is usually only those with high motivational interest who participate. The main aim is to hear people's views on a matter, and the opinions and suggestions articulated can be either binding or non-binding. Participants are approached as individuals, in contrast to formats with group participation. There is more of a focus on the exchange of argument and opinion formation than on decision-making or product development. Usually a wide range of participants is involved. Some referendums comprise around 100 participants; some tour around different districts and comprise around 22,000 participants.

Method Fashion Circles



HOW to participate

People participate in small groups of eight to ten people for five two-hour long sessions. These sessions are professionally moderated and follow a structure: first, each group becomes familiar with the fashion collection's theme. Then each group discusses how and why the theme is important for them. After this, they aim to create a consensus and develop ideas and objectives relevant for the collection. They also identify challenges and problems related to the collection and its use, and propose solutions for these problems. Each (garment) idea is evaluated according to feasibility, effectiveness, implementation time-frame, costs, capabilities for implementation and coordination needs. The participants vote on what they believe to be the top three designs. Afterwards, each group assigns one member to represent the group during a forum in which each solution is discussed (and voted for again) in a wider context, for example on a website.

Method Fashion Scenarios



HOW to participate

Scenarios, which comprise a set of images illustrating future ways of designing garments or wearing behaviour, for example, are used to engage both participants and designers in a face-to-face discussion and idea development. The scenarios are not predictions of the future, but contribute to a general debate about future possibilities and designs.

During the workshops, different scenarios are presented to participants for discussion and design development. These scenarios are built by designers before the event takes place. After the first workshop, a second workshop includes not only the scenarios, but also the results from the previous workshop.

Method Participatory Action Design and Co-Design



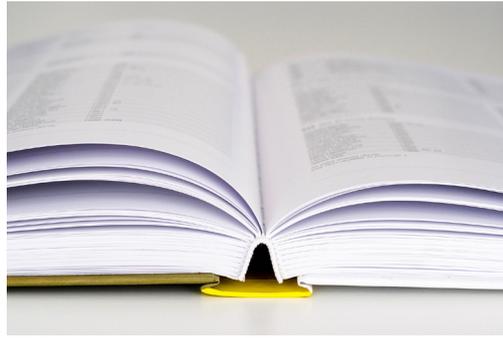
HOW to participate

Action research directly involves participants in the design and development process. Here participants firmly guide the actions. Another aspect of action design is the equality of participants, designers and other stakeholders, and the collaborative nature of the activity of these groups. This increases the likelihood that the outcome will be supported by everyone.

Workshops are usually scheduled at the beginning (or before) and during the design process. The first meetings are held in the early evening of a weekday, for example, with food and beverages provided to keep the motivation high. On entering, participants are given the agenda as well as a brief summary of the fashion theme. The workshop is structured in six steps: introduction, overview of the project, two mapping sessions, a visioning session, and closing arguments. Each activity is scheduled to last around 15 to 25 minutes. Participants are asked to divide into groups during activities. Between the workshops, meetings are held with other stakeholders, such as business owners, to hear their opinion on the results from the first workshop.

The aim is a deeply collaborative process and it involves people directly in the making process of a product, although designers (or other makers) set the initial conditions for the product in question, such as its construction and use, for example, and the values and purposes of the collection. But after this initial setting, designers, developers and participants work together. Together, they have to determine how they can work with each other, considering possible stages of involvement, which methods are appropriate and what is needed in advance to enable the participants to contribute to the design and development of a collection. For example, kits can be used to inform the participants before the process, comprising an overview, a process description and information on the product, or kits can be used to involve participants in the making, such as the provision of patterns, sewing machines, material and so on.

Method Implementation



WHY implement

Participation increases knowledge and skills among laypeople, and can change behaviour. It facilitates learning and education, especially when expert inputs are an integral part of the participatory process. Participatory events can inform a large group of people, offer hands-on explanations and inform about emerging opportunities. Those who are not part of the participation miss these opportunities; however, they may also benefit from the results and the experience. Implementation should therefore always have an element of communication.

HOW to implement

Written reports are the easiest way of documenting an earlier participatory event and communicating the outcome. For writing the reports, participant groups can be divided into sub-groups, each focusing on a small matter within the report. The final report can be made available officially to the public and covered by press and publicity. Results can also be offered on the website, in the form of pictures, videos or just texts.

Method Evaluation



WHY to evaluate

The success of a participatory event depends upon the organisation of the event and the characteristics of the process, as well as the participants, of course. Formally organised events are more effective than those that are informally planned. Different types of participation will lead to different outcomes. To ensure successful outcomes, any organiser should formulate expectations about the result, the content and impact of outcomes and give guidelines during the process

HOW to evaluate

There are criteria to evaluate the effective construction and implementation of procedures and the acceptance of procedures.

The acceptance criteria is broken down into five major categories:

1. Criterion of representativeness: in which the participants reflect the overall demographic of the affected people.
2. Criterion of independence: there should be no bias in regards to the participants.
3. Criterion of involvement: involving the public early in the process so that their input can be useful to the outcome.
4. Criterion of influence: the outcome should impact policy.
5. Criterion of transparency: this allows for participant and non-participant oversight to ensure the outcome is actually the result of the participatory process.

Process criteria is the acceptance of procedure and consists of four parts:

1. Criterion of resource accessibility: having access to the resources necessary to enable transparency in the process.
2. Criterion of task definition: there should be clear definitions and goals of the project.
3. Criterion of structured decision making: showing the decision-making process.
4. Criterion of cost-effectiveness: in theory, the entire process should not impose a financial burden.

Evaluation can be carried out via email, telephone interviews, face-to-face interviews, and self-assessment meetings. Additionally, participants can fill out surveys during or after participation.

6.4 Discussion

The framework for sustainable fashion design is a five-stage sequential process, which is deliberately customizable. The stages comprise of preparation, sourcing, action, realization, and evaluation. Comparably to the Design Thinking d.school Bootleg, I explained the stages in greater detail and the proposed methods within the participatory actions of my framework.

6.4.1 PARTICIPATORY DESIGN

One of the foundational authors in participatory design is Spinuzzi (2005) who identifies three basic stages that are present in almost all participatory design processes. These stages are: designers meet and familiarize themselves with participants and how they work, users and designers find clear design goals and cooperative prototyping (cf p. 167).

Spinuzzi's three stages are helpful in laying the groundwork for understanding the fundamental workings of participatory design. However limiting the stages to three is too basic and fails to reflect the variables that can be present in real-life design situations.

Evaluation criteria, as discussed by Spinuzzi, are vital for the purposes of this paper as the current use for participatory design is limited to a "purpose statement" rather than "research question" (Spinuzzi, p. 169). As such, this creates a false participation that cheats users out of having a more tangible impact upon outcomes. In short, participants become vehicles to confirm a desired outcome rather than being active participants in change (see Chapter 5.3 for more on the role of participants in participatory design). Instead of three stages I define five, which are more detailed and take into account both the fashion design process and complexity of design development. Three stages do not illustrate "real" design situations or complex design problems. The evaluation criteria matters in setting the agenda (process should aim for these criteria) but is not suitable for post-process evaluation. Also, the methods used are traditional design methods and are used beyond participatory design, for example in contemporary design thinking applications. Participatory design does not utilize these methods as exclusive and these methods could be used in any design process (beyond participatory design) as well as these methods can be used without users, for example observation does not necessarily have people actively participating. The framework for participatory design, in contrast, embraces methods particularly relevant for participation.

Muller and Kuhn (1993) examine group size in relation to participatory design. They identify that practitioners need some guidance so that organisers use the appropriate group size for their particular circumstances (cf p. 26). Muller and Kuhn create a group sizes taxonomy where T = tiny (2-4 participants), S = small (6-8 participants), M = moderate (up to 40 participants), B = big (up to 200 participants). The taxonomy of group size is useful a guidance to frame a discussion of the integration in regards to resources (time, cost) and flexibility.

In addition, Muller and Kuhn discuss when certain participatory practices are appropriate within the development cycle. However, as argued above in Chapter 5, my data found that the participatory approach should be present in every stage of the design process so the discussion of which practices are appropriate and when is a redundant point. As such, Muller and Kuhn's methods are useful for working with participants, but not necessarily as specific methods analysing the success of direct user involvement.

Kensing & Blomberg (1998) discuss tools and techniques, such as scenarios, mock-ups, simulations, interviews, and prototyping. As with the above authors, these are methods that can be used with or without users. Without users, they are not exclusively participatory methods. The majority of the early studies into participatory design reiterate the same (or similar) conclusion.

However, in my study into citizen participation, I am arguing that participatory design methods need to include users. Kensing & Blomberg discuss a more flexible understanding of participatory methods in terms of actual user involvement. However, the current field of study, and my research, have a more firm definition of citizen participation that definitively includes direct involvement from users. Design methods that can be completed without user involvement are not participatory design.

Muller and Drain in Sears & Jacko (2009) mention the limitations of participation, such as novelty, difference, and dependence (cf p.4). This is the first discussion to mention the perspective of designers and that user participation is a challenge (or a threat) to the designer's expertise (p. 5). Similarly, Taffe (2015) writes: "the philosophy of co-design disrupts designer's claim to be expert problem solvers" (p. 41). This poses a challenge to fashion designers "as they are trained to behave as the sole creative experts" (p. 41) whereas participation is more established as a part of product design. The fear of losing prevalence (and the status as an artist) might also be the reason why fashion designers have blocked (and still block) a user-centred approach. Participation aims for change in power relations (see Chapter 5) but does it

have to be a bad thing to confront designers with the benefits of participation? Perhaps designers fear that co-design in fashion design will take away part of their creative licence or intellectual property. However, it is interesting that fashion designers often argue against increased user participation since the end result of the fashion design process is the user/consumer/wearer. For the purposes of my study, the artistry of haute couture does not affect businesswear. Since I am exploring a category of clothing that is being bought to use in specific circumstances, the fashion designer is not designing businesswear as works of art, but rather with the intent that it will be worn in daily life. In this case, user input is vital to the design process.

Björgvinsson, Ehn, and Hillgren (2010) outline an interesting facet of participatory design as “an emerging shift from design with pre-defined groups of “users” towards engagement with milieus where user driven design and innovation can take place. This is a shift that is characterized by a movement towards participatory design in open public spaces rather than within an organization” (p. 41). Björgvinsson describes: “Four decades later, the tools, and maybe also the strategies, have become much more sophisticated” (p. 42). In addition, a change in focus of participatory design (workplace improvement in the 80s and 90s) to products in general (today): “What we clearly can see today is a design reorientation towards everyday life and the public sphere” (p. 42). This offers an explanation for the difference between methods discussed in participatory design and my framework.

My research shows that citizen participation is best conducted in a public space and thus my framework tends to incorporate that aspect. Finally, I do not exclude the germane design methods. As I stated in part II, those are well know and thus not part of this thesis. However, they can be included within a proposed new framework without problems.

Kensing, Simonsen, & Bodker (1998) present the MUST method for participatory design, “a conceptual framework of the design process” (p. 169). MUST, through a five-stage process (p. 183), focuses on early activities in the development cycle and includes management issues in an organizational context.

The first two stages focus on the beginning of the project through “project establishment” and the initial “strategic analysis”. Next, are the action stages, which involve the “in-depth analysis” moving into “developing visions” by creating mock-ups or prototypes based upon the results of the analysis.

Finally, is the expansion of the action stage into “anchoring visions” through an implementation of the ideas through the manufacturing process

that utilizes all of the above-tested and analyzed data. This final stage is not examined by other literature, but is an interesting factor to consider for the managerial agenda in the general application context of any design framework.

The above stages have been influential on my own participatory model. However, the stage breakdown presented by Kensing, Simonsen, & Bodker actually only has three distinct stages—the agenda, the implementation, and the expansion. The implementation stage, which corresponds with the action stage, as mentioned above, is the first time that designers and users meet to explore and create solutions. This comes after two different analysis stages—the strategic analysis and the in-depth analysis. This brings designers and users together too late in the process. It seems that the designers are intended to come with their fully-formed ideas and the users are intended to help finesse these ideas. The users, therefore, seem to have a perfunctory role in the whole process.

Sanders, Brandt, & Binder (2010) present a framework with which to gain an overview of participatory design tools and techniques. Their discussion of group size finds that there is a variation from engaging one individual to engaging a large number of people. My results correlate this data.

The authors also discuss techniques for participatory design. First is face-to-face versus online participation. While face-to-face is favourable, time and cost can be deterrents. My results, again, support this conclusion.

Additionally, the venue is discussed and the authors find that participation design can be conducted anywhere, especially if the need to travel poses a strain on participants. As such, methods in my framework are more settings for the participation, and tools and techniques from traditional design can be used within the framework.

Luck (2007) is important to briefly mention as she researches how spoken behaviours of the facilitator can affect the users' ability to become engaged in the design of a scheme (cf p. 219). Luck's paper further reinforces the „common language“ as discussed by Spinuzzi.

Demirbilek & Demirkan (2004) create a participatory design model in order to design and develop safe and functionally appropriate products that will promote and maintain independent living of the elderly. They outline five phases: 1. Concept development in which small groups are set to produce ideas and express needs. Here the designer is an impartial moderator who, afterwards, takes the ideas from the participants and develops a preliminary design; 2. Concept refinement, which has the preliminary designs being pre-

sented to the users in a second participatory session; 3. Prototype construction where the designer works with engineers to create the prototype; 4. Trial of the prototype by users; and finally, 5. Production of the prototype (p. 362).

Demirbilek & Demirkan present results that fit within the context of my framework. However, the model is lacking the preparatory and the evaluation phase. Also, it does not explain who and how many need to participate in the “concept development”. Or, whether it is wiser to decouple the actual design from the participatory process since the majority of participatory models presented are theoretical and academic, and therefore, are not easily applied. In contrast, my methods outline a model that is more functional and more practice-based than presented by Demirbilek & Demirkan.

Barcellini, Prost, & Cerf (2015) created ARAD, which has been designed to capture actual collaborative design activities. These authors define design activities as not predefined but as performed by participants as well as activities that emerge from actual interactions between participants (cf p. 32). These examples support my argument regarding the active involvement of participants and the importance of continual involvement from participants throughout the design process. Unfortunately, Barcellini, Prost, & Cerf do not actually discuss the results of the study they allude to in their article.

Vink, Imada, & Zink (2008) discuss a “stepwise participatory approach” (p. 520). Their nine detailed stages outlined here are helpful in explaining each micro stage of the process, but become too complicated to communicate in an actual participation group:

1. Introduction: planning the process, informing participants, defining main focus;
2. Analysis: studying experienced problems, determine impacts;
3. Idea generation: Selecting main problems, brainstorm improvements, design concepts;
4. Idea selection: discussing feasibility of ideas;
5. Prototyping: detailing design, manufacturing;
6. Testing: selected improvements;
7. Adjusting: based on testing;
8. Implementation: training the participants, buy materials;
9. Evaluation: measuring experienced effects, objective effects, adjust improvements, and then evaluation of the process.

Vink, Imada, & Zink outline an extremely process and, when compared with my results, I find that their methods could be simplified. For example, 1 and 2 can be merged, as can 3 with 4 as the authors unnecessarily separate related stages. I have incorporated the main ideas here into my methods. Additionally, testing of my methods could highlight potential adjustments that I could integrate into my framework.

Kaulio (1998) surveys seven selected methods: QFD, user-oriented product development, concept testing, beta testing, consumer-idealized design, lead user methods, participatory ergonomics (p. 143). The comparison of methods adds dimensions of phase and involvement to the design process and enhances the potential degree of involvement. Again, this supports my findings that participatory design should include users during concept development, detailed design and prototyping as well as final product.

6.4.2 FASHION DESIGN

In order to better understand how fashion can benefit from the methods used in participation design, below is an analysis of the current discussion regarding fashion design methods.

Lamb & Kallal (1992) discuss design for special needs through the general framework for fashion design that can be applied to a variety of clothing with multiple end purposes. They introduce the idea of FEA (functional, expressive, aesthetic) as a way of examining the effectiveness of designed objects through problem identification, preliminary ideas, design refinement, prototype development, evaluation, and implementation. Utilising almost exactly the same methods as the MUST method by Kensing, Simonsen, & Bodker (discussed above), Lamb and Kallal create a chart that incorporates FEA in a circular chart to illustrate each part's relationship to one another. By using this as a framework, they analyze fashion design in terms of potential efficacy. However, they stop short of including user participation in this analysis. This oversight is unfortunate as the primary result of Lamb and Kallal's paper is to explore how to design effectively for people with special needs who have extremely specific needs for clothing. However, their introduction of quantitative analysis to the fashion design process is foundational for my research, especially in how fashion design could be analyzed under a methodological approach.

Mete (2006) discusses the importance of inspirational sources, as without the creative impetus, a new object is unable to be thought of and brought to

life. Even though sources of inspiration are part of the design process, they do not constitute the entirety of the design process. Not only can inspiration come from many places, the collaborative result that comes out of citizen participation becomes greater than the original. The designer's creative agency can be enhanced through the inclusion of citizen participation—an idea that is expanded in my data.

Ulrich, Anderson-Connell, & Wu (2003) examine how comfortable people are co-designing fashion and what can they offer to the process. They found that “subjects had high comfort levels with the co-design process and working with a design manager. (...) Subjects offered multiple suggestions on a design manager's involvement in the process, particularly focusing on a more active role in providing personalized design selection advice” (p. 407). However, some consumers were reluctant to make design decisions on their own, which indicates that designers should be advisors during participation. These methods show promising results to support the usefulness of my framework and an argument for an active role of the designer in the participatory process—though care needs to be taken that the designer does not intimidate participants.

Howard (2004) addresses the issue of the relationship between experts and laypeople. Struggles over the expert/layperson divide have been prominent in many environmental controversies (cf p. 40). Laypeople contest scientists' and engineers' values and assumptions, their theories and methodologies, their models and data, their interpretations and designs, and their substantial de facto power in political processes that shape the technological landscape. Given that the heart of participatory design is its commitment to lay empowerment, it will be helpful to examine foundations for eco-design that differ significantly from participatory design in this dimension, as well as an approach that does not (cf p. 43). For example, foundations for eco-design range from those that, by most standards, are quite technocratic, or expert-centred, to those that we can call strong democratic, that is, egalitarian and participatory (cf p. 43). The principal objective of participatory design is how the empowerment of laypeople can encourage them to participate deeply (p. 51).

Fletcher & Goggin (2001) find that the environmental implications of consumer behaviour are not just underrepresented in design but also in other disciplines, where there is no shared definition of consumption suitable for studying environmental effects nor a community dedicated to studying its dynamics (p. 16). The term eco-design is used as shorthand to represent

the wide range of design-environment approaches that are variously labeled „green design,“ „ecological design,“ and „sustainable (product) design,“ among others (p. 16). This helps locate my work in the wider context of eco/sustainable design. Fletcher & Goggin distinguish between “product focus” as directly influencing the environment by making existing products more efficient; “results focus” as leading to an investigation into how existing products are distributed, organized and used; “need focus” as a concern with people. According to their definition, my work in eco-design already fits into the “need focus” (participation) and “results focus” (use-prolonging) models. However, I propose that “need focus” should be re-examined as to how the user’s need is integrated into the design and manufacturing process.

Lockton, Harrison, & Stanton (2010) introduce the “Design with Intent Method”. The Dwl Method has been developed primarily in response to the need to influence user behaviour to reduce the environmental impact of products which consume resources during use by helping people use products and systems more efficiently (p. 4). The overall structure is one of “inspiration mode” in which the designer takes inspiration from patterns and “prescription mode”, which formulates a brief with target behaviour. In general, aiming for behavioural change, also discussed by Santos et al in the Introduction, is extremely promising. However, it can be a laborious process that has too many variables. Whereas my participatory approach, by bringing people into the process, will change actual behaviour much quicker and more effectively. Lockton, Harrison & Stanton’s focus is extremely theoretical and overly academic to the detriment of allowing the average consumer to become an active participant rather than a pawn subject to pre-defined choices

Lilley, Lofthouse, Bhamra (2005) aim for designing products that are instinctively used in a sustainable way by recording consumer behaviour. The experiment failed since their testing scenario was too contrived. Discrete observation and ethnography require in-depth research and a natural setting. Taking this failed experiment, I build my argument for active involvement on the assumption that many other methods used today for participatory design are not sufficient and my approach of active involvement will help to produce better data and, therefore, more effective long-term results.

Thorpe (2010) elaborates on how green and eco-designers can focus on redesigning products to be more environmentally friendly hoping that better informed consumers will buy them (p. 7). Her arguments come from psychology and sociology. Instead of hoping that consumer will buy them, I argue for integrating the users so designers know that users will buy them by going one step further than traditional eco-design.

Vallet et al (2013) examine eco-design as a design approach aimed at reducing the environmental impacts of products and services throughout the whole life cycle, while assuring similar or improved services to the end customer. The idea is still to meet the consumer's requirements, but in a more sustainable way (p. 345). Vallet et al find that designers can still use the same design strategies but that "strategy definition" should be investigated to help train designers to learn how to utilize eco-design to its best advantage. The strategies range from "micro" to "macro" and are not simply solutions. Rather the authors focus on how the education of designers in the subject of eco-design will slowly change the field of sustainable of fashion design.

Armstrong et al (2015) propose the Product-Service System: "PSS utilize schemes such as renting, upgrading, redesigning, or lending to reduce reliance on natural resources while concurrently increasing product quality and longevity as well as customer satisfaction" (p. 30). PSS seeks to focus more closely on customer's desires. They authors surveyed consumers and found that responses to PSS were, overall positive, especially in the potential to address consumer concerns over fast fashion. PSS has the potential to offer the consumer a greater long-term satisfaction in a product and the potential for a consistent personal style. The primary drawbacks for PSS seem to be the added time and effort to obtain an item. Also, many consumers surveyed had concerns about the brand's stability or the overall quality of the garment. It is harder for consumers to imagine sharing a garment or investing in stylist services when the quality of the item is of unknown quality, i.e. "barriers to trust included a wide variety of issues, such as continuation of the business, durability, size and quality issues, control over the end result, and hygiene concerns. The lack of existing industry PSS examples seemed to make this particular issue especially difficult to imagine" (4.10, p.38). Despite the consumer concerns, PSS provides the potential for integrating participants into design practice and to addressing the "barriers to trust" by allowing future researchers to examine the efficacy of citizen participation in real-time situations.

Laitala et al (2015) discuss why current design and sizing practices feed the long-term dissatisfaction of consumers. The authors researched disposal reasons and offer design strategies to combat premature disposal. The primary cause for disposal is size and fit issues as few ready-to-wear items fit properly while also being flexible enough for changes in user's weight and body shape. Designers and pattern makers could address this issue in greater detail in order to increase the use period and lifespan of clothing, and to avoid the unnecessary production of clothing that does not get sold due to

size and fit problems. One strategy to overcome this problem is to increase the user involvement in design by trying sample patterns on differently sized and shaped bodies, instead of basing the grading on small model sizes, which is the current practice.

For the users to recognize clothing that will fit their bodies, the size labelling should be improved so that the code could be trusted. (p. 101). Here Laitala et al offer extensive design suggestions; however, they come from a design perspective and factors such as cost, effort, feasibility, customer behaviour, fashion styles, shopping and owner experience are ignored. Additionally, much of the disposal of garments is related to laundry related problems such as stains, odour, shrinkage, and colour changes. Since garment care and durability is as important as fit, they suggest to design clothes that need less care or are made from a self-cleaning material. However, Laitala et al also fail to address the fact that clothes have different functions—homewear and loose-fitting garments (as they suggest to design) are exactly that: okay to wear at home but not for work, for example.

In terms of garment lifespan, the “largest disposal reason category was changes in garments” (p. 102). Otherwise known as “wearing out”, when the actual physical state of the garment changes due to wear, the garment begins to lose its value as a worthwhile investment. Items that no longer look new, especially in the case of businesswear, get worn less until a new item is purchased to replace the worn-out one. Some of the wear issues, such as minor mending, can be addressed by teaching the user how to extend the lifespan of their garment. However, issues with the quality of the fabric or the construction of the garment need to be addressed by the designers and manufacturers. Additionally, by increasing the consumer’s stake in the overall care of the garment, there is an increase in the emotional value. A better quality item brings greater and longer enjoyment of purchase and ownership for the consumer. The authors conclude with results from a questionnaire.

However, is there any real potential for behavioural changes? And though Laitala et al call it a user-centred approach, it is more like a pre-design user commitment and not user involvement. In comparison to my framework, I see more chances for change by a “real” participatory approach as can be seen in citizen participation than with these suggestions here.

Niinimäki (2015) reinforces the idea that, “it would be fruitful for designers to consider whose values are included in the design process and on what basis [...] and] that there isn’t any value-free design” (p. 2). Niinimäki’s discussion of the designing value puts a multitude of expectations on designers and manufacturers, which does not lead to any increase in sustainable design practices. Niinimäki also expands on how “new kinds of relationships

with the customer create new kinds of value in the business [...] a company can create a long-term dialogue with the end-user and [...] new business opportunities, [...] and thereby create trust and customer loyalty towards the brand” (p. 4). The “barriers to trust”, as discussed above by Armstrong et al, is also an important part of the design process.

In order to change the fashion system towards a more sustainable, user-centred approach, there needs to be the development of new kinds of radical design and business thinking. Following on this, participation becomes an effective means through which to consider user values—and not just glean ideas from them (i.e. surveys, observation, and other traditional so-called “user-centred” design methods). By allowing the user to not only offer opinions, but to also become a part of the design process, the end result is likely to have a higher intrinsic value and longer object-retention period (as discussed in Chapter 5). A collaborative approach will clarify how designers, manufacturers, AND users can change unsustainable behaviour. In short, citizen participation in fashion design is one means by which to find the next sustainable paradigm.

Niinimäki & Hassi (2011), they present six design strategies for sustainable change that focus on changing the designer and manufacturer behaviors. The emphasis is on how the design and production of a garment can have more intrinsic value. All of their ideas focus on how designers and makers can educate and encourage the user to expand the life and potential use range of garments. If the end user can approach a garment as more important than a body covering—as something that has the agency to confer to the user the power to determine the garment’s ultimate consumption trajectory—then the life span of a garment increases.

The first strategy focuses on the life span and quality of the garment. Through education, Niinimäki and Hassi postulate that a garment’s life could be extended if end users know about how to care for the garment—much like one would learn how to care for a plant. By turning the garment into a living object, the user will make extra efforts to keep it ‘alive’.

This directly translates into the second strategy in which the designers and makers create an emotional attachment between the garment and the user. The method for doing this, could be through a co-creation design process. This leads to the third strategy of customisation in which the user chooses from a set range of modules to create their own unique garment. The variety of modules and range of choices could be infinite, which could allow a user to co-create several versions from the same range of choices as well as additions and upgrades to adjust to changes in season and style. An interesting way to understand how this could work is to refer to the various

fashion history books that show varieties in say, sleeves, as they changed over a certain period. A user could buy a jacket with one type of sleeve and then the following season replace that sleeve with a different style. Not only would this increase the life span of the core garment, it would also create work for those performing these changes.

The fourth strategy is of co-creation and open source design. With co-creation users take an integral part in the design process and work with other stakeholders on the design together. Open source, however, is a more extreme form of co-creation with the consumer taking the leading role in the design process. The open source concept has been used by a variety of online sites—the most well known being Wikipedia. But fashion could utilize this same idea to not only allow the user a fundamental part in the design process but also an emotional stake in the design. While the open source can be extremely successful, it does require a more proactive approach from the seller to reach out to and engage with potential consumers. Too few participants can lead to the failure of a particular garment or style. It also allows for a much more flexible approach to design where the designer/maker can adjust and adapt without putting too much capital and resources at stake. The ultimate way that designers and makers can utilize this is through the tailor-made, made-to-measure, or couture approach. This can cover everything from tailoring a modular garment to an individual all the way to custom-made designs for consumers. This fifth strategy requires patience on the part of the designer/maker and the consumer as the customization process requires an element of time. However, this approach enhances the emotional attachment to the garment as it was ‘made for’ the consumer.

Finally, the sixth strategy echoes the first in increasing the life span of the garment. This is done post-creation and focuses on garment care and usage of the garment. There are renting/sharing fashion services that allow a user to borrow a garment for a period of time—much like renting a car. Also, a garment’s life can be extended through repair, alterations, or upgrading. These methods allow the user to retain garments for a longer period of time with minimal financial and environmental impact. If designers/makers could take a part in this, then they could see continued revenue from the same garment with fewer requirements for new resources and profit risk.

Hur, Beverley, & Cassidy (2013) focus on the consumer and work back to how they can interact and become active agents of the design process. These researchers have developed a tool-kit supporting sustainable fashion design. This tool-kit focuses on engaging questions that can be asked and answered by both consumer and designer/maker.

The foremost question is one of choice. As designers there are many

choices throughout the process that can be made. These choices can be directed towards more sustainability by questioning current standard practices. From the design, production, and lifecycle of the garment, every stage of the process can be questioned and new techniques and materials can be sought. Many of the above-cited literature focuses on this in some capacity. The next questions focus around optimisation. By increasing the degree of flexibility, can we rethink maximum impact? How could the potential for durability and biomimicry be explored? Is there a cradle-to-cradle approach? Can we offer modularity? Is there merging/zero waste? Is a dynamic upgrade possible? Is it multi-fashion? Are there updatable systems? Is a swap and share service possible? Essentially, how can each garment be designed and made to have the maximum reach with the minimum of resources used.

Next is the question of empowerment and how to create meaningful products and increase user involvement. Many have theorized the role of personalization, user as maker, and open source to explore empowerment. However, there are other means through which the user can be empowered such as by storytelling, magic, poetic, playfulness, partial completion, smart craft, or cultivating creativity.

The next step has been focused on in terms of 'education'. However, Hur et al approach the idea of persuasion. How can designers/makers motivate users to engage in the empowerment process? Further, can we offer simplicity and commitment? Is there a shareholder incentive? Persuasion must work in conjunction with interaction. Designers/makers can study automatic responses between user and product. This allows them to explore any additional sensory effects or parameter changes that might occur when the user and the garment interact. Behavior feedback becomes vital for designers and makers to adjust and adapt their product to the needs and desires of the end user. Finally is the question of how the garment becomes a part of a larger social conversation. How do stakeholders build networks and utilize social interaction? Is there a symbiotic relationship between designer/maker and the larger social web of the consumer? Are there catalyst actors? Is there a possibility of community learning?

Laitala and Boks (2010) suggest different approaches for sustainable fashion design through increasing lifespan and use type for garments. The authors outline some of the main factors that contribute to an increased disposability of a garment: ill-fitting items, garment care and the need to clean the item frequently—or with additional steps, and the item wearing out. These factors focus on the cause-effect with suggestions for potential solutions. To address the fit, Laitala and Boks suggest creating patterns

from different body types—not simply scaling up the model size. They also suggest expanded labels that give consumers more information about the dimensions of a particular garment. In theory, these solutions address the problem, however, the increase in pattern-making and sample production will increase the cost of the garment for the manufacturer, which will then be passed onto the consumer. In the current fashion consumption climate, the average consumer does not seem willing to spend the additional money that this “benefit” will provide. As well, the suggestion for enhanced clothing labels assume that the consumer knows their own measurements and their body type and is able to find a garment that matches that unique body type. In the current fast fashion buying system, this adds an additional complication to garments that, as it currently stands, are intended for short-term use.

To address the garment care aspect, the authors suggest that garments be designed with “common dirt-exposed areas in mind” (p. 20). Fabric choice could be adjusted to utilize a more stain/dirt-resistant material. Or the fabric could be treated with a dirt repellent—though this has the potential to have an additional environmental impact. Designers could also design garments that do not show or incorporate potential stains into the design, i.e. through the colour or pattern of the fabric. All of these ideas have positive and negative aspects. However, this is putting the onus on the designer and manufacturer to try to anticipate potential lifespan problems a garment might have. Since the consumer’s voice has been left completely out of these scenarios, it is possible that users have needs that are not being met or are being overcomplicated/oversimplified in the design and manufacture of a garment.

Finally, Laitala and Boks address the overall wear-and-tear on a garment by proposing the idea that the designer could increase the potential lifespan of a garment by, again, attempting to anticipate potential use of the garment and possible problems that the wearer could encounter. However, this cause-effect analysis for clothing is not feasible for the current scale of garment production. The biggest gap in this paper is that the authors discount the variety of clothing types and their desired “look”, i.e. business-wear is tailored and intended to align with a specific work-appropriate silhouette. A suit jacket that is missing buttons or has small holes does not fulfil that purpose whereas, a casual cardigan could be missing a button or have small holes without going against a more rigid protocol. Each garment category calls for different considerations—a tailored skirt is different from a skirt worn for weekends and both are different from a formal skirt. User input could be extremely helpful for allowing designers and manufacturers to address the most important concerns without wasting time and resources on redundant features.

Lundblad & Davies (2016) examine the values and motives for consumption of sustainable fashion. They found, amongst other things, that “sustainable fashion consumers want their clothes to be able to last over more than one fashion season, which brings in the product attribute of timeless cuts into the chain, inferring the importance of simple and classic shapes and emphasizing a garment’s usability” (p. 154). Along with discussing sustainable fashion through simplicity, Lundblad & Davies also address the different purposes/categories of clothing. They are the only authors to make the point that all garments are not the same nor are they intended for the same purpose. By separating clothing by use, Lundblad & Davies explore a more feasible approach to fashion design, which emphasizes the idea that, in the case of specifically business fashion, each garment is less subject to seasonal fashion changes and, therefore, more able to be created with a long lifespan in mind. Lundblad & Davies suggest that users could become a part of this process through specific designer/manufacturer-led measures.

Aakko & Koskennurmi-Sivonen (2013) present a model for sustainable fashion design, but only partially include participatory design. However, their model is based on the idea that the user of a garment should be involved in the design process. The designer would still be the lead, but the design process would not be so exclusive (p. 18). Unfortunately, the authors have not discussed the aim and benefit of participation in design, which gives participants a voice and agency—not just the designer. This reiterates many of the weaknesses in participatory design papers, as discussed in Chapter 5 above.

In addition to missing the importance of participatory design, Aakko & Koskennurmi-Sivonen also admit that their model is too complex to be applicable in industry and is more theoretical than practical. Nor does their model offer active advice for how their methods could be tested; rather they just create a visualization of all of the various measures together. Their suggestions are old solutions and partially already applied in industry, such as sourcing fabric from more sustainable sources and using less dangerous chemicals; all good if someone has not heard of sustainable fashion, but nothing new for someone with more experience in sustainable fashion.

As a final example, Santos, Ceschin, Martins, & Vezzoli (2016) present an evolutionary progression of strategies towards environmental sustainability in the clothing sector: “the aim is to intervene on processes/operations in order to reduce, per each manufactured product, the content of inputs (...) and output” (p.8). They focus on studies conducted in Brazil—considered one of the BRIC countries that is one of the fast-developing third-world country.

The authors discuss “strategies for enabling sustainable consumption and production” (Santos et al, p. 3). By aiming their article at policy-makers, five methods are explored. First, is the improvement of material and process flows through the supply chain to increase the efficiency of these processes. Second, they explore how, by changing the materials and type of energy used, cloth can maintain its existing quality and characteristics.

Next, is changing the actual design of the garment to take into consideration the entire lifecycle of the clothing. This is the most complex point as there are multiple sub-points that fall under the various aspect of the idea of a garment’s “lifecycle”. Fourth, examines how to step out of the fast fashion cycle by “moving the focus from product provision to satisfaction provision” (ibid, p. 14). And finally, they focus on “sufficient consumption” (ibid, p. 16) or the reexamination of how to determine what each person actually needs not what society tells them they need. This last point is the most unique and complex methods proposed as it requires changes that go beyond the industry and looks to change socio-cultural structures.

In summary, synthesizing the participatory design field with citizen participation, and not just design methods, is vital for addressing how citizen participation can work in fashion design. Overall, the literature that does discuss design methods tends to rely on traditional or generic methods for designing and these methods (regardless of their simplicity) are not being introduced into or utilised by fashion design in the same way as they have been utilised by product design. But even in product design, the current methods do not address the sustainability issues that surround the constantly evolving design process. My methods, outlined in previous chapters, focus on offering more active methods for user involvement and call for a larger role for users in the design process. The artistic aspect of fashion will still be present in haute couture and the runway shows. But the vast majority of clothing items worn by people every day require mass-production, and, therefore, a different means by which to design and produce these items to help achieve sustainability in fashion.

The fashion design process has not been the focus of much research; when I compare the amount of papers I find on product design and the amount of papers on the fashion design process, the latter is poorly represented. Maybe fashion designers fear lack of exclusiveness or even worse: research on fashion is not regarded as important enough. Having said that, the results from my research in comparison with the few sources of fashion design research show no contradiction, and little confirmation. Sustainable fashion design - as I propose it - requires altering work routines. In comparison with fashion design processes above I hope it becomes clear.

6.5 Conclusion

I began building a framework by looking at the fashion design process and comparing it to the stages of participation identified. I merged both processes into a new theoretical framework of sustainable fashion design. The framework takes into account the particularities of both fashion design and participation.

In order to “design” the framework, a short excursion to Design Thinking (DT) is taken. DT, as presented by IDEO and the Stanford University d.school, is a simple conceptual framework of user-centred design. The description of Design Thinking in the d.school Boot Camp Bootleg document comprises process and method explanation. The d. school Bootleg document was taken as an inspiration for developing my framework of sustainable fashion design.

Details of each stage and description of method were offered for comparison in this chapter. I excluded methods that are already discussed in the literature, shown in the previous chapter, by comparing my results to the wider context of participatory design, fashion design, sustainable design and sustainable fashion design.

The framework contributes a novel tool for fashion and sustainability practice by formalising the fashion design process with a user-centred (participatory) approach. I used the results from the content analysis of citizen participation as a more established discipline for the new framework of sustainable fashion design. As outlined in the introduction, the research so far lacks detail and depth, or a practical approach for the everyday work of fashion designers. This gap is closed with the proposed framework here.

The framework is theoretical in nature, though, and thus the framework lacks experience in practice. The outline is thus purely hypothetical and academic, as with so many other frameworks and models.

The validation of the framework I propose and discuss is subject to future use and experience in industry and design practice, which goes beyond the scope of this research. I tried to avoid too theoretical an approach by using Design Thinking and the Bootleg document as inspiration, but I can only approximate reality with my framework.

As already stated, further research needs to provide evidence on practical applicability, which is as yet non-existent. An interesting first step towards a reality check could be the teaching of the process and its methods in a design education context and gaining first-hand experience of the outcomes.

This chapter is important for nurturing the practice within sustainable fashion design. I wanted to make a statement for a new sustainable fashion

design process, which is emerging as a promising tool. I argued that such a framework is long overdue, and, looking at Design Thinking, has the chance to become a movement. I think that designers can learn a lot from citizen participation, and the participatory methods associated with it.

In particular, an understanding of stages and methods, which play a role in the Design Thinking Bootleg document, can assist in the design of sustainable fashion.

Fashion designers and practitioners finally have a formalised sustainable fashion design process at hand, and an approach that has participation at its core. This framework should be evaluated and tested in an educational setting first, then be refined, and in the future find its way into commercial fashion design practice.



7.1 Summary and contributions

In the introduction I describe the impact of clothing on our environment and the reasons for the need for more sustainable behaviour and solutions are given. Besides the problems associated with the environmental impact on clothing because of water and energy consumption and the use of raw materials and chemicals along the textile chain, we also face increasing textile waste and mindless disposal. Textile waste amounts to approximately 750,000 tonnes per year and we own around 2 billion garments that have been produced unnecessarily.

Laitala & Boks (2012) propose prolonging the use of clothes in order to reduce the amount of textile waste, and ultimately the need for the production of new clothing. Other authors have followed this by suggesting a participatory approach, informing and integrating the customer and thus increasing the intrinsic value of our garments again.

Yet designers often fail to capture actual use behaviour, as these participatory approaches lack a description of the participatory action in detail. Nevertheless, participation is often a key term in these debates, but since these authors do not offer the same in-depth experience as authors within the field of citizen participation, for example, it posed the research question:

What can we learn from citizen participation in order to develop a framework of sustainable participatory fashion design?

Also, in relation to clothes, I often found a tendency in research debates not to distinguish between different types of clothes. The representative Greenpeace survey (presented in Chapter One) is one of the few documents which touches upon which types of clothes are more or less often disposed of. Hence, before answering the primary research question, I had some preliminary thoughts that needed further scrutiny:

*Can all clothes be considered together, or is there a difference in sustainability between the clothes we wear, for example, to work?
If so, what exactly do we wear to work?*

Consequently, Chapter Three defines in detail what we wear to work, providing a comprehensive overview and definition of business attire for men and women. Chapter Four presents five case studies and examines the sustainability of business dress. Chapter Five builds the groundwork for a sus-

tainable fashion design framework, using the results of a content analysis of citizen participation. Chapter Six presents the framework for sustainable fashion design, building on Design Thinking and the Stanford d.school Boot Camp Bootleg document.

My overall research strategy, in order to answer the primary research question and the preliminary thoughts, followed a social constructionist epistemology. My decision to choose social constructionism lies in my training as a designer and engineer, and my belief that meaning of designed objects is constructed in the interplay between subjects and objects. The theoretical perspectives that are associated with social constructionism are symbolic interactions and hermeneutics. I excluded phenomenology, since in my opinion it puts too little emphasis on cultural meaning. As language is a central concept in social constructionism, the use of hermeneutics was obvious. Alongside hermeneutics, symbolic interactionism has a long tradition of explaining fashion phenomena. Both theoretical perspectives lead to a grounded theory methodology. The intentional use of the grounded theory methodology was to construct a formal, theory, which can be generalised into a formal theory in the future. The choice of methods was related to the theoretical perspectives and methodology and led to the use of content analysis of the data of business dress and citizen participation research, as well as case studies to scrutinise the sustainability of business dress.

As for the results, I found seven different business dress styles: classic, statement, chic, casual, fashionable, feminine and masculine. I also observed which characteristics were inappropriate for businesswear: untidiness, being sweaty or having sweat marks, looking too boring, prim, bourgeois or uniform, or shiny areas on suit materials. I defined the preferred silhouette, which is slim fit, and also the desirable properties of business wear: comfortable to wear, sweat-free, breathable and crease-resistant.

Next, I described the clothes, colours, materials and details of each dress style in greater detail both for men and women. Though there has been a slight change in the nature of appropriate businesswear, I could confirm that the attributes of classic business dress style have changed very little, and that it is still the most dominant in business. Once a dress code was proved to be suitable, these items are favoured as work wear.

Business outfits are on average more than three years old. Participants' own jackets and suits last for the longest, and shirts and tops the shortest, period of time. Business clothes are not bought for fashionable reasons but to provide (and replace) a business uniform. Once individuals have established a dress code, repetitive buying behaviour appears: people

buy the same brand and models, from the same shops. Essentially, individuals will buy the same pieces again and still like their clothes and wear them frequently. They are not afraid to invest a significant amount of financial outlay in good quality and fit. Similarly, they regularly take their business outfits to the dry-cleaners.

The reasons for disposal are mainly signs of wear or serious damage to clothes, a change in body shape and the resulting bad fit, and other reasons that are less related to fashion. Due to the length of time it is owned and used, business dress does not match any of the descriptions of fast fashion given in the introduction. Business dress, as such, therefore potentially plays a smaller part in the increase in textile waste, for example, as that of fast fashion. I thus argue that a longer practice of use and emotional durability are inherent in business dress.

The content analysis of citizen participation revealed patterns and shared knowledge of citizen participation. The definition of participation (as a reference for this thesis in the case of product development) reads as follows: Participation comprises approaches for active exchange between individuals (and/or groups) and related stakeholders throughout any stages in the product development process.

The participatory process itself comprises five different stages: preparing the participation, including setting the agenda, anticipating outcomes, planning the design and choosing methods (preparation), the recruitment, invitation and enabling of participants (recruitment), the production of the outcome by the use of different methods and designs (action), the presentation of the outcome (written or oral), the implementation or realisation of the outcome or follow-ups (implementation), and the evaluation of either process or outcome (evaluation). These stages appear in all models of participation.

Generally, there are twenty-two different methods of citizen participation, although there is no consistency in their definitions. The outcomes of citizen participation can be material (reports, products...) or immaterial (decisions, ideas...). For involvement in participation, motivation is needed. Motivation can be intrinsic or extrinsic. People participate because they want to try something new or have a voice, or sometimes because payment or a prize is offered. Participation increases knowledge and skills among participants and can change behaviour. On the other hand, the process itself can be expensive and takes up resources. Any participation is a trade-off between outputs to be gained and inputs to make it a success.

The framework for sustainable fashion design in Chapter Six builds on the results from the content analysis of citizen participation in Chapter Five. Accordingly, the framework for sustainable fashion design is a five-stage sequential process, which is deliberately customisable. I began building the framework by looking at the fashion design process and comparing it to the identified stages of participation. I merged both processes into a new theoretical framework of sustainable fashion design. The framework takes into account the particularities of both fashion design and participation. In order to “design” the framework, a short excursion into Design Thinking is taken. Design Thinking, as presented by IDEO and the Stanford University Institute of Design’s d.school, is a simple conceptual framework of user-centred design. The description of Design Thinking in the d.school’s Boot Camp Bootleg document comprises an explanation of process and method. The Bootleg document was taken as an inspiration for developing my framework of sustainable fashion design. Accordingly, details of each stage and method description were offered in Chapter Six. I excluded methods that are already discussed in the literature of fashion design.

For theory evaluation (cf. CH 2.4) I summarise that the framework offers a practice-related theory in order to offer guidance on the stages and methods of sustainable participatory fashion design. The statements within the framework and outside the framework are not contradictory, as it takes into account the regular fashion design process. Building on data and context discussion within eco-design, participatory design, fashion design and sustainable design, the framework is in agreement with known data. The theory is deliberately customisable and thus testable. Inspired by the d.school Bootleg document, the whole design of the framework supports communication and easy application. The framework offers a practical approach to sustainable fashion design and contributes detail to the ongoing debate on sustainable solutions for the fashion industry. Since it lacks application, the framework generates new research activity and invites future academic activity to test it.

In summary, these results have answered the primary research question by providing a framework for sustainable fashion design, where findings from the content analysis of citizen participation research have entered into the framework as lessons learned. Chapter Four answered the question of whether clothes should all be considered as a single entity, and, as expected and outlined, it is not wise to do so. Chapter Three gave a precise definition of exactly what business wear is, and to what extent the style really changes, in order to argue for the sustainability of business dress.

7.2 Quality aspects and limitations

On a higher level, looking at the context of citizen participation, a study of business dress within this framework provides a new way of approaching sustainable design. Since the intention of business wear is to have a longer garment lifespan (as mentioned in Chapter Four), the integration of various participatory methods becomes more effective. The literature relating to citizen participation methods focuses on product design (if it focuses on design at all), but mainly on policy-making and various areas of government. None of the methods are related to the fashion design process; because of this, I examined the various methods of citizen participation to then apply them in Chapter Six and to my data from previous chapters. The various participation methods and theories were demonstrated, as understanding the variety and intricacies of the methods and theories becomes vital for the way they relate to sustainable fashion design. Fashion is not always incompatible with sustainability, because the very heart of business fashion is consistency: this is the opposite of contemporary fashion, which is designed for obsolescence and constant engagement with the new. Breaking down fashion into categories (such as business fashion) can help focus on those textiles that are already “slower” in responding to the “new”.

In summary, this thesis contributes to the ongoing debate on how to help our environment meet the problems we create with the overproduction of clothes and the unsustainable behaviour we display every day. It bridges gaps in earlier research by offering a rich and detailed “formula” for designing clothes that are sustainable by proposing a new model of participation and sustainability in fashion design. The findings contribute to a greater awareness of business wear in the fashion design community by helping to understand the potential for sustainability in clothes that are worn to work. This thesis is important for designers and researchers, as well as for industry. Designers can learn much from the slow fashion opportunity in business dress styles, and even more from citizen participation. The new model of participation and sustainability in fashion design invites us to think about how we can create more sustainable clothes by actually producing less.

7.2 Quality aspects and limitations

In reviewing the literature, I find that everyone agrees evaluation is necessary, but there is little consensus about what constitutes an appropriate set of evaluation criteria for qualitative research (Corbin, 2008, p. 341).

In this section, I discuss the overall qualitative aspects and the limitations of my research in relation to the research question. Research authors use many terms for evaluation, such as validity, rigour, truthfulness, integrity and credibility (cf. Corbin, 2008), to name but a few. And, as Corbin writes, there is little consensus on how to evaluate research. Additionally, many authors have their own set of criteria ready for the methods they discuss and explain: for example, Yin (2014) in the case of case studies, Corbin and Strauss (2008) in the case of grounded theory, or Krippendorff (2004) in the case of content analysis, to name again just a few examples.

I start by giving brief details of the authors I followed to make sure I carry out “good research” and continue by explaining how I integrated the evaluation criteria in my research in detail.

Starting with validity, Hammersley (1987) says that our primary concern in any research process must be whether the results we have produced accurately reflect the properties in the objects we have measured. He sees three major threats to validity: the observer’s interpretational bias and observational as well as coding inaccuracies, and the contamination of results by factors other than those under research (cf. p. 79). Reliability, he writes, defines the consistency of results across occasions and “is of no value in itself” (p. 78). Winter (2000), on the other hand, describes two strands of validity definition:

Firstly, whether the means of measurement are accurate. Secondly, whether they are actually measuring what they are intended to measure (p. 5).

While validity, according to Winter, refers to accuracy, the degree of replicability refers to reliability. Drost (2011) advances in a similar direction to Winter, saying that validity is the meaningfulness of research, and reliability is given when a different person performs the same research on different occasions and still obtains the same results (cf. p. 2). Errors in reliability may occur through systematically false research approaches or a misinterpretation of the results. According to Drost (ibid.), errors in reliability occur particularly within small samples.

Morse et al (2002) even relate validity and reliability to rigour as a concept, stating that “without rigor, research is worthless, becomes fiction, and loses its utility” (p. 14) and later use the term trustworthiness instead of rigour for validity and reliability in the same text (cf. p. 14). Denzin & Lincoln (1998) relate validity and reliability to credibility, saying that “ validity in qualitative research has to do with description and explanation, and whether or not a

given explanation fits a given description. In other words, is the explanation credible?" (p. 50). Credibility, in their terms, constitutes three main questions (p. 49): (1) what techniques and methods were used to ensure the integrity, validity, and accuracy of the findings? (2) What does the researcher bring to the study in terms of experience and qualifications? (3) What assumptions underpin the study?

Having said that, Maxwell (1992) even goes so far to state that "a method by itself is neither valid nor invalid; methods can produce valid data or accounts in some circumstances and invalid ones in others. Validity is not an inherent property of a particular method, but pertains to the data, accounts, or conclusion reached by using that method in a particular context for a particular purpose" (p. 284). And Winter (2000) argues even further that "there is no single form, construct or concept that can universally be claimed to define or encompass the term. Neither, however, can validity be said to be a discretely identifiable element of any research project, which is capable of being located at multiple and specific stages within the research. The concept of 'validity' defies extrapolation from, or categorisation within, any research project (p. 6).

In contrast, Mathison (1988) and Thurmond (2001) argue for triangulation: "good research practice obligates the researcher to triangulate, that is, to use multiple methods, data sources, and researchers to enhance the validity of research findings" (Mathison, 1988, p. 13). Triangulation is the combination of two or more data sources, investigators, methodological approaches, theoretical perspectives, or analytical methods within the same study (Thurmond, 2001, p. 253). Hammersley (in Bergman, 2008) argues that "one reason for opposition to it is that it has been treated in some of the methodological literature as a validation technique" (p. 11). And Blaikie (1991) even argues that "the adoption of the triangulation analogy (...) is based on the view that it is a method for overcoming problems of bias and validity. However, the ontological and epistemological incompatibility of some methods is usually ignored" (p. 122).

On a more general level, Silverman (2011), for example, states that the overall questions regarding quality aspects of research are conceptual and methodological rigour, whether the data are plausibly interpreted, and whether the researcher kept a critical self-awareness during the research (cf. *ibid*). In detail, Silverman summarises the following criteria for evaluation of qualitative research (p. 80): (1) Situate the research in the appropriate literature; (2) describe and explain the case selection; (3) provide clear and detailed description of both data collection and the anticipated data analysis techniques; (4) use appropriate and sufficient data; (5) describe the significance of the

research; (6) describe the generalisibility beyond the cases selected and (7) specify the limitations of the research.

Corbin (2008), on the other hand, defines the overall quality of research as when the research, for instance, makes the reader “stand up and say things like wow; I’m touched; now I understand; that has power; (...) this is something I can use in my practice (...). In other words, qualitative research is research that resonates with readers’ and participants’ life experience” (p. 347).

Yin (2014) gives four criteria by which to judge the quality of research design (p. 46 ff):

1. Construct validity: define terms of specific concepts and relate them to the original objective of the study and identify operational measures that match the concepts
2. Internal validity: for explanatory or causal case studies only, not for descriptive or exploratory case studies
3. External validity: defining the generalisibility of results beyond the immediate study
4. Reliability: “the consistency and repeatability of the research procedures used” (p. 240)

In summary, the evaluation of research is something many authors argue about and have different opinions on. This makes it even more difficult to write about the one way I ensured quality standards in my research. Instead, this research uses different approaches to ensure the quality of the research.

Before starting my research, I made a preliminary decision about using qualitative research as the approach for my research, agreeing with Creswell (2009) that qualitative research is appropriate when “a concept or phenomenon needs to be explored and understood because little research has been done on it” (p. 20). The rationale for my opinion – that there is little research on sustainable fashion design – is outlined in Chapter One.

For conceptual rigour, I outlined the epistemology and theoretical perspectives in Chapter Two in detail, including a justification of my choice. Building on my epistemological and theoretical choices, I explained the use of appropriate methodological approaches and methods.

In relation to the question of whether appropriate and sufficient data were used, there are several limitations in this thesis, which I would like to discuss in detail now:

7.2 Quality aspects and limitations

Chapter Three gives an account of business dress styles. The research sources, fashion magazines, function as a source for information on what to wear. At the same time this limited my results, since magazines have an interest in increasing sales with attractive and non-repetitive content. These limitations may have affected the results to the extent that often styles might have been presented as acceptable businesswear merely because they were new rather than approved. Also, I do not know who reads these magazines, whether readers followed suggestions for businesswear at all and how frequently they seek inspiration for their wardrobe from magazines. However, I tried to overcome this bias by accepting a style only if it recurred substantially and in quantity. In addition, I limited the choice to German editions of magazines, which of course, implies that there will be cultural differences in styles in other countries. I hope that further research will explore and reveal the acceptance or rejection of certain styles of dress at different hierarchical levels and in different organisations.

The conclusions from Chapter Four are limited with respect to the small and culturally narrow sample size. The data extracted from the selected samples is not representative: results from five participants in one geographical location do not represent a statistically relevant sample size from which to generalise. Errors due to the small sample size cannot be excluded. Also, variables such as the wearing of fashionable clothes outside the work environment are unknown. I have only considered patterns that occur in the context of business dress to argue towards a focus from unsustainable fast fashion to more sustainable slow fashion. Nevertheless, results point to promising directions of sustainability, and design ideas that might prompt further scrutiny and (empirical) evidence. More precise studies of business dress code, material durability and its effect on wearing longevity, as well as emotional attachment and pricing, are needed to test results and develop practical applications for the sustainability of business dress. These limitations are considered in the discussion and comparison of my results in the wider context of sustainability research.

Chapter Five presents findings that in themselves are not novel, and can be found partially in other research articles; however, by using the method of content analysis in relation to the volume of data, they offer a reliable new primary source, which is the first to put different aspects of participation together in context. As such, the results of the content analysis are presented here as an original contribution to the fields of not only citizen participation but also participation in general. The findings of the content analysis have been discussed in the wider context of citizen participation and have proved

to be reliable. While some authors only discuss a single aspect of participation, this chapter provides a comparison of different positions in the literature, for example on the matter of recruitment. Its strength, therefore, lies in the complex presentation of possibilities in the area of participation. These findings thus challenge a number of other findings, especially when researchers discuss only partial insights into participation, without giving the wider picture. There are some limitations, though. The sources were structurally sampled, but the sampling method offered no evaluation of how robust the literature that was analysed actually was. I did not conduct any additional evaluation of the sources themselves – for example, whether an article may be considered an expert article or not. Also, there were a huge number of single cases in the body of data and I did not evaluate the validation of the findings within the body of data. If some of the research articles used for the content analysis failed to achieve the quality of good research, this might have influenced the results. The amount of data should compensate for any unreliable source, however.

Chapter Six discusses the framework, which is, however, theoretical in nature, and thus lacks experience in practice. The outline is thus purely hypothetical and academic – as with so many other frameworks and models. The validation of the framework I proposed and discussed is subject to future use and experience in industry and design practice, which goes beyond the scope of this research. I tried to avoid the framework being too theoretical by using Design Thinking and the d.school's Design Thinking Bootleg document as inspiration, but I can only approximate to reality with my framework. As already stated, further research needs to provide evidence, which does not yet exist. I tried to meet these limitations by comparing my findings with the relevant literature. My results were discussed in the relevant contexts, and either the findings were confirmed, or it was demonstrated that the existing literature (or my results) is incorrect, simplistic or only partially explanatory.

I aimed to achieve general validity and reliability by constructing the research approach, and by using the methods, thoroughly. Still, my ability to draw the correct inferences from data is subject to my former research experience and thus subject to my own bias. Since I believe that the thorough explanation of my research approach makes it easy to re-test my findings, I assume that the findings presented in this thesis are reliable. If any triangulation, such as data or methodological triangulation, can add validity, this will be subject to further research beyond the thesis presented here.

7.3 Indications for further research

In summary, the authors of research in the field disagree about reliability, validity, triangulation and related concepts. This posed a difficulty in evaluating my own research. In this section, I tried to get close to an explanation of how I ensured the quality of my research and the limitations that I can see in my findings.

7.3 Indications for further research

To further the work of this thesis, I recommend that future studies should collect more data on the sustainability of business dress. Data from $n=5$ does not provide empirical evidence on how sustainable business wear is, but it does point to a promising direction. In the spirit of not considering all garments together as a whole, I suggest that future studies on sustainability take the different categories of garments into account. Hopefully, in this way it will be possible to gain further data on how much waste textiles in different categories of garments produce. Questions such as “do jeans or shirts contribute more to textile waste?” need to be answered. Maybe we can then channel our efforts towards more sustainability in fashion and increase efficiency with our problem-solving ideas, by targeting those textiles that are less sustainable than others.

As for the established categories of business dress, these need to be continually monitored for style changes over time. Keeping track of what belongs to which style category can inform design directions and efforts towards sustainability, and will help the attempt to distinguish between different types of garments.

Instead of exploring citizen participation research more widely, I suggest looking in more details of some of the citizen participation methods, e.g. analysing one case concerning planning cells and transferring it to participatory design. There are many cases in which citizen participation is carried out, so data is available for further scrutiny.

I strongly recommend confirmatory studies for the framework of sustainable fashion design with the aim of gaining more experience in practice. The framework needs to be more fully developed in order to form a generally accepted approach to participatory fashion practice. As a starting point, the framework could be used in education before a refined version for design practitioners is commercialised. As with Design Thinking, the flexible and open-source nature of the framework invites other researchers to conduct one-off experiments and test the framework in detail.

7.4 Conclusion and personal notes

This thesis has taken up the sustainability discourse in fashion and textiles by introducing environmental issues related to clothing and textiles, and basic assumptions about how design can meet these challenges. A key concept among the sustainable design debates is that of participation. Still, participatory approaches commonly lack detail in defining the participatory action explicitly and offering a formal theory – or a more concrete model – of participatory sustainable fashion design. Moreover, authors in the debate lack diligence in differentiating between different types of garments. Hence the thesis addresses primarily the challenge of defining a concrete participatory framework by looking at citizen participation. Furthermore, the thesis has shed light on specific types of garments – those that form part of businesswear.

The findings demonstrated the degree of sustainability of business attire and what exactly constitutes business attire. Mainly, though, it looked at lessons to be learned from citizen participation to ultimately build a much-needed framework for a sustainable participatory fashion design process.

The findings should be of value in both practice and academia, as they present a practice-oriented knowledge of sustainability and a definition of businesswear, and, more importantly, a hands-on framework for participation in the design process in order to achieve more sustainable outcomes. Thus, the results of this study have implications for future design practice and the research discourse on sustainable fashion.

I have shown that businesswear is not as damaging to our environment as fast fashion, and I have offered a practical guide for participatory action in the fashion design process, similar to Design Thinking, which in its own way has become a “movement”, even to non-professional designers and industry, in recent years. Looking at the great potential Design Thinking has delivered, my framework hopefully develops in a similar direction, if it is treated as an open-source concept and refined over the years with the help of other designers and researchers.

My personal motivation for (and the contribution of) this thesis lies in my own experience as a fashion designer and clothing engineer. I aimed to contribute to the overall design debate in sustainability, and thus the thesis was probably biased toward my own question: what matters to me? I personally lacked a formal way to communicate and approach sustainable fashion in real-life situations myself. Often, talking to colleagues and looking at, for ex-

7.4 Conclusion and personal notes

ample, student projects, I also wondered why ideas for sustainable fashion are mainly random, short-lived, and give the impression of having a naïve understanding of the huge and crucial environmental impact we create with clothes. Even after reading the research on sustainable fashion, I questioned the impact these suggestions really have on industry. So far, the ideas out there have changed little to nothing, and if it were not for organisations such as Greenpeace, fast-fashion retailers would still neglect to address the damage they cause.

Since I can build on many years of experience in actually using Design Thinking approaches, and teaching it as well, I was intrigued by the whole concept. And honestly, there is a lot of marketing for, and with, Design Thinking. Still, it helped to spread the word and widen the understanding of the impact that design can actually have. Often I am asked by industry partners about Design Thinking, which makes it easier to explain the range of benefits design can have. My epiphany surely had to slowly develop, but in the course of writing this thesis, I realised that I wanted something that goes beyond these written words.

Therefore, after defending this thesis, my first step will be to get the message out there, present the framework, and invite others to improve it with me together. In the end I can say that I have hope that I can now make a difference, with the ideas and approaches I have outlined in this thesis.

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