

FASHION OPENNESS

Applying an Open Source Philosophy
to the Paradigm of Fashion

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to the Paradigm of Fashion

Master's Thesis

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ABSTRACT

My research-based thesis investigates the philosophy and approach of open source being applied to fashion practice in order to reflect on the benefits this may offer to creating a more environmentally, socially and economically sustainable fashion system. At the breaking point of the industrial and post-industrial era, caused by information technology, we are experiencing the trend of “openness” among many fields, such as media, politics, music and science. Escaping increasingly from hierarchical thinking and one-way communication, also fashion is striving for sharing structures and user empowerment. What would “open source fashion” be? How could it affect the fashion paradigm and the role of designer? My thesis examines the existing “open” practices in other fields as well as fashion and looks at the future of fashion from a futures studies perspective but retains the intuitive and designerly approach, suitable to my field of expertise. The data is gathered through literature review, Delphi panel and an interview to analyze what is seen in the context of trends, drivers and macro change. The outcomes include a description of future “fashion openness”; a discussion about its probability, impact, revenue models and places to intervene; a SWOT-analysis of fashion openness; and an outlook on designer’s nature of work.

Keywords: *open source, fashion system, future of fashion designer, sustainability, user empowerment*

TIIVISTELMÄ

Tutkimuksellinen opinnäytetyöni pohtii avoimen lähdekoodin periaatteiden soveltamista muotiin ja tämän mahdollisia etuja ympäristöllisesti, sosiaalisesti ja taloudellisesti kestävämmän muotijärjestelmän kannalta. Informaatioteknologian aiheuttaman teollisen ja jälkiteollisen kauden murrosvaiheen kynnyksellä, voimme havaita “avoimuuden” trendin monella alalla - kuten mediassa, politiikassa, musiikissa ja tieteessä. Myös hierarkkista ajattelua ja yksisuuntaista kommunikaatiota yhä enemmän pakeneva muoti pyrkii kohti jakamisen rakenteita ja käyttäjän voimaannuttamista. Millainen avoin muoti olisi? Kuinka se vaikuttaisi muodin paradigmaan ja suunnittelijan rooliin? Opinnäytetyöni käsittelee olemassaolevia “avoimia” rakenteita niin muilla aloilla kuin muodissa, ja tarkastelee muodin näkymiä tulevaisuuden tutkimuksen näkökulmasta, säilyttäen muotoilijan intuitiivisen lähestymistavan, josta minulla on eniten asiantuntemusta. Aineiston keruu tapahtuu kirjallisuuden kartoittamisen, Delphi-paneelin ja haastattelun avulla analysoidakseni mitä trendejä, aiheuttajia ja makrotason muutoksia on havaittavissa. Lopputulos sisältää “muodin avoimuuden” kuvauksen; pohdintaa sen todennäköisyydestä, vaikutuksesta, ansaintamalleista ja puuttumiskohdista; muodin avoimuuden SWOT-analyysin; sekä suunnittelijan toimenkuvan tulevaisuudennäkymiä.

Avainsanat: *avoin lähdekoodi, muotijärjestelmä, tulevaisuuden vaatesuunnittelija, kestävä kehitys, käyttäjän voimaantuminen*

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1

INTRODUCTION

“Design must accept some of the responsibility for creating many of the world’s current problems. More importantly, it can play a key role in fixing them.” (Kennedy, 2011)

When choosing a subject for my thesis, I started to reflect on my own relationship with fashion. By fashion I mean the whole system which includes the “a special manner of making clothes” (Kawamura 2005: p3; Brenninkmeyer 1963: p2), fashion industry and other production, fashion media, fashion consumption and its existence as a part of our society. As a fashion or clothing design student I believe it is important to re-think what is fashion (clothing-fashion) today, what would be the best way for the designer to be involved in the system and what would be the most efficient and actual means to practice fashion. I wanted to ask myself a question: do I understand the concept of fashion in the same way as when I started my studies? The answer was no. In my view, the conventions of fashion are still quite the same but the general mindset has changed. In this work the main question is not the “what”, “how”, “where” or “when” behind fashion – the main question is “*by whom*”. The first subject that caught my interest was the advanced democratization¹ of fashion which arose from blogging and other internet-based activity. This led me to think about co-creation, collaborative consumption and amateurism, and further on to the open source philosophy that can be recognized behind all these phenomena. Is there a way to develop this philosophy within the fashion system² and improve it³? And is there potential to expand open source philosophy to paradigmatic level in fashion?

1.1 THE DIRECTION OF EVERYTHING?

The “democratization” of fashion can be drifted as far as the times of industrialization in the 19th Century when the wealthy who had the material means started to “invade the monopoly of aristocracy for fashion” (Kawamura 2005; Boucher 1967/1987; Perrot 1994; Roche 1994). During the last two centuries, fashion became increasingly “demo-

cratic”, and everyone has a right to look fashionable. Before the financial possibilities did not necessarily allow to do so but today the affordable mass production and the fast trend information provided by the Internet make fashion even more democratic. The downside is that the cheaper and faster fashion production becomes, the heavier impact it has on the environment. The bigger amounts of garments there are produced, the more desires need to be created for consumers to buy something they do not need. “Fashion is capitalism’s favorite child” says Sombart (1967 in Kawamura 2005: p15). This passivates the user and there is increasingly large supply which never meets the real demand⁴. The supply stage of a garments lifecycle induces most of the water, 3/4 of the carbon and 1/3 of the waste footprint. The low quality of industrial fashion mass produced garments shortens the usage time, encourages fast disposal and reduces chances for the garments to be re-used. This could never be sustainable. As Gwilt and Rissanen write in *Shaping Sustainable Fashion* (2011: p13), which explores the issues of fashion, sustainability and the way in which fashion clothing is produced, used and discarded: “Today the fashion industry relies on the fast and efficient manufacture of new seasonal trend-driven products for an identified consumer in a competitive marketplace. The continued cycle of buying, using and disposing of fashion clothing is based upon a system of production that has serious consequences for our society and the environment.”

These issues also troubled me during my fashion design studies. After ten years of being involved in the field through studies, work and observation, I realized that I do not want to create markets instead of covering existing demand; to make people believe things I do not believe myself; to produce something that is never going to be used or will be used only for a short period; to produce something based on my assumptions; to create something just for creation. I came to a conclusion that we are living the times of big contradictions where the industrial, hierarchical systems are struggling within an Internet-dominated world, where information sharing is on a level it has never been before. Transparency of the fashion companies is increasingly appreciated. According to Manuel Castells (2000; Bello

2010: 11-12) we have moved from industrial to informational (or post-industrial) society. Simultaneously to the fast fashion⁵ progression and the information distribution, another “democratic” tendency has emerged: DIY-culture. Originally countercultural phenomenon became familiar to individual fashion lovers and the digital technology brought us closer to creativity. Mass-customization has already been adapted by the big fashion industries, such as Nike.

A Danish documentary called *Good Copy Bad Copy* (2007) is a compact description about music industry and its “end of days”. The remixing culture, internet, and other action, still considered illegal from the copyright point of view, are forcing the industry to change and find new ways of functioning - ways that correlate with the new technological developments and culture brought by them for the new generations. The documentary inspired me to think about the changing paradigms of all the “industries” - especially the fashion industry. How will the remixing, internet-focused and virtually connected world affect the fashion system? How will fashion be created when everything will turn more transparent (or will it)? How the easy access to everyone in the world will turn the creative action into limitless collaborations and remixing? Are there going to be any big names defining fashion, or will all the ideas and products be common property? These questions led me to dig into the open source philosophy and Otto von Busch, whose book “Fashion-able, Hacktivism and engaged fashion design”, I happened to buy in Stockholm a few of years back. Otto von Busch is one of the leaders to promote an activist approach to “open source fashion” which he calls “fashion hacktivism”. Fashion-hacking was initiated by Giana Gonzalez in 2006 in her *Hacking Couture*-project. “Hacktivism” is a merger between political activism and hacking or a “new form of fashion design practice in which the work of the auteur, whom has been assigned by a prestigious company, is replaced by the close cooperation between designers, producers and users” (von Busch 2009: p29). Remixing culture, hacking and “hacktivism” are all based on open source philosophy. According to von Busch, openness is a growing trend on every field, from politics to medicine. As the literature review for this thesis shows, design is not an exception: van Abel, Evers & Klaassen (2011) state that “open design is actively developing and has become an influential trend in the world of design”. I figured that open source philosophy is one of the approaches worth examining more deeply when considering the circumstances-driven paradigmatic changes in the fashion system.

Open source philosophy is connected to the thought “rule of the people” (democracy) or the concept of “open society”, developed in the first half of the 20th century and is considered as a transparent, non-authoritarian system, where the citizens have the possibility to direct and flexible participation⁶. Open source is also about open systems⁷,

sharing and collaboration. The concept of sharing information is familiar to people who have always shared cooking recipes and applied their personal contribution to them while cooking. Since the 1960s, computer clubs worked on and shared “open source software”. Today we share and collaborate through social networks, blogs, wiki and other forms. As mentioned before, open philosophy seems to be spreading into the material world. Researchers speak about participatory design, design activism, metadesign, open design, fashion hacktivism, mass-innovation, and many other paths from consuming to creating. Fuad-Luke (2009: p77) sees that these design approaches are emerging to challenge the sustainability agenda and look beyond the eco-efficiency. Fashion and design have a great influence on societal issues. Hummels (2011) notes that answers to large societal questions have to be found because the limits of our financial and environmental ecologies are reached, and in her view, open design works with these trends. Kate Fletcher (2008: p191-192) points out that participatory design is about a shift in emphasis away from control, a different world-view, a “new type of democracy, which takes fashion beyond the world of commerce”, builds two-way communication, breaks the power structures and furthermore is hypothetically a sustainable way to enjoy fashion.

The traditional fashion system operates within the paradigm of industrial society. The origins of fashion lie in the origins of modernity with the growth of industrial capitalism (Kawamura 2005: p25), but, similarly to any material industry, peak oil and resource scarcity will challenge the fossil-fuel-dependent model of distributed manufacturing affecting each part of the supply chain (Fuad-Luke, 2009). On top of that, the planet needs to be taken care of. We need a lot of innovation and new ideas, and in Charles Leadbeater’s view sharing information is the best way to make that flourish, because closed knowledge and patents do not enhance the progress. Leadbeater argues that the creative communities are the most effective way to develop innovations and “untutored talents blow some fresh air into the industrial and commercialized culture” (2009: p56). In the contexts of fashion, “openness” is not a style or an ordinary trend, it is more like a platform for possibilities. In contemporary postmodern society the source of fashion is decentralized (Kawamura, 2005: p17) and the top-down hierarchy of the fashion system is deteriorated to some extent. In this thesis, I want to reflect on such polarities as open - closed, passive - active consumer, professionalism - amateurism, producer - user, industrial - post-industrial etc. There is a lot of passionate literature and manifestos about open structures, but should we really believe in open source fashion? “Here we are interested in the transformative act of change that furnishes us with skills, products, relationships and experiences that allow us become better engaged with ourselves, each other and the material world” says Kate Fletcher (2008). This sounds perfect, but to reach

that, we need to find the right solutions in order to succeed. The possibilities are unlimited and “we have to be able to deal creatively and flexibly with large amounts of constantly evolving information” (Hummels 2011). As Bauwens (2012) points out, there is a difference between sharing and collaborating: openness in its best could invite the user communities to “improve” existing products or designs. Will the task of designer be to separate the wheat from the chaff and provide open-ended, motivative guidance or should the user-creativity exist and develop by itself? Can fashion designer be the “programmer” of the fashion system, creating the “open source code” for people to engage, contribute and cultivate without controlling the process?

The big-scale implication which open source fashion hypothetically has the potential to offer, is the localization and decentralization processes of the fashion industry. There is one angle that forces companies to tackle these issues: the growth of the consumers in Asia, Africa and South America. Today, fashion design emphasizes the desires of the Western fashionistas. How Western designers know what is wanted in China? According to a prediction presented by Wired-magazine’s special edition concerning the year 2013, there will be 200 million people connected to the Internet for the first time (Klein, 2012). Some large companies, such as Coca-Cola and Unilever, have already written a “playbook” with reverse-engineered products that are aimed to fit the poorer consumers in China and India. They have built networks of local manufacturers and small businesses. Saul Klein, the writer of this Wired-article New Online Arrivals, a partner at Index Ventures and former head of marketing at Skype, visions that it is imperative that the internet companies develop “playbooks” as well. From this point of view also the fashion industry needs to rethink its approach to consumers and find ways to localize itself in efficient, culture-appreciative way. If before the target-groups could be analyzed, today it is quite impossible due to the global and extremely diverse range of consumers as well as their personification needs.

1.2 METHODOLOGY AND THEORETICAL FRAMEWORK

The main goal of my thesis is to present what “open source fashion” is; why it emerges; what the opportunities are if it intervenes the fashion system’s paradigm; will it become mainstream; and how would it affect the profession of fashion designer or the role of consumer in post-industrial⁸ society. My main research questions are: is applying open source philosophy into the fashion paradigm a workable option to build sustainable fashion structures, and how significant the “openness” trend is going to be within the fashion system? Can fashion openness be a trend or a paradigm? In this context, the word “trend” is referred more as a fad, or as a short-term direction or change in fashion, appearing as

one trend within the diverse and large set of parallel trends (that are not presented in this thesis). By fashion paradigm I mean the baseline of the fashion system, as well as other systems concerning apparel production on both tangible and intangible levels, that I pursue to understand (I find the exact definition of the fashion system(s) impossible, therefore “understanding” is the most appropriate term to describe my goals) in section 3. This thesis is exploring whether openness or open source is just a small, passing phenomenon or is it going to affect the holistic basis of fashion as a “megatrend”. Megatrends are more profound, slow, long-lasting directions of a wide range of action, complex processes and practices: they are the underlying forces that drive the trends and affects almost all the aspects of society, from politics to technology (Vejlgaard, 2008). This thesis is actually inspired by the emerging openness in fields like politics and design. Openness can be recognized as “weak signals”(Hiltunen, 2008)⁹ in almost any field which speaks for the “openness” or “open source” to be a trend, and these signals are presented as examples of open source practices in chapter 2.3. As Hiltunen’s international empirical study on the good sources of weak signals shows, futurists mostly rely on following changes in culture and society. Technological changes were the second most followed; economic and business changes were the third; environmental changes were the fourth; changes in learning and education the fifth; and changes in politics the sixth. The least followed area among Hiltunen’s respondents was fashion. The top five appreciated sources of weak signals (in order of superiority) were scientists/researchers, futurists, colleagues, academic and scientific journals and reports of research institutes. I find the sign of openness increasingly visible in all of the areas of life that Hiltunen’s respondents said to be following the most. It also seems to be a popular subject among researchers and academics. If I approach openness from the point of view of the “future sign”, introduced by Hiltunen¹⁰, openness consists of the signals presented as examples of openness (section 2) as well as examples of fashion openness (section 4); the issue itself is the openness or open source philosophy, and the interpretation is how I see its application possibilities to fashion. I can find a weak signal of openness even indirectly in the interview of Elina Hiltunen, when she describes her project TrendWiki: *“TrendWiki can be used in organizations to collect weak signals. The basic assumptions for the tool were: weak signals should be collected inside organization and every employee should (be able to) act as an antenna for future change. Hence everybody in the organization should have a possibility to collect and share weak signals”*.

Despite the signals that support the idea of a “trend”, I would rather treat openness as an overall switch in thinking due to the information revolution and transition to post-industrial society that are argued by many scholars to take place. Also in fashion, openness or “open source” already ex-

ists, and there are even books on the subject. But the books or the “open source fashion”-projects alone do not speak for openness as a trend, but rather a niche phenomenon. For this, the context of openness in general is significant.

This thesis gathers research material from the literature (printed and online publications), the Delphi panel and one short interview (presented in the Delphi panel section). Data is also collected from the blogosphere, online communities and my personal observations, which can help detect the weak signals but also tells us the nature of the conversation. First my thesis will go deep into the open source philosophy: the background of openness, historical context and the nature of appearing. Then it will explore how the philosophy has been implemented, introduce the basics of the fashion system and its contemporary challenges, and discuss the relation between openness and fashion. Open source philosophy applied to the fashion system will be visioned and analyzed: its benefits, challenges, probability and impact on the fashion designers’ profession. I want to emphasize the importance of research material being accessible to the designers. I hope that this thesis-book will find its way into designers’ hands and could inspire students and professionals. Finding new ways, that resonate with current reality, for fashion designers to intervene in the fashion paradigm is my driver for working on this subject.

The research of this thesis is qualitative and it will examine “open source fashion” as part of the open design movement in the context of Web 2.0-era. The literature review consists of a wide range of disciplines concerning systems theory, fashion theory, open design, open source or peer-to-peer philosophy, production processes, sustainability, future studies, sociology, and design research. I will approach the future of fashion through the lens of future studies and sociological perspective, still retaining an explorative, intuitive, designerly approach to the analysis which suits my field of expertise (fashion design). One useful systemic approach to better understand open fashion or open source fashion is *dynamical systems paradigm* (Kuosa, 2009: p32) which, according to Stähle (1998, cited in Kuosa, 2009) can be rooted to 1) a new understanding of non-linear behavior, basing on complexity and chaos research; 2) Prigogine’s self-organizing systems (1967 and 1984); and Maturana and Varela’s autopoietic systems (1992). Stähle also divides systems theory or system thinking in three distinct paradigms: closed, open and dynamical. The conventional clothing production system can be placed in the closed (mechanical) paradigm which is controlled by universal laws, regularities and stability (Kuosa, 2009, Stähle, 1998). The second paradigm is an open organism “communicating and changing with their environment and the changes of their environment”. The open system paradigm is in a constant state of controlled change and emphasizes the interaction of the system with its environment and its open paths of development

(many alternatives) (ibid.). Unlike the clothing production system, the *fashion system* is fundamentally unstable, ever-changing, and interactive with its surroundings, and can be thus considered as an open system. The third paradigm of systems thinking focuses on the internal, autonomous dynamics of a system, which is a complex entity that is “in a state of inherent disequilibrium and chaos”. Stähle (in Kuosa, 2009) describes this paradigm to emphasize “a) the capacity of the system for self-organization and renewal; b) the discontinuity and non-determinism of the system; and c) the non-locality of the system. The main interests of the third paradigm lie in the self-renewal and self-organization of the system, and its capacity for radical change”. In this thesis I am interested in scrutinizing the fashion paradigm (or system) from the open and dynamical point of view as a way to understand the evolving thinking in the systems of fashion and design. As Kuosa states, “if current mechanical or organic paradigms are replaced in systems thinking by new dynamical paradigms, it may lead to fundamentally new kind of thinking which enhances unpredictable implications for organizational studies”. Another systems thinking approach in my thesis is framed by the “leverage point theory” of Donella Meadows (1997) which helps to understand the places to intervene in a system. Meadows lists the points from the least effective (9) to the strongest (1) which is the mindset (paradigm) that the whole system arises from. If intervening in the strongest point, the entire system can be changed in a second.

The second section of this thesis will explore the background of open source philosophy, its applications in different fields and central manifestations through literature review and online resources. The third section will concentrate on analyzing the conventional fashion and clothing systems, also presenting the current challenges. The fourth section reflects on and presents the fashion openness that already exists in the field and specifies its different aspects: the tools to open the system; the problems and challenges of open source fashion; the intellectual property issues; the relation of sustainability to the fashion openness; and the role of the fashion designer and user within the system. In the fifth section of this thesis, open source fashion, its future developments and likelihood of growth will be examined using the Delphi method which will show what the experts think about fashion openness.

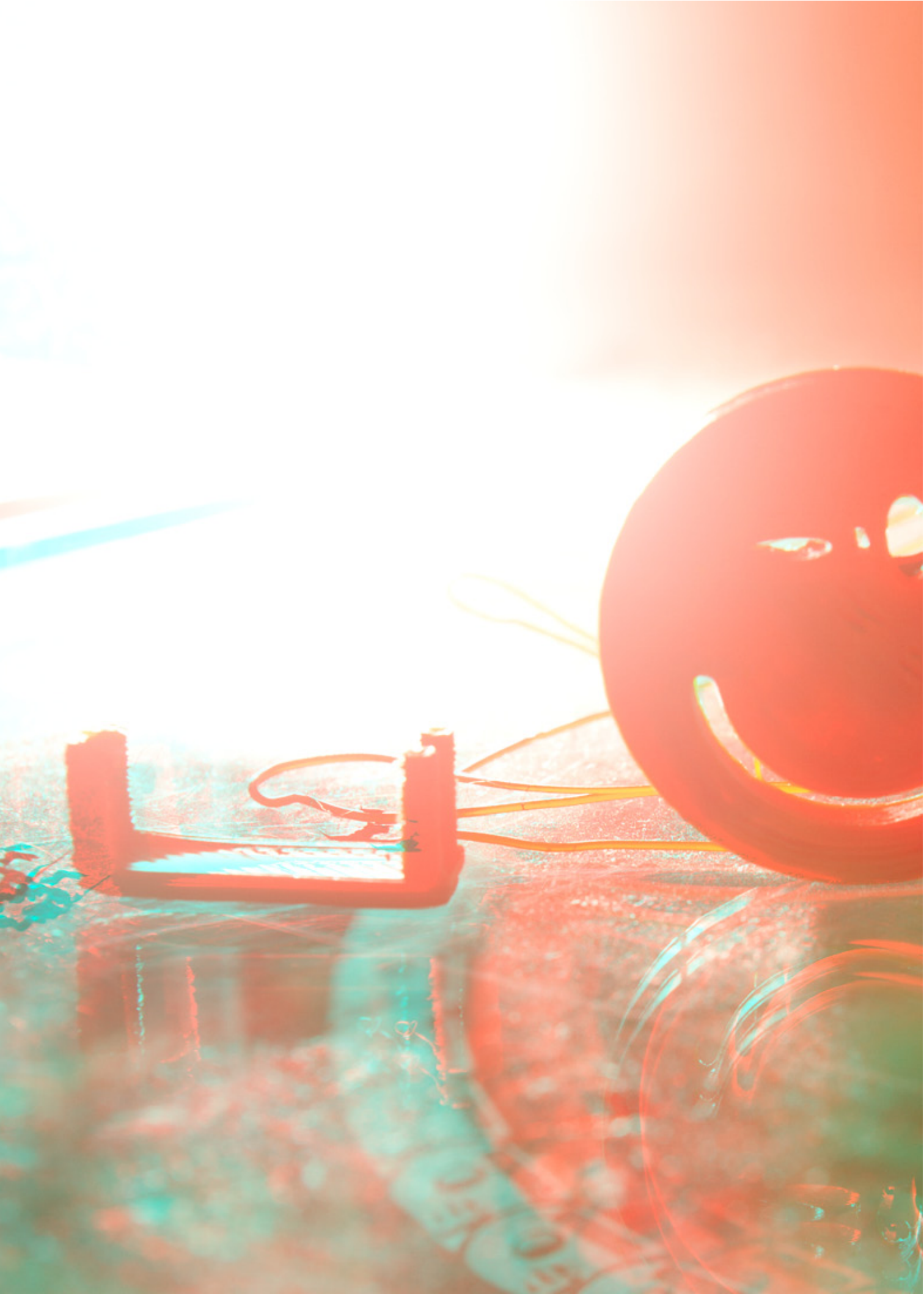
The Delphi Panel

Theodore J. Gordon (1994) describes the Delphi Method as a “controlled debate” and it was designed to encourage a debate that is independent of personalities. “Anonymity was required in the sense that no one knew who else was participating. Further, to eliminate the force of oratory and pedagogy, the reasons given for extreme opinions were synthesized by the researchers to give them all equal “weight” and then fed back

to the group as a whole for further analysis. These aspects: anonymity and feedback, represent the two irreducible elements of the Delphi method" (ibid). The Delphi study begins from identifying, selecting and asking the experts from the required disciplines to participate in the inquiry, likely to contribute valuable ideas. Once the list of suitable nominees is formed, each person is contacted individually and provided with the description of the project, its objectives, the number of rounds to be included, the time commitment anticipated and the promise of anonymity. The next step is to formulate the questions that must be sharp and answerable. Because the number of respondents is usually small, Delphi panels are not intended to produce statistically significant results, that do not predict the response of a larger population or another Delphi panel. The results represent the synthesis of opinion of the particular group. According to Gordon (1994), there are usually three types of questions: *a. forecasts on the occurrence of future developments; b. desirability of some future state; and c. the means for achieving or avoiding a future state.* After the first round questions are answered by the panel participants, the results are summarized and presented to the respondents. The purpose of the further questions in the next rounds of the Delphi panel (in this thesis there are only two rounds) is to organize an anonymous debate between the experts, that will eventually lead to relative consensus or prove the subject to divide the opinions.

- 1** democratization of fashion refers also to the industrialization of fashion and further to the fast-fashion. Because fashion does not come from one particular source, its overall essence can be portrayed as democratic. In this context the term is used to describe the democratization of fashion in favor of the non-professionals (the bloggers, fashion enthusiasts, DIY-makers, any users etc.) to the professionals (approved by institutions or commercial systems) who presumably have the power to define the nature of fashion, trends and general paradigm.
- 2** this term will be analyzed in chapter 3.
- 3** to improve what? Such a complex system as fashion is probably quite challenging to intervene on a small scale. But there are some problems we are dealing with: sustainability and the scarcity of resources thus high prices for both energy sources and the raw materials. Also consumers' behavior might be changing towards a more conscious spirit (as it can be recognized at least in the food consumption as the growing demand for organic and local products) which forces the businesses to rethink their action beyond 'greenwash' (marketing strategy that masks products to be environmentally friendly).
- 4** The exact numbers of clothing that is produced but never sold is not available, probably because such information is a company secret. According to an inquiry prosecuted by a Finnish consumption-oriented TV-program *Kuningaskuluttaja* (<http://kuningaskuluttaja.yle.fi/node/2660>), the stores either sell everything during the sales, send the clothing to outlet, donate to charity or simply discard the clothes to landfills. According to Timo Rissanen, pre-consumer textile waste is approximately 15% of the textiles produced to manufacture clothes (<http://www.textiletoolbox.com/posts/design-minimise-waste/>). In US clothing and other textiles represent about 4% of the municipal solid waste. The (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1964887/>) and in UK the amount of clothing discarded to landfill is around 52% from the amount of imported apparel (Roznev et al., 2011). Unsold garments are not necessarily waste but they still require resources, energy, work force and transportation. Eventually part of the deadstock becomes waste.
- 5** H&M and Zara are the most extensive examples of fast fashion retailers that capture the catwalk trends extremely fast, and produce affordable but disposable goods in multiplied amounts of cycles.
- 6** Dictionary, Version 2.1.3 (80.4), Copyright © 2005–2009 Apple Inc. and Wikipedia (visible in the same application)
- 7** [http://en.wikipedia.org/wiki/Open_system_\(systems_theory\)](http://en.wikipedia.org/wiki/Open_system_(systems_theory))
- 8** 'information age' and 'post-industrial society' are terms introduced by Daniel Bell in 1973, and they refer to the shift from 'economy of goods' to 'economy of services'
- 9** weak signals are the first, silent, 'bubbling under' signs of future developments, that can be detected in different areas of life (not yet visible as a piece of clothing or other practical, mainstream application). In this thesis, the presented signals are strong and concrete in other fields, but can be viewed as 'weak' in the context of clothing-fashion. The examination of existing open practices in fashion are presented in section 4, but even though they are concrete and existing, they do not provide evidence of being a trend or a megatrend in clothing-fashion, unless the phenomenon can be tracked outside the fashion practice.
- 10** Elina Hiltunen explains her 'future sign' theory, introduced in the interview by Pantopicon - a future-oriented blog, <http://www.pantopicon.be/blog/2008/03/11/interview-elina-hiltunen-weak-signals-future-signs/>. The 'future sign' is also presented in her article Good Sources of Weak Signals: A Global Study of Where Futurists Look For Weak Signals, for the *Journal of Future Studies*, May 2008, 12(4): 21-44

Spread photo: Hilla Kurki. Published with permission. Taken for Basso-magazine 3/2012 article about 3D-printing possibilities in fashion, written by me. Earring designed and 3D-printed by Pekka Salokannel.





2

THE OPEN SOURCE PHILOSOPHY

The purpose of this section is to present the “open source philosophy” and to discover where it stems from; how it is placed in the context of a larger time and theme frame, modern paradigm and philosophy; the immaterial and material aspects of open source philosophy; and the nature of its application. The systemic apprehension of the “open source philosophy” is presumably an essential step for enabling its application to the fashion paradigm. The examples from other fields can give ideas to the models in fashion field; these examples can play the role of a “moodboard” of fashion openness or open source fashion and give the basic principles for its development – “the source” of the open source. The data for this section is gathered from relevant websites, magazines and literature review.

2.1 DEFINITION OF OPEN SOURCE

Open source software is computer software modifiable by all, where users are treated as co-developers. Open source promotes free redistribution and access to an end product’s design and implementation details - source materials, “mixes old and new principles of commons and collaboration” (Leadbeater, 2009). The old principles of commons¹ is, for example, the folklore. It has developed due to common efforts and the authorship can not be addressed to a particular artist/writer. Open source “product” comprises the source code, design documents and/or content that users have permission to use (Fuad-Luke, 2009). *Open Design Now* manifests: “Some consider open source a philosophy; others consider it a pragmatic methodology. Open source originated from software coding, but many other realms are seen as potentially open. Some claim they can solve urgent social, economic and ethical issues; others are for play and provocation. With so many creative terrains that can and should be open, defining what shouldn’t be open might be more efficient”.²

The roots of open source stem from San Francisco, where in 1968 Doug Engelbart presented the key ingredients of the Internet and from then on it was possible to see computers, previously “distrusted as a dehumanizing tool of corporate and bureaucratic control”, as the bearers of social and organizational revolution (Leadbeater, 2009: p39). Engel-

bart re-imagined computer as “an instrument of personal liberation and freedom of expression, with the potential to flatten hierarchies, decentralize organizations and unleash collective creativity” (ibid.). Simultaneously Stewart Brand created the Whole Earth Catalogue³. Much of its content was submitted by readers, and it collected different sorts of “tools”, from books to specialized clothing, from tantric art to cybernetics. Later Steve Jobs compared it to Google and Kevin Kelly to user-generated blogosphere. In 1975, Fred Moore with a fellow volunteer Gordon French set up a club for amateurs interested in the social impact of computers. The club embodied the hacker ethic: people making things for themselves and helping one another to do the same. According to Leadbeater (2009: p42), twenty-three high tech companies, Apple among them, can be traced to this club. Both Moore and Brand were fond of Ivan Illich’s (1971) thoughts on people’s dependency on the expert knowledge of professionals that causes the loss of faith in their own capacity to act. Illich encouraged to choose “life of action” instead of “life of consumption”. Independent but still related to each other, people should produce their own well-being and for that they need more easy-to-use tools. There was also an opposite development to open source in San Francisco: at the same time Bill Gates started his company, Microsoft. Contrary to computer amateur clubs, he believed in owning rather than sharing and stated that software should be paid for, similarly to hardware. Since then there has been a complex “digital civil war” (Leadbeater, 2009: p47). The pioneers of open source programming and online communities continued to talk mainly the language of fellowship and communion. Personal computer and internet were not combined until the 1990’s. In Leadbeater’s view, the web has never shaken off the roots of open source programming communities, which is why money-making companies have found it hard to bend it to their commercial purposes. The prime actors of open source are the developers, who operate within coordinated peer production, usually as independent volunteers. Everyone can freely access, modify and redistribute the source code under the same terms, thus, according to Avital (2011), continuously facilitating improvement, and extending the generative and innovative capabilities of a core project. “Inspired by the impact

Figure 1. Open Source Initiative definition. The term 'open source' is commonly associated with computer software. Open Source Initiative (<http://opensource.org/docs/osd>) defines 'open source' as follows:

1. FREE REDISTRIBUTION

The license shall not restrict any party from selling or giving away the software as a component of an aggregate software distribution containing programs from several different sources. The license shall not require a royalty or other fee for such sale.

2. SOURCE CODE

The program must include source code, and must allow distribution in source code as well as compiled form. Where some form of a product is not distributed with source code, there must be a well-publicized means of obtaining the source code for no more than a reasonable reproduction cost preferably, downloading via the Internet without charge. The source code must be the preferred form in which a programmer would modify the program. Deliberately obfuscated source code is not allowed. Intermediate forms such as the output of a preprocessor or translator are not allowed.

3. DERIVED WORKS

The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original software.

4. INTEGRITY OF THE AUTHOR'S SOURCE CODE

The license may restrict source-code from being distributed in modified form only if the license allows the distribution of "patch files" with the source code for the purpose of modifying the program at build time. The license must explicitly permit distribution of software built from modified source code. The license may require derived works to carry a different name or version number from the original software.

5. NO DISCRIMINATION AGAINST PERSONS OR GROUPS

The license must not discriminate against any person or group of persons.

6. NO DISCRIMINATION AGAINST FIELDS OF ENDEAVOR

The license must not restrict anyone from making use of the program in a specific field of endeavor. For example, it may not restrict the program from being used in a business, or from being used for genetic research.

7. DISTRIBUTION OF LICENSE

The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties.

8. LICENSE MUST NOT BE SPECIFIC TO A PRODUCT

The rights attached to the program must not depend on the program's being part of a particular software distribution. If the program is extracted from that distribution and used or distributed within the terms of the program's license, all parties to whom the program is redistributed should have the same rights as those that are granted in conjunction with the original software distribution.

9. LICENSE MUST NOT RESTRICT OTHER SOFTWARE

The license must not place restrictions on other software that is distributed along with the licensed software. For example, the license must not insist that all other programs distributed on the same medium must be open-source software.

10. LICENSE MUST BE TECHNOLOGY-NEUTRAL

No provision of the license may be predicated on any individual technology or style of interface.

of high-profile projects like Linux and Mozilla Firefox, the tenets of the open source development, licensing and distribution model have promoted the proliferation of open source projects of all sorts” (ibid.) – from digital content development (e.g. Wikipedia), via vehicles (e.g. c,mm,n) and beverages (e.g. Free Beer – Vores øl), to 3D printers (e.g. RepRap), and the Apache web server, just to name a few (Avital, 2011; Troxler 2011).

Open source has extended from software to hardware. The characteristics of open source software and open source hardware differ in the principle that “physical resources must always be committed for the creation of physical goods”⁴. Persons or companies producing items under an OSHW license have an “obligation to make it clear that such products are not manufactured, sold, warranted, or otherwise sanctioned by the original designer and also not to make use of any trademarks owned by the original designer”. Similarly to OSSW, the design of open source hardware is made publicly available so that anyone can study, modify, distribute, make, and sell the design or hardware based on that design. The source - the design from which it is made - is available in a format that enables modifications. According to Freedomdefined.org (where this definition is cited from) in an ideal case, OSHW uses “readily-available components and materials, standard processes, open infrastructure, unrestricted content, and open-source design tools to maximize the ability of individuals to make and use hardware”. The agenda is to provide people the freedom to control their technology while “sharing knowledge and encouraging commerce through the open exchange of designs”. Troxler lists the endeavors of open source hardware development (all these companies are selling open source hardware and creating community around them):

Adafruit Industries, makers of educational electronic kits;
Arduino, the open source computing platform;
Beagle Board, a manufacturer of open development boards for computers;
Bug Labs, known for their modular Lego-type computer hardware;
Chumby, standalone Internet content viewers;
Dangerous Prototypes, Dutch hackers turned entrepreneurs who sell an open source reverse engineering tool;
DIY Drones, for open source unmanned aerial vehicles (autopilot drones);
Evil Mad Scientist Labs and their fun educational projects;
Liquidware, who make Arduino accessories;
Makerbot Industries, the company behind MakerBot 3D printers and the sharing platform thingiverse.com;
Maker Shed, the shop behind Make Magazine and Maker Fair;
Parallax, education in micro-controller programming and interfacing;
Seed Studios, for Chinese Arduino derivatives;
Solarbotics, for solar kits, robot kits and BEAM robotics;
Spark Fun Electronics, for education and prototyping electronics products.

Troxler continues, that besides these “single-aim or single-product projects”, there are other initiatives promoting commons-based peer production primarily by sharing de-

signs and encouraging people to “make things” just for the fun of it (the Maker Faire in the USA, Make Magazine and Craft Magazine). Some initiatives are about easy sharing, distribution and promotion, such as Ponoko, Shapeways and Thingiverse. Others involve more serious or more ambitious social experiments, such as the Open Source Ecology with their experimental facility, Factor E Farm (ibid.). Troxler adds also the “hackerspaces” which use a combination of membership contributions, course fees, donations and subsidies to sustain itself. Hackerspaces are founded as local initiatives following a common pattern and their activities evolve around computers and technology, digital or electronic art. If open source hardware can be compared to the “books” of commons-based peer production, then TechShops, Hackerspaces and Fab Labs are its libraries (Troxler, 2011). All these examples of open source software and hardware are at the core of open source philosophy and “open design” which is described in the third chapter of this section.

Open source hardware contains several issues in comparison to open source software. Bauwens (in Niessen, 2010)⁵ lists them quite accurately:

1. knowledge is immediately “consumable”, so the act of creating it is equal to making it into use value for others
2. creating knowledge, code or designs without production requires the cooperation of human intelligence as well as access to a socialized network such as the internet → capital requirements are lower, as people can practice this activity without pressure of revenue → physical objects require access to capital to purchase either the objects or the machinery to make the objects → the threshold of participation is higher
3. a difficulty in terms of the necessary embodiment between the design and the production: designing objects requires embodied testing in the material world
4. the immaturity of the collaborative platforms for shared design: in many sectors not yet available or at early stage of construction

2.2 BACKGROUND & CENTRAL FEATURES OF OPENNESS

When this thesis discusses “open source” being applied to something or/and being the state of being, it is addressed with the word “openness”. Openness may refer to an open system - a system which continuously interacts with its environment. The interaction can take the form of information, energy, or material transfers into or out of the system boundary, depending on the discipline which defines the concept. An open system should be contrasted with the concept of an isolated system which exchanges neither energy, matter, nor information with its environment⁶.

Openness refers to transparency (which can be seen as the lower degree of openness, because it does not include

Figure 2. Open Source Hardware definition. (Definitions of Free Cultural Works, <http://freedomdefined.org/OSHW>). The figure on the back-round is the Open Source Hardware logo, available at <http://oshwlogo.com/>. These principles slightly differ from the ones of Open Source Software.

1. DOCUMENTATION

The hardware must be released with documentation including design files, and must allow modification and distribution of the design files. Where documentation is not furnished with the physical product, there must be a well-publicized means of obtaining this documentation for no more than a reasonable reproduction cost, preferably downloading via the Internet without charge. The documentation must include design files in the preferred format for making changes, for example the native file format of a CAD program. Deliberately obfuscated design files are not allowed. Intermediate forms analogous to compiled computer code -- such as printer-ready copper artwork from a CAD program -- are not allowed as substitutes. The license may require that the design files are provided in fully-documented, open format(s).

2. SCOPE

The documentation for the hardware must clearly specify what portion of the design, if not all, is being released under the license.

3. NECESSARY SOFTWARE

If the licensed design requires software, embedded or otherwise, to operate properly and fulfill its essential functions, then the license may require that one of the following conditions are met:

- a) The interfaces are sufficiently documented such that it could reasonably be considered straightforward to write open source software that allows the device to operate properly and fulfill its essential functions. For example, this may include the use of detailed signal timing diagrams or pseudocode to clearly illustrate the interface in operation.
- b) The necessary software is released under an OSI-approved open source license.

4. DERIVED WORKS

The license shall allow modifications and derived works, and shall allow them to be distributed under the same terms as the license of the original work. The license shall allow for the manufacture, sale, distribution, and use of products created from the design files, the design files themselves, and derivatives thereof.

5. FREE REDISTRIBUTION

The license shall not restrict any party from selling or giving away the project documentation. The license shall not require a royalty or other fee for such sale. The license shall not require any royalty or fee related to the sale of derived works.

6. ATTRIBUTION

The license may require derived documents, and copyright notices associated with devices, to provide attribution to the licensors when distributing design files, manufactured products, and/or derivatives thereof. The license may require that this information be accessible to the end-user using the device normally, but shall not specify a specific format of display. The license may require derived works to carry a different name or version number from the original design.

7. NO DISCRIMINATION AGAINST PERSONS OR GROUPS

The license must not discriminate against any person or group of persons.

8. NO DISCRIMINATION AGAINST FIELDS OF ENDEAVOR

The license must not restrict anyone from making use of the work (including manufactured hardware) in a specific field of endeavor. For example, it must not restrict the hardware from being used in a business, or from being used in nuclear research.

9. DISTRIBUTION OF LICENSE

The rights granted by the license must apply to all to whom the work is redistributed without the need for execution of an additional license by those parties.

10. LICENSE MUST NOT BE SPECIFIC TO A PRODUCT

The rights granted by the license must not depend on the licensed work being part of a particular product. If a portion is extracted from a work and used or distributed within the terms of the license, all parties to whom that work is redistributed should have the same rights as those that are granted for the original work.

11. LICENSE MUST NOT RESTRICT OTHER HARDWARE OR SOFTWARE

The license must not place restrictions on other items that are aggregated with the licensed work but not derivative of it. For example, the license must not insist that all other hardware sold with the licensed item be open source, nor that only open source software be used external to the device.

12. LICENSE MUST BE TECHNOLOGY-NEUTRAL

No provision of the license may be predicated on any individual technology, specific part or component, material, or style of interface or use thereof.

participation) of any natural or constructed boundaries, such as economy, political data or a supply and distribution chain. When one throws everything open one must also live with the uncomfortable degree of transparency, which is familiar to bloggers who are free to express themselves but also obliged to be openly criticized (sometimes inappropriately). Openness is accessibility for something to be viewed, modified and used, in Avital's (2011) words: "The ability to view refers to sharing content and the availability of detailed information about the subject matter. The ability to modify refers to sharing labour and empowering changes, improvements and extensions of subject matter. The ability to use refers to sharing ownership and enabling semi or unrestricted reuse of the subject matter or parts thereof. These are the three fundamental operations that are implied by accessibility."

Hummels (2011) talks about open design which, in addition to access, assumes also sharing, change, learning, ever-evolving knowledge and skills. She links openness to New Science paradigm of quantum physics, relativity theory and self-organizing structures. "Where Newton's classical-scientific view is essentially simple and closed – it can be modeled through time-reversible laws and all complexities can be reduced to simplicities – Prigogine's reality is multiple, temporal and complex. It is open and admissible to change" (ibid). In evolutionary biology, symbiogenesis represents openness: instead of highlighting the "survival of the fittest", biologist Lynn Margulis found that some species evolve in close symbiosis and cooperation rather than rivalry (Margulis 1998; Margulis & Sagan 1995; Capra 1996) cited in von Busch, 2009: p65). For Thackara (2011), openness is a matter of survival – not only a commercial and cultural issue: "Systemic challenges such as climate change, or resource depletion cannot be solved using the same techniques that caused them, that is why open research, open governance and open design are preconditions for the continuous, collaborative, social mode of enquiry and action that are needed" (ibid).

The core characteristics of openness are also *collaborating* and *connecting*. It promotes tolerance, equity, justice and freedom. Castells (2007) believes that if the thoughts of the majority of people contradict with the institutionalized values and norms, ultimately the system will change. Apple Dictionary describes "openness" as a general philosophical position from which some individuals and organizations operate, often highlighted by a decision-making process recognizing communal management by distributed stakeholders (users/producers/contributors) rather than a centralized authority. There are two concepts of openness familiar to everyone: food recipes and municipal libraries. Recipes can be shared easily, for free, and they are also modifiable. Libraries share loads of information free of charge. Openness is mixing, borrowing, remixing, morphing and it is

something unfinished, unpredictable and open-ended. "Don't judge an object for what it is, but imagine what it could become" says de Mul (2011), who also notes that "the exploration and establishment of a whole new realm of human experience" that can be witnessed today, is likely to concern every aspect of our lives - openness has become an extremely popular concept.

The background of open source philosophy can be associated with the times *after modernity*, or more precisely the 1960's, when the ingredients of open source philosophy were directly formed in the United States (San Francisco) by the hackers and open source software developers; and indirectly a similar way of thinking was visible in Europe (especially France) among post-modern philosophers who emphasized *the reader* instead of *the author*. Actually post-modern era and open source philosophy have a lot in common – they can be seen as "partners in crime", in reaction against the modern worldview. But the open source worldview goes beyond post-modern, and as Bauwens (2006) states, we have moved from a post-modern era to a peer-to-peer era (era of participation), where *do-it-yourself* culture and *doing together*-culture are fostered by accessible technology and belief in efficient synergy. Open source philosophy favors the process, instead of the result, and this, even Buddhist, approach can be seen as a reaction to the extreme materialism that has dominated Western culture for many decades. According to my observation, the value of "stuff" has decreased. This argument can be supported by the statements about post-industrial society (Bell, 1973) and Information Age (Castells, 2007), where the *immaterial* goods, such as service sector and information (Web 2.0 etc.), produce more wealth or are more valuable than manufactured (material) goods. The background of these central features – the temporal context (after modernity), the way of doing (DIY or/and together instead of hierarchically), the substance of product (accent on the immaterial aspects) and the social nature (two-way communication and the "death of author") of open source philosophy – are explained in this chapter.

After Modernity

"Modernity" is associated with the post-medieval period beginning from Renaissance (ca. 14th-17th Centuries), characterized by a move from feudalism towards capitalism, industrialization, urbanization, rationalization, the nation-state and its constituent institutions and forms of surveillance⁷. Along with the social and political changes the general mindset changed too: linear time-and-space view replaced the medieval cyclic view⁸, scientific worldview replaced the religious-metaphysical worldview, and during the Enlightenment, thinkers such Francis Bacon, Thomas Hobbes and René Descartes (16th-17th Centuries) believed in the Pure Reason (Reiners, Seppä & Vuorinen,

2009). Modernity was the time when intellectual culture and humanistic sciences were born and theoretical objective knowledge emphasized. Many classification concepts and hierarchies (for example Carl von Linné and the modern binomial system of naming species, later the Evolution Theory by Darwin) were formed. Other philosophers, such as John Locke, believed in empirical (perceived with senses) knowledge. Immanuel Kant (1724–1804)⁹ is the central figure in modern philosophy: he synthesized early modern rationalism and empiricism, set the terms for much of 19th and 20th century philosophy, and continues to exercise a significant influence today in metaphysics, epistemology, ethics, political philosophy, aesthetics, and other fields. Kant's "critical philosophy" argues that "...the human understanding is the source of the general laws of nature that structure all our experience; and that human reason gives itself the moral law, which is our basis for belief in God, freedom, and immortality. Therefore, scientific knowledge, morality, and religious belief are mutually consistent and secure because they all rest on the same foundation of human autonomy, which is also the final end of nature according to the teleological worldview of reflecting judgment that Kant introduces to unify the theoretical and practical parts of his philosophical system" (Stanford Encyclopedia of Philosophy). Modern worldview created human superiority, in the eternal truth of human reason, the belief in human progress, scientific and technological achievements and bright future. von Busch presents Deleuze's and Guattari's (2004) concept of abstract machines: "the engineering diagrams that guide the processes of becoming". Clockwork mechanisms were closely linked to the conception of the world during the Enlightenment, used by physicists like Newton and philosophers like Descartes. Similarly, the steam engine, which was invented in Great Britain in 1740 or motor came to be the engineering diagram for understanding the world of industrialism. The "mindset" of the steam engine made thermodynamic heat motors, based on the dynamics of mechanical movement produced under pressure, seem to be the driving force behind both personal change, such as the suppressed subconscious of Freud, or the changes in historical materialism, such as Marx subjugated revolutionary working class (Fuad-Luke, 2009; von Busch, 2009). Kuosa (2009: p39) summarizes the implications of the Enlightenment as follows:

"Mannermaa (1992, pp179 & 328) states that complexity and unpredictability used to be the fundamental characteristics of human existence, world explanations, and human behavior before the Age of Enlightenment. Due to enthusiasm to physical discoveries and new mechanical world explanations of Galileo Galilei (1564-1642) and Isaac Newton (1643-1727), systems like the human brain, social behavior, the weather, and everything that used to be explained via supernatural reasons, 'complexity' or unpredictability, were suddenly explained via the mechanics of clockwork, pendulum or solar orbits and trajectories."

The modern paradigm generated Modernism, appearing as an art, architecture and design movement. Modernism is said to be indirectly but firstly presented by Charles Baudelaire (1821-1867) in his essay *The Painter of Modern Life* (1863) where he spoke about "understanding the special nature of the present-day beauty" and "searching for eternal in ephemeral". Baudelaire sees romantic "inspiration" and representative narratives in art as false. Modern artists wanted to concentrate on the "surface" and the "forms" rather than symbols or the spirit. Modern design (for example Bauhaus and functionalism) considered itself as a generator of social change and intervened directly in people's everyday life by designing everything from the building to the drinking glasses. Modern design and architecture reflected modern philosophy and was a holistic and idealistic approach towards human life. Industrial progress was a driver and an enabler of modern design. Constructivist designers saw clothing as strictly utilitarian and optimized working garments and architects such as Le Corbusier saw the house as "a machine for living in". The engineering perspective dominated the thinking and throughout the industrial age, the western world has become very efficient in using hierarchical models of organizations, and these models look natural to us (von Busch, 2009: p155).

Ernest Mandel predicted the "third technological revolution" (Graeber, 2012) in which "computers, robots, new energy sources, and new information technologies would replace industrial labor (the end of work) reducing us all to designers and computer technicians coming up with crazy visions that cybernetic factories would produce". In the West this prediction came quite close to reality, but as Graeber notes, the smokestack industries disappeared only from our eyes and the old-fashioned sewing work happens in Asia and South America. In the 1960s the ideas of Modernity were rejected by pluralist Postmodernity with ideological shift from mass consumption to individualized consumption. Also Dick Rijken points out that the times of universal truth and linear progress are over, and today we find ourselves in a "chaotic maze of anecdotes and interconnected ideas". Castells was one to introduce the idea of Information Age – a cultural and technological paradigm, where the social movements and the new forms of political mobilization are typically using the means of mass self-communication, intervening in the mainstream mass media as they try to influence public opinion (Castells, 2007). Information technology functions today as the postmodern "abstract machine" of decentralized worldview despite the fact the research and development is still driven by bureaucratic projects (Graeber, 2012). But in Rijken's (2011) view, the world is lead by the networks – not the hierarchies, and design is not only a discipline anymore – it is "part of our natural mode of being" and we are designers of our lives through the choices we make. Design as culture turned into culture of design, which presumes our visible presence in the preferred networks.

Death of the author

If thinking is not an individualistic effort anymore, what happened to the “author”? Simultaneously to the emerging open source culture in San Francisco, the post-structuralist philosophers in Europe questioned the authors dominant role when interpreting texts. Roland Barthes suggested in his essay “The Death of the Author” (1968), that the identity or intentions of the author are not relevant and the way must be cleared for the “birth of the reader” as a participant, actively engaged in making sense of a text. As Barthes puts it: “The author is a modern figure, a product of our society insofar as, emerging from the Middle Ages with English empiricism, French rationalism and the personal faith of the

Reformation, it discovered the prestige of the individual, of, as it is more nobly put, the ‘human person’. It is thus logical that in literature it should be this positivism, the epitome and culmination of capitalist ideology, which has attached the greatest importance to the ‘person’ of the author.” In his revolutionary flavored manifesto he refuses to see a text as a line of words releasing a single “theological” meaning (the “message” of the Author-God). Text is “multi-dimensional space in which a variety of writings, none of them original, blend and clash” and the “text is a tissue of quotations drawn from the innumerable centers of culture”. The post-modern dialogue wanted collage and pastiche, recombining ingredients provided by others, and before postmodernism

Figure 3. Thinking and search for ideas

(Based on Leadbeater, 2009: p20; Rijken, 2011; and Bauwens, 2006).

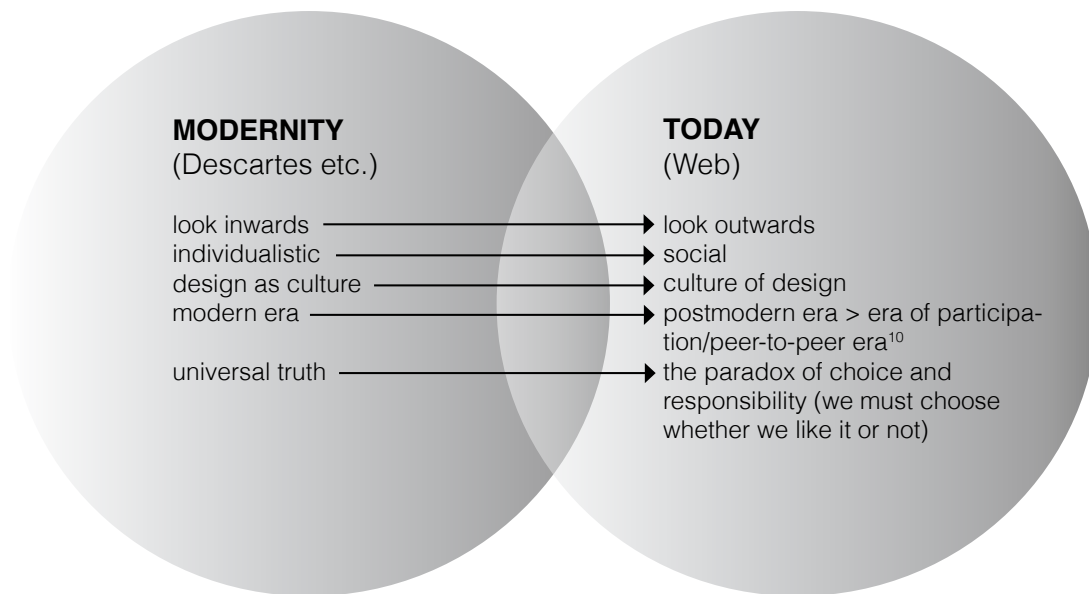
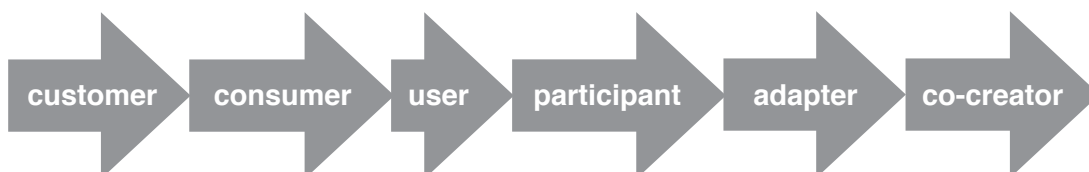


Figure 4. The evolution of the role of the customer in the historical context (Fuad-Luke, 2009: p95)



the futurism, cubism, dadaism and pop art (Reiners et. al., 2009). This reminds of today's rip-mix-burn¹¹ generation, hip hop music and Youtube. Barthes also criticizes the classic criticism which could be paralleled to every cultural, institutional and commercial structure of modernity. Criticism (a product of Enlightenment) has never paid much attention to the reader, therefore the writer is the only person in literature. Likewise the target of modern design defined only the necessary features of the product, and the designer is the only person in design.

Immaterial/Material

Open source is not only about software and information, but the physical DIY and co-creation is more challenging because the "source code" is defined by different means. Copying purely digital works is easy and entry barrier for digital projects is low if the participant is skillful. In turn, physical objects and hardware development are likely to require more investment in equipment, including premises in which the hardware can be placed i.e. studio and storage (Katz, 2011), as well as multi-dimensional skills. But when shared design is in question, the need for *embodiment* is greater than for shared code (Bauwens' interview by Nissen & Romano, 2010, p105).

Apparently "open source" is not only an immaterial way of doing and creating, but the main value remains in the process rather than the end-product or result. As von Busch indicates (2009: p39): it is doing rather than having. This could be paralleled with "buddhist economics" by E.F. Schumacher (1973)¹²: "production by the masses, not for the masses" - the materialist is mainly interested in goods, the Buddhist is mainly interested in liberation. Just like the buddhist monks draw on the sand and accept that the next minute their performance is washed away by the waves. It is one way to fight the ego. "The Buddhist point of view takes the function of work to be at least threefold: to give a man a chance to utilize and develop his faculties; to enable him to overcome his ego-centredness by joining with other people in a common task; and to bring forth the goods and services needed for a becoming existence" (Schumacher, 1973). From the Buddhist point of view, there are therefore two types of mechanization which must be distinguished: one that enhances a man's skill and one that turns the work of man over to a mechanical slave, leaving man in a position of having to serve the slave. The machine must be treated as a tool for a craftsman, not the other way round. Likewise in open source philosophy, the information, tools and design contain the most value. Design is not a product – it is a process.

Together

Co-creation, collaboration and sharing are at the core of "openness". People have always co-created and collabo-

rated, because this was the only way to survive. They have always shared: commons-based communities, cultural commons such folk music, myths and language. Before the mass-produced book, the most of culture and art was folk, which did not have the concept of intellectual property (Leadbeater, 2009: p59). Scientists have always relied and still do on collaboration with each other, to reflect thoughts. Creative projects succeed exponentially if there is a fruitful synergy among the participants. Passionate believer in co-creation – or *We-think*, as he calls it – Charles Leadbeater reminds that if the mass production took away the mentality of co-creation, the digital revolution definitely restored it. Leadbeater's organizational recipe rests on a balance of three ingredients: participation, recognition and collaboration. Most creativity is collaborative and our preoccupation will be with creating and sustaining a mass innovation economy in which the central issues will be how more people can collaborate more effectively in creating new ideas (2009: p7). This might be the only solution to tackle major challenges: to spread equality and knowledge, to improve health and quality of life, to tackle climate change etc. For Leadbeater, shared ideas multiply and grow. Also a retired Finnish journalist Tapani Lausti discusses (2008) that human beings have a natural tendency to build communities where they have the possibility to influence the decisions concerning their own life and life of their near community. If such evident democracy is lacking, it might shake people's balance and even cause mental problems. Lausti believes that the hierarchical structures contradict the essence of human species. As social beings, people want to contour together their life and future. A society based on private profit pursuance makes such collaboration difficult. Lausti sees capitalism as "the big religion of our time" (referring to Jeremy Seabrook's book "Myth of the Market: Promises & Illusions", 1990) and invites to doubt the paradigms of our economic system. He (and Seabrook) wants to minimize the market economy, which today intervenes our heart, imagination and spirituality, and find the "islands of autonomy and creativity" that have fallen asleep within us, who surrendered to the embrace of prosperity pursuit destroying the human being and the environment. In Lausti's experience, anti-capitalistic thoughts are usually received with aggressive resistance and fear.

The competitive nature of businesses urged them to collaborate with customers, and co-creation, crowdsourcing¹³ or mass-customization have been more or less familiar concepts to the businesses for at least a decade. But the roots of the shift in attitude towards customers are in the 1980's, when the creative potential of these customers was realized to be helpful for businesses to create better services and products.

Today it seems to be an increasing trend, crowdsourcing is quite a common method and "let's do this together" is constantly promoted. The mass medias have brought the

social media close to their practices and mass-customization is wanted from sneakers to strollers. In design there are several names for co-creation or collaborative design: co-design (initiated by design professionals or other experts), participatory design, open source design, metadesign social design, user-centered design, inclusive/universal design, mass collaboration and user innovation design, and sometimes slow design (Fuad-Luke, 2009).

Do-It-Yourself

In addition to co-creation, the user empowerment embodies the self-sufficient DIY attitude, which stands for doing, making, repairing, building or modifying without the help of expert or professional. It might be

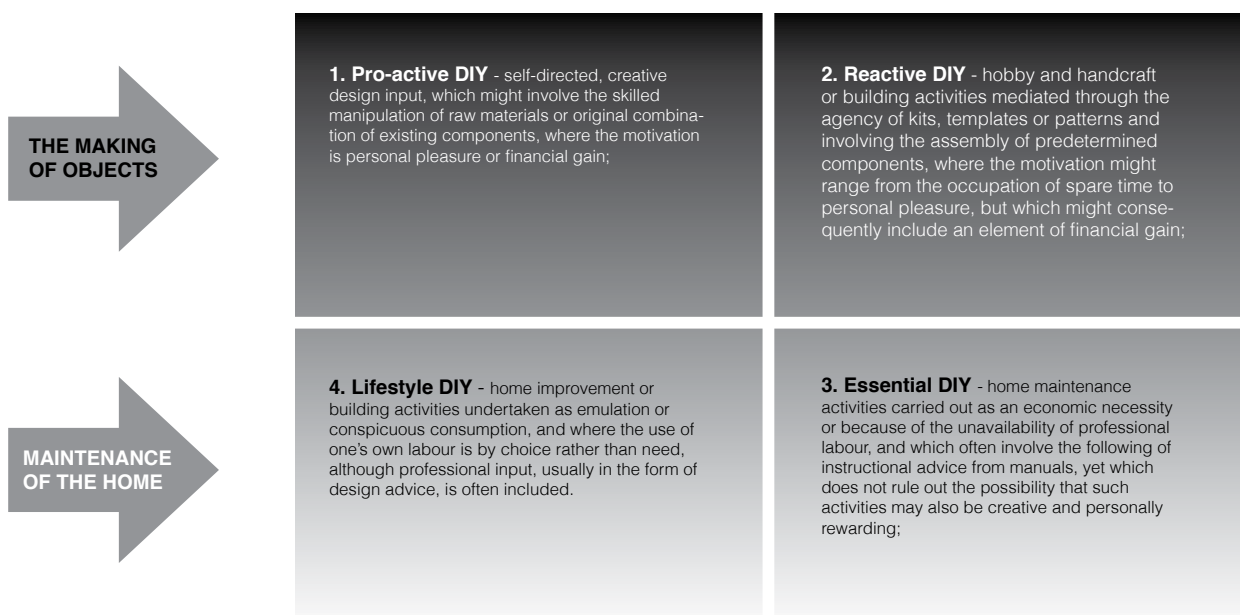
- a) politically charged, a protest, such as in the case of punks in the 70's (anti-consumerist Riot Grrrls);
- b) practiced for fun as fulfillment and self-expression, therapy or love towards crafts;
- c) out of need, if one does not have access to the consumer goods or there are no ready-made products on the market that could serve the desirable means (for example first aid)¹⁴

DIY is productive leisure - something that we enjoyed when we were children (where does this passion for handicrafts and other constructing disappear? Or does it? Do we still

get excited when we see Legos?). DIY is associated with "activity" (producer, maker) contrasting to the passivity of terms "consumer" or "user" i.e. DIY promotes the empowerment of the individuals, questions the need to rely on paid specialists and believes that anyone is capable of performing a wide variety of tasks. Pro-Ams (Professional Amateurs), a term coined by UK think-tank Demos, are creative activists who are seen as having an increasing impact in our society and economy ("cultural capital"). These enthusiasts develop their skills little by little through experience and benefit from being active and creative accompanied with a sense of belonging, as they operate within a community where they collaborate, share ideas, learn from each other; and develop a sense of self-worth (Fletcher, 2008: p190). DIY or maker-culture has its own magazine: Make (<http://makezine.com/>).

Atkinson, who combines DIY and design, discusses the roots of open design (in *Open Design Now*, 2011)¹⁵ and brings up the historical aspect about the printing of instructional manuals in the form of popular DIY handbooks and magazines which enabled anyone to learn the necessary hand skills (which were before passed down from generation to generation), to engage with creative design and produce functional goods for themselves. Atkinson sees this as a process of democratization, rejected by the institutional bodies of various professions, that tend to protect the livelihoods of their members. This issue is a source of tension in the relationship between amateur and professional. Current-

Figure 5. Based on and cited from Atkinsons (2006: p2) suggestion for two areas and four categories of DIY.



ly we run into DIY all the time: the remix culture is highly present in music and all over the Internet. For this, DIY arises intellectual property issues and challenges the current laws of borrowing. 3D designs and ideas for objects can be published, shared and modified as easily as video clips. “Do-It-Yourself is no longer a matter of wood and nails”, says von Busch, “DIY is becoming more refined in terms of possible forms and construction concepts”. Still, nowadays, DIY is considered as luxury because “time is money” and most of us are not paved with neither of these.

2.3 EXAMPLES OF OPENNESS: YOU ARE WHAT YOU SHARE

For Leadbeater the collective innovation “we-think” (which is also the title of his book written in 2009) - one aspect of “openness” - might come of age in the fight against the global warming, which requires finding alternative ways to generate energy, use resources etc. He prefers the economy of ideas to the economy of things where one is identified with material personal possessions, and instead of believing in “you are what you own”, Leadbeater speaks for “you are what you share”. The open source philosophy is being increasingly applied in numerous fields and is visible in a wide range of contexts. This chapter presents the various current phenomena that embody open source philosophy to some extent. These examples help to understand the open source thinking more concretely and also support the argument that open source philosophy is a highly influential, all-encompassing trend, which can be treated as a weak signal for future systemic changes in fashion.

Web 2.0

According to Wikipedia, Web 2.0 refers to the interactive and collaborative nature of World Wide Web, implying cumulative changes in the ways software developers and end-users use the web. Contrary to websites where people are limited to be passive viewers, web 2.0 allows users to have a dialogue as creators of user-generated content in a virtual community. Examples of Web 2.0 include such platforms as social networking sites (allowing to connect), blogs, wikis, video sharing sites and hosted services (allowing to contribute).

Web 2.0 enables easy sharing, connecting, networking and creating diverse platforms. People can become organized in new ways, at low cost. Internet endows speed and scale to familiar social structures and operating systems (before we had flea markets, now we have eBay). It also gives opportunities for participating, critical thinking, generating knowledge, sharing ideas, spreading know-how, distributing knowledge, creating culture and making decisions together. Collaboration and commons-based peer-to-peer production enable non-market and non-hierarchical organizations (Bauwens, 2006) and “the more ideas are shared the more

they breed”, and the thousands, even millions of people using the web can work together to solve global problems (Leadbeater 2009: p28). Wikipedia is the most famous example of a massive, open source, self-organized and collaborative system. Often the online co-productive and participatory work is shared with open licenses, such as Creative Commons or Copyleft. Today, in 2012, there are about 620 million websites¹⁶.

Social networking crucially changed our perception of communicating and being in relation with our community. The success of Facebook grew extremely fast and today it is a profound part of its users’ lives. Facebook says it now has 1.01 billion people using the site each month, consistent with a status update CEO Mark Zuckerberg made in October 2012 to mark the 1 billion threshold. Facebook also says it had 584 million active users each day on average in September 2012 and 604 million using Facebook from a mobile device each month¹⁷. In addition to Facebook there are such giants as Twitter, Pinterest, LinkedIn, MySpace and other popular social media. Blogosphere is another shaker of our daily relation with information and useful online communities such as Time Banks (service exchange between the users) and Netcyclers (good exchange) provide us with alternative to traditional view on trading. The latter concepts are also called collective consumption (Botsman & Rogers, 2011).

P2P

Peer-to-peer “is a specific form of relational dynamic, is based on the assumed equipotency of its participants, organized through the free cooperation of equals in view of the performance of a common task, for the creation of a common good, with forms of decision-making and autonomy that are widely distributed throughout the network”¹⁸. The P2P Foundation introduces p2p in a nutshell with words “*revolution of making*”. There is a computer in every home and every computer is connected through the internet to every other computer. This setup has great implications on the economy as well as on society as a whole. According to Niessen (2010: p33) p2p economies’ actors produce creative value such as a string of software code, a song or a clothing pattern, and share it with their communities believing that they will individually benefit, in terms of quality, knowledge and/or wealth, by the collective enrichment. Niessen underlines that p2p developments are affecting almost all the sectors of society and an increasing number of social fields are adopting such kind of organizational model. P2p is nowadays considered as an emerging “third mode of production” (p2p economy) which is different both from traditional capitalism and socialism; p2p economy is clearly visible in the fields of open source software and in DIY communities.

Michel Bauwens, a Belgian peer-to-peer theorist and an active writer, researcher and conference speaker, is convinced

that p2p processes produce use-value for a community of users instead of exchange value for a market through the free cooperation of producers who have access to distributed capital. The p2p “third mode of production” is different from for-profit or public production by state-owned enterprises. Bauwens enlightens that the P2p processes are governed by the community of producers themselves, and not by market allocation or corporate hierarchy, making the p2p processes use-value freely accessible on a universal basis, through new common property regimes. This is “peer property mode” or a “third mode of ownership”, different from private property or property. Bauwens is one of the founders of the P2P Foundation, which is an international organization focused on studying, researching, documenting and promoting peer-to-peer practices in a very broad sense. The website of P2P Foundation is collaboratively built by their community. The website provides all the information one might want about p2p, for example there is a long list of companies and projects, based on, or concerning the peer-to-peer principles. One good example is an open peer-to-peer marketplace¹⁹ for renting spare rooms (alternative to a hotel) Airbnb.com, which became an international success. It is a service, where everyone wins: visitor meets the locals and stays in an authentic, affordable accommodation. The host utilizes the empty room, earns extra money and meets new people. Airbnb gets a small commission from both parties. This service is based entirely on trust and until now there have not been problems, even though there are over a million²⁰ users around the globe. Brian Chesky, one of the founders of Airbnb.com, predicts that “the status quo is being replaced by a movement, and peer-to-peer is going to be the default way people exchange things, whether it is space, stuff, skills or services” (Botsman & Rogers, 2011).

Open politics

Recently the belief in the representative democracy, the traditional conception of nation-state and the top-down control has been shaken. Transparency is appreciated, which is most radically applied by Wikileaks, that “opened” the political structures by releasing secret documents to the public. Another quite radical approach to “open politics” is The Pirate Party - or originally Piratpartiet, founded in Sweden in 2006 – that says to support civil rights, direct democracy and participation, reform of copyright and patent law, free sharing of knowledge (open content), information privacy, transparency, freedom of information, free education, universal health care and a clear separation between church and state. They advocate “network neutrality and universal, unrestricted access to the Internet as indispensable conditions to some of this”²¹. On Pirate Party’s international website they clarify that there are only three things on their agenda: the reform of copyright law, an abolished patent system and respect for the right of privacy. For example they state that:

“All non-commercial copying and use should be completely free. File sharing and p2p networking should be encouraged rather than criminalized. Culture and knowledge are good things, that increase in value the more they are shared. The Internet could become the greatest public library ever created. The monopoly for the copyright holder to exploit an aesthetic work commercially should be limited to five years after publication. Today’s copyright terms are simply absurd. Nobody needs to make money seventy years after he is dead”. Today the registered Pirate Party is distributed around the world, from Russia to the United States. The less radical thought about “open politics” is presented as a prediction for 2013 in the Wired-magazine (2012) by Anne-Marie Slaughter, a professor of politics and international affairs in Princeton University. She suggests that the government should be a similar platform as the iPhone: “providing the basic hardware for and software to enable citizen participation, innovation and self-organization”. The Arab Spring is constantly brought up when talking about citizen activism and the power of participation (or openness), but some scholars do not believe in its democratic advancement. Korvela (2012) states that only the most networked and active citizens tend to participate or have their voices heard.

A website, <http://www.opendemocracy.net/>, has published news analysis, debates and blogs “about the world and the way we govern ourselves” since 2001. The website goes beyond one set of issues, dealing with principles and the arguments, and debates about those principles. They aim to ensure that marginalized views and voices are heard and believe that “facilitating argument and understanding across geographical boundaries is vital to preventing injustice”. One of the contributors of openDemocracy was Paul Hirst, who developed a political project, “associationism”, where “human welfare and liberty are both best served when as many of the affairs of a society as possible are managed by voluntary and democratically self-governing associations”. Associationism “gives priority to freedom in its scale of values, but it contends that such freedom can only be pursued effectively if individuals join with their fellows”. The project is opposed to liberal individualism, embodies a deliberate commitment to social cooperation as well as public well-being. It is both a political structure and a system of relations with the goal of easing pluralist social negotiation and priorities. Hirst speaks for the basic income. Application of his theories has been attempted even in the UK and the United States to some extent, but there are some obstacles and problems in the theory which needs to be developed further.

The agenda of open design (transparency, responsibility) is slightly political too as it merges two worlds: the people operating within the bounds of “reality”, challenging their system (van Abel, Evers, Klaassen & Troxler, 2011). Craftivists²² are a good example of using crafts and design

to comment on the issues that bother them, but designers and crafters are not the only ones who have the possibility to politicize their work and leisure. Contribution possibilities provided by social media and web sometimes encourage people to participate in the political dynamics. In political campaigns there is a trend of development of autonomous political organization forms, including fund raising and mobilization of volunteers (ibid). A good example of this trend described by Castells (2007), is the presidential election in Finland in 2012: the campaign of the Green Party candidate Pekka Haavisto, who essentially lost the election but was surprisingly close to being elected, utilized mainly social media, volunteers and raised funds by supporters. The social media phenomenon inspired Finnish citizens to be politically more active than usually - at least within their peers.

Demos

Focused on power and politics, Demos is an independent think-tank whose approach “challenges the traditional, ivory tower model of policymaking by giving a voice to people and communities”, and involving them closely in their research²³. Originally founded in the UK, Demos has established itself as the leading independent think-tank in British politics. Demos believes that many of the central issues of our time, such as climate crisis and well-being, demand deeper engagement than our structures allow today. Their vision is human-centric where “all change starts from the individual experience and scales up through our communities (...); action not also strengthens and creates values, but also proceeds them in most cases (...); what is often lacking, is ways to turn values into action”. Demos also inspired a few Finnish citizens, interested in the future of society, to establish Demos Helsinki²⁴ in 2005. Demos Helsinki describes their aim to be developing democracy to suit the needs and capabilities of the people in the 21st century. As their webpage states, Demos Helsinki does not only talk and write but also actively creates. Most of their time is spent in co-creating, experimenting and startupping. Demos Helsinki sees that this is the way politics are evolving and becoming more about action, motivation and inspiration and less about incentives, investments, information and laws. Demos Helsinki’s themes of research are well-being, democracy, cities and low-carbon society, emphasizing that their activity is open, which differs them from other consulting firms. Their website shows that their themes circulate mainly around empowerment, communities, sustainable entrepreneurship and customizable cities.

One of Demos Helsinki’s latest projects was Peloton Innovation Camp (which I also attended) where the participants developed new sustainable business models in intensive two-day workshops. For every Camp, several concepts were chosen to be modified from an idea into a workable business concept. The participants (who applied to the camp) were divided in groups of around 7 people. The best

concept (chosen by a jury) “won” the further guidance from Demos and economic support from the cooperation partners. The concepts developed by the participants are open, i.e. anyone can take the idea and develop their own business model upon it.

Remix culture

“Remix” is a similar concept as openness, open source, p2p, DIY or co-creation, denoting sharing and creative collaboration, associated mainly with music, art, videos and movies. The remix culture refers to an interactive society, which tends to freely improve, add, change, integrate, influence, edit²⁵ or make a collage from the work of copyright holders into a new product. In Remix-culture the members cyclically consume, remix and produce.

In his book, *Remix* (2008)²⁶, Lawrence Lessig presents this as a desirable ideal and argues, among other things, that the health, progress, and wealth creation of a culture is fundamentally tied to this participatory remix process. Lessig describes modern culture as Read Only (equals to the RO CD), where a small professional group produces all the culture that is then consumed by the masses. The public can only absorb and consume, but not interact: “... fewer and fewer would have the access to instruments, or the capacity, to create or add to the culture around them; more and more would simply consume what had been created elsewhere. Culture would become the product of an elite, even if this elite, this cultural monarchy, was still beloved by the people” (Lessig, 2008). Unlike to the advocates of current copyright policies that argue the RO culture to be necessary to nurture creativity, the remix culture believes that the Read/Write (equal to RW CD) helps the culture to become even richer and more inclusive, because the nurturing happens by all individuals. Also Lausti argues (2008) that the passive consuming of culture induces to forget that we actually have imagination. When people have the possibility to “Read and Write”, to influence their culture, they feel meaningful, which provides significant social benefits (Lausti 2008; Lessig 2008). Of course, everyone does not want to influence culture or participate in any activity whatsoever. Once again, the remix culture works for those who want to be involved.

Folklore, existed long before copyright law, is basically a remix culture (the culture of the commons). In Lessig’s view, similarly to the folk tales, songs, art poetry etc. constantly revised, the same happens to the culture on the internet today. He also presents John Philip Sousa’s fears about RO-consumerism causing the disappearance of the RW-culture, which has always been typical for human beings. Graffiti, also highly condemned by the authorities, is another example of Read/Write culture, where the artists interact with their surroundings, environment and each other. They might comment on the advertisements that also decorate walls, by asking why could not the public

choose what images should be displayed in their environment. Graffiti is often associated with hip hop music, which implements another remix feature: the sampling of music. There are still strict laws about sampling, but the popularity of hip hop and other DJ-oriented (house, electronic etc.) music have definitely opened authorities minds during the last few years. Sampling is so common nowadays, that it would be impossible to track all the lawbreakers. “We need to decriminalize creativity before we further criminalize a generation of our kids” says Lessig who criticizes the outdated copyright laws that are not in balance with the worldview of our children, raised in the Internet-era. On the Internet, there is never a final project to anything and Wikipedia is a good example of that too. Remixed encyclopedia encourages the public to add their knowledge. In the film industry the remix culture has always been present: there are adaptations of comics, novels, books, re-makes of older movies or references to others’ production. Furthermore, there has emerged an Open Source Cinema, which a director Brett Gaylor founded and beta-launched in 2004²⁷. There is no such thing as final cut”, says Gaylor, who offered his movie “RiP: A Remix Manifesto” online to be remixed. Released under the Creative Commons-licence, Gaylor adopted Radiohead’s name-your-own-price business model.

In the Wired-interview (Thill, 2009) director explains: “It’s already on the Pirate Bay, and that’s great — it’s another delivery format. We didn’t put it there ourselves, though; we didn’t need to. Had we gone that route, it’s fairly likely, given the realities of the film-distribution universe, that we wouldn’t have these other opportunities to get the film to people who still watch TV, rent DVDs or go to movies, which is, in fact, most people. We wanted those people to watch this movie.” Lessig’s proposition to improve outdated and ineffective copyright law is to adopt the system of citation used with book references, giving the original creator the credit.

For Bollier and Racine (2011: p4) the open, participatory culture found on the Internet and other digital media might be the defining “crucible of creativity” in our time, redefining the way we express ourselves and relate to culture, similarly to the creative process of bricolage - “a concept that refers to the constant mixing and morphing of incongruous ‘found’ elements into a new synthesis” (ibid). In fashion, the remix-culture or bricolage has always been present in the design process (and the style of the consumers). The problem is usually to distinguish the “inspiration” from the “copy”. We borrow and make our own versions from the

Photo: Natalia Mustonen. Graffiti in Shanghai.



borrowed elements, that are often also “borrowed”. Or like NY-based filmmaker Kirby Ferguson argues: everything is a remix²⁸.

Open media

Media used to be mostly a one-way channel even though there has always been a chance to get a letter for the editor published and callers voice heard in a TV- or radio show. Before the Internet there has been a non-digital way to practice “open media”, for example through zines, that are small-circulating, self-published, usually amateur “magazines”, made in the DIY-spirit. Their topic could be anything, from fan fiction to fashion (von Busch, 2009). Some of the zines became real magazines, such as i-D, Dazed and Confused, Found, Bust and Giant Robot. Today there are Internet radios, podcasts and blogs, and some of the contributors become highly influential. Almost every magazine has its webpage where readers can read many articles for free. Some of the magazines offer their entire content online free of charge. Commenting gives the readers the chance to have a “conversation” with the writer, even though (and sadly so), the comments afflict the boundaries of the appropriate behavior. TED-talks spreads ideas and releases their content under a CC-licence (in that case: Attribution-NonCommercial-NonDerivative) i.e. the videos can be freely shared, distributed and reposted. Basso Media is a Finnish example of partly user-generated media that consists of a web community, radio and magazine. All three started first as student and online community projects. A big part of the content visible on the front page of the website concerns topics the users are talking about. Radio shows interact actively with the shoutbox. Also the program map is decentralized: it consist of over a hundred DJ:s and all of them can decide what to play and speak. The magazine, released four times a year, aims at emphasizing the passion and skills of every contributor participating in the process.

In addition to user-generated media and self-organization of the professional, or at least recognized contributors, also citizen journalism is practiced. A good example of this emerged in South Korea, where an open source news project OhmyNews offered a media platform for citizen journalists²⁹. Open media is about “building of autonomous communication networks to challenge the power of the globalized media industry and of government and business controlled media” says Castells (2007), giving as examples the Italian pirate radio stations and street television (e.g. Tele Orfeo), fed by audiovisual material via p2p networks and RSS feeds, “to counter the monopoly of Berlusconi over both private and public television networks”, or activist neighborhood TVs such as Zalea TV in Paris, Okupem les Ones in Barcelona, and TV Piquetera in Buenos Aires. Sometimes, open media is a necessity, as is indicated by the case of Guardian-magazine, who recently asked their readers to

identify and report the fake Sandy-hurricane images that they mistakenly used in their news. Guardian was helpless without their readers.

Academics & science

According to Fuad-Luke (2009: p144), academics or scientists have long held the principles of openness, peer review and co-operation as essential to advancing research. Academic publications are always open to some extent, because there is a culture of citing and referring to other researchers. Scholars share the materials and results, and this is easy to practice globally today. On the other hand academics compete with each other, which is nurtured by the “author” narratives. Graeber (2012)³⁰ is concerned in his Baffler-article that the “the eccentric, brilliant and impractical” scientists do not have place in the academic system that nowadays resembles the classic market competition. Graeber sees that the academics spend most of their time writing proposals (which are judged by competitors i.e. the biggest effort is to deflect the criticism rather than solving the problem) instead of doing the research and believes that this hinders the innovative progress. On the corporate level the findings are privatized, guarded and difficult to access. According to Paolacci’s (2012) prediction for the year 2013 in Wired-magazine, research is going to become more open. The open-access journals are putting pressure on academic publishers. The web also offers easy and open software such as Implicit Association Test and Z-Tree. Paolacci believes that the profitability of the open research will increasingly inspire the researchers to share their work and build on each others efforts without large budgets. Openness will likely spread to education in general. Universities have increasingly offered their courses online for free (Reshef, 2012; and Jacobs, 2012, in Wired-magazine) and Open Educational Resource (OER) University wants to take the education possibilities on a higher level in order to make it possible for students to utilize their work when applying for jobs. Online learning can even provide a degree, such in the case of non-profit University of the People (uopeople.org) and My College Foundation (Rashef, 2012). Online courses also reach a significantly bigger (unlimited) amount of students. MIT and Harvard have even launched a pilot for an open source platform, edX, that will provide online “student-paced learning” (Jacobs, 2012).

There is a field of science that does not need much degrees or funding: amateur citizen science, conducted by crowd-sourcing (involving the public). For example astronomy is popular among amateurs and even NASA collaborates with them (von Busch, 2009: p355). The Dopson telescope (cheap, easy to make and use, open source telescope), CCD photo and Internet made this possible. The 1987A supernova “came to be a defining event for the bridging of professionals and amateurs within astronomy” (ibid). Today there

is a website called Galaxy Zoo, where amateurs view and classify galaxies, and very soon the “space inside our skulls” will be accessible (Seung, 2012). The EyeWire-project recruits volunteers to explore the neural tissue of the eye – the retina – through an online game or “gigantic 3D-colouring book” (ibid). Open source methods are widely used in medical research (and among many other disciplines) which might have quite a beneficial impact on health care, especially if the predictions about 3D-medicine-printers will come true. There are already printers that are (or will be very soon) utilized to manufacture internal organs and prosthesis.

Citizen activism

In Finland, participatory citizen activism has been a strong trend lately: visible as the Restaurant Day, Block Parties, and the Cleaning Day, to name a few. The Restaurant Day came to delight the sundays of Finnish citizens every third month, and it is probably the most flourishing concept of citizen activism. It has several advances: it cultivates the “inner chef” of people who love to cook and share their delicacies with others; it gives the possibility to earn a little extra; it comments on the bureaucratic (Finnish) authority system which makes the founding of a restaurant a very difficult and expensive process, and hence does not encourage imaginative and innovative restaurant concepts. Nowadays the Restaurant Day has expanded outside Finland and became an intentional event. Also Block Parties and local flea markets (or the ‘Cleaning Day’ - the day when everyone around the country come outside and sell their used things) want to bring the urban community together and offer the feeling of belonging to the neighborhood and visitors. Similarly to the Restaurant Day, the idea is to engage the ordinary citizens. The “flash mobbing” might collect a big group of people to do something together (for example sing) in the public space. Demonstrations and any kind of activism (also craftivism and hacktivism) is are considered to be citizen activism too.

Open design

From the point of view of this thesis, the most relevant existing application of open source philosophy is “open design”. Similarly to other progeny of “open movement”, open design is closely connected with the rise of computers and internet (de Mul, 2011), and it is a flexible platform which assumes open access, sharing, change, learning and ever-evolving knowledge and skills (Hummels, 2011). The Netherlands has long roots in seizing the full potential of communal innovation, which built the country out of swamp and sea, and it is no surprise the open design flourishes there. The Dutch have also an open-minded reputation. According to Leadbeater (2009: p238), they “tend not to laud superstar designers” and they focus on “evolutionary, practical innovations, such as modular buildings, that can be

easily adapted”. Maybe this is why the conceptual design is associated with the Netherlands too. In June 2011 Premsele Netherlands Institute for Design and Fashion, Waag Society and Creative Commons Netherlands published a highly informative book about open design, named “Open Design Now: Why Design Cannot Remain Exclusive”. On the front page of their website is a statement by Premsele: “Design is undergoing a revolution. Technology is empowering more people to create and disseminate designs, and professionals and enthusiasts are using it to share their work with the world. Open design is changing everything from furniture to how designers make a living.”

According to *Open Design Now*, at the end of the last century, open design was defined as design whose makers allowed its free distribution and documentation and permitted modifications and derivations of it. Today it is developing rapidly and in van Abel, Evers & Klaassen’s view (2011), the fashion industry was a notable early adapter of open design. The thoughts behind open design could be considered as the opposite of the ones behind elitism of modernist design narratives, that assumed that only professional connoisseurs had “good taste” and distanced them from the amateurs. Since the 1960s, the educating attitude of design practitioners started slowly to switch to more user-centered and user-driven processes, diminishing the traditional vertical value chain that is formed by designer-manufacturer-distributor-consumer relationships and creating direct links between designers and consumers (Atkinson, 2011; Fuad-Luke, 2009; Avital, 2011). So, the prime actors of open design are the consumers, although designers foster open design by producing and sharing suitable blueprints, which are publicly available, sharable, licensed under open-access terms, and distributed digitally in a general design specification file format. The principles of open design have inspired the development of public manufacturing facilities like *fab lab*, and online platforms like Ponoko, Shareable and Instructables. Whether it is a threat or a possibility, the digital technology affects the production processes of physical products: there are already free platforms such as Thingiverse, that help to make a 3D-model; the design can be shared in Pirate Bay (Physibles) or Etsy; and printed using a distributed manufacturing service like Shapeways or locally all over the world. This is rather marginal, though, and only 3D-enthusiasts use such services. However, Avital foresees that “open design business models are likely to cannibalize the turf of established manufacturers that are entrenched in the old model of industrial production” in the same way as Amazon conquered the market share of established retailers that did not adapt the new marketplace of e-commerce quickly enough. Dutch designer Joris Laarman thinks (in the interview by Kennedy, 2011) that open design goes beyond DIY providing a fertile ground for the development of *new forms of organization, business models, supply chain structures, varieties of products and services*. Before Internet

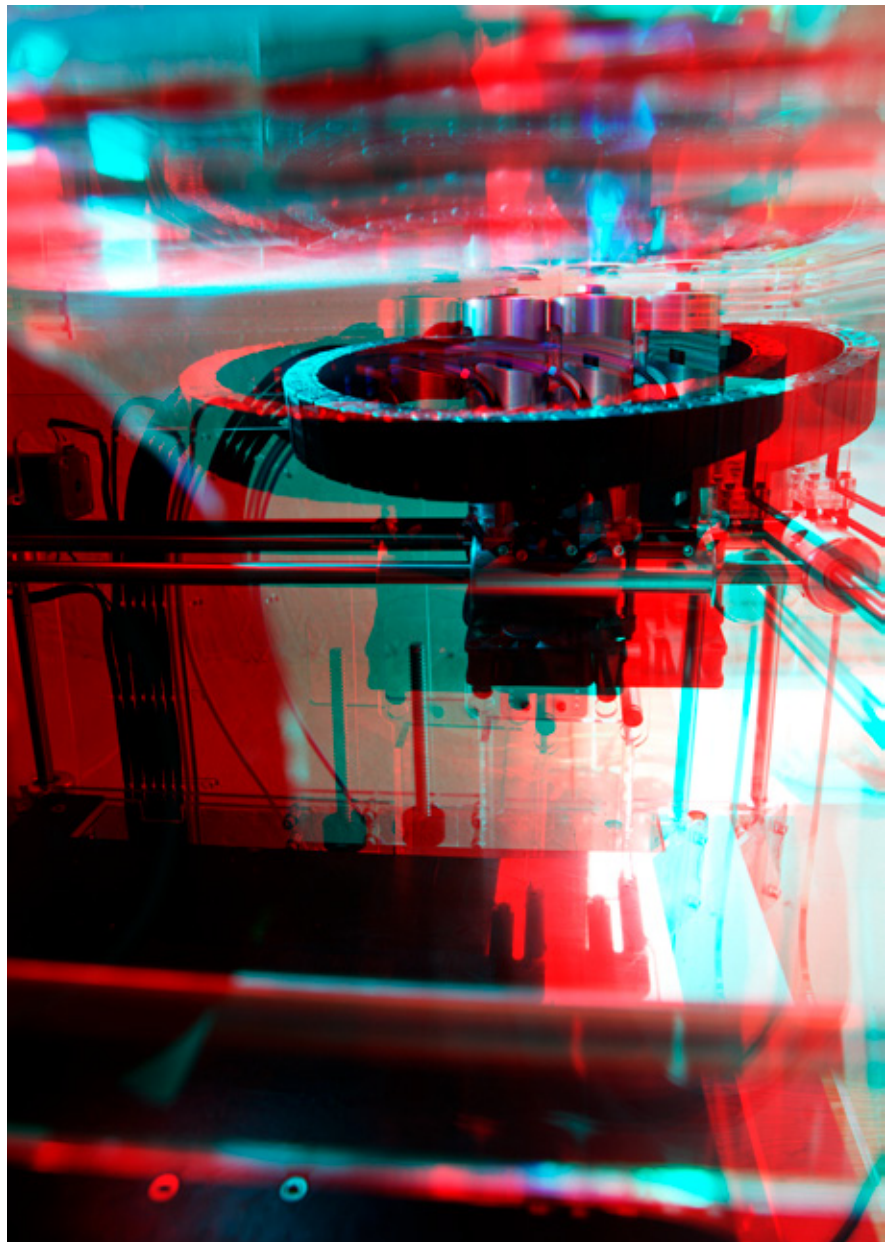
and rapid manufacturing technology, open design was not possible, even though there have been similar initiatives among modernist designers, such as Rietveld. In Laarman's view open source design has "the capacity to conserve local culture and decoration as well as traditional skills by utilizing new technology". Also, because the products can be produced locally, transportation costs are drastically reduced.

Fabrication laboratory

Closely connected to open design, "makers culture" and the underground ancestor "hacklab" (Niessen, 2010: p13) the

concept of fabrication laboratory (<http://fab.cba.mit.edu/>) was developed at MIT's Center for Bits and Atoms (<http://cba.mit.edu/>), where Neil Gershenfeld started a class, available to any student, called "How to Make (Almost) Anything". Fab labs tend to be open and easily accessible. Anyone can come there and learn how to manufacture something, using, for example, a 3D-printer or a laser cutter. Fab labs want to promote the local manufacturing possibilities and equity among the ones who produce things blurring the boundaries between professionals (designers, engineers etc.) and amateurs. Fab labs also offer an option (at least on the idea level) to heavy, centralized industry which can be

Photo: Hilla Kurki. 3D-printer in Aalto Fablab. *Published with permission. Taken for a Basso-magazine 3/2012 article about 3D-printing possibilities in fashion.*



quite beneficial to the developing countries. “As different technologies for 3D printing are becoming affordable, fab lab have spread from inner-city Boston to rural India, from South Africa to the far north of Norway. Activities in fab labs range widely, including technological empowerment; peer-to-peer, project-based technical training; local problem-solving; small-scale, high-tech business incubation; and grassroots research” (Rijken, 2011). The basic equipment of fab labs is flexible and affordable manufacturing equipment: laser cutter, vinyl cutter, 3D-printers (rapid prototypers) and many more. The first fab lab in Finland was opened in Aalto University (Media Factory) in March 2012.

2.4 PROBLEMS OF OPENNESS

Many believe in open source philosophy, but naturally it also has many challenges. Leaning on the source material of this thesis, I recognize 11 problems of open source:

1. Involving or participating?

When there are actors who involve the participants, choose the ones whose participation is taken into practice, and define the frames of participation, the activity can not be called “democratic” even when it seems like one and it might lead to content-empty, superficial “postdemocracy” (Korvela, 30 November, 2012).

2. Risk of exploitation

Open source needs trust. Stikker (2011) admits that a clear answer to the question about the principles, ethics and responsibilities open design entails is lacking. One point of view is to believe that only by taking part in the process can those answers be found, but another view fears that all the time and energy open design costs to create something might be wasted and pointless, that anyone could just go and copy it. Anyone could commercially utilize something that has been contributed to the public domain. Even Creative Commons can not guarantee that the author will be able to control fair use. Will trust be based on the peers, through experience and recommendations? How could the contributor make sure that his/her work will be accessed and used appropriately and with respect towards the original creator? Another risk of exploitation concerns collaboration dynamics: it feels unfair when the work divides uneven among members of a team - there is always a freeloader.

3. Needs effort, time and motivation

The mechanics of leisure are based on consuming, not producing. People are not able to find time to make their own clothes, furniture etc. unless they are specifically interested in handicrafts - most people do not have the motivation and feel rather safe in “closedness”. Empowerment and self-sufficiency need a lot of time, effort and responsibility. Many people are also lacking the needed skills. All techno-

logical advancement does not necessarily make our lives easier. Graeber (2012) talks about “bureaucratic technologies” that have turned us into “part- or full time administrators”, as “we all spend increasing amounts of time punching passwords into our phones to manage bank and credit accounts and learning how to perform jobs once performed by travel agents, brokers, and accountants”. De Mul (2011) also doubts if the open-source model is genuinely innovative, because most of the open source software imitates existing commercial products. He adds that the open source software movement is driven by the “desire to dethrone the proprietary software model, embodied by Microsoft” and this common-cause might distinguish contributors’ motivation from the other fields. In Menichinelli’s view (2010: p87), participation issue is crucial and often being taken for granted: if wide and rich participation is pursued, the barriers must be lower and allow access to the design process easier. Poor quantity and quality of participating figures imply a risk to “impoverish and nullify a project”.

4. Needs expensive equipment and space

The open source model is most suitable to immaterial, information-based goods: software, books, encyclopedias, maybe drugs and medical science (or any science), immaterial design. But physical objects are more problematic, since information constitutes only a minor ingredient. The manufacturing requires suitable machines, skills and materials, so the costs will remain high until an easy device/framework/replicator will be developed, which could materialize objects from the digital to physical form. 3D-printers are a good start, and their prices are dropping.

5. Too marginal

Open source or open design as a movement is quite marginal. People are not necessarily aware of it and the philosophy might feel awkward. Usually only those who have certain skills in the first place, become interested in openness. People, even designers, might not even understand what “open source” means.

6. Too “geeky”

Open source is associated with its origins: software. Similar to handicraft workshops, it has an “uncool” reputation and represents a great risk of poor content, because the contributors are not (always) aesthetically or design educated. There is a risk of “ugliness” intervening in the world of objects and design (which probably, from designer’s point of view, is the case anyway - with the difference that the “ugly” products are mass-produced in huge volumes). Another question is that is open source design focused on digital skills i.e. if one wants to avoid computers, is open design possible? Massimo Menichinelli (2010: p87) notes that having the softwares which have been created by programmers for programmers, work perfectly in a collaborative work based on code or text, yet not so well if used to work collaboratively on images, drawings, videos and 3D models.

7. Authorship and legal issues

Copyright law concerns mainly music, texts, art and pictures. The current copyright and patent legislation is worldwide and quite strict, and maybe contradicts with the reality, where people download, share and remix the content quite a lot. What comes to the aesthetics of objects, the law is not capable of being that strict and it is quite challenging to separate a copy from inspiration. In a physical design object, the artifact or the authentic “piece” (even when unlimitedly multiplied) plays a bigger role than in the case of immaterial object.

8. Threat to professionals and visual environment

As Leadbeater (2009: p27) notes, in web world, the content is published first and filtered afterwards, depending on people’s reactions. Teachers, journalists, designers and academics among many other professionals feel threatened and concerned about the offerings of the Internet. The biggest challenge of the Internet and open design, if it spreads widely, is to find the balance between valuable and invaluable. Even if someone considers oneself to be able to write, sing or design, it does not mean that it is true (eternal divisive subject for aesthetic debate: who says what is beautiful or valuable?) As long as an individual is happy with the result, “bad design” is not a big problem. According to Leadbeater (2009: p233), many argue that the Internet caused the “erosion of professional authority and knowledge; the loss of individuality in morass of social networking; the eradication of spaces for reflection as a result of our being constantly connected; and the degradation of friendship when relationships are mediated by technology”.

9. How to get paid?

The successful businesses that gain economical profit from open source projects mostly operate within digital and immaterial world. For hardware development and object oriented design the safe revenue models are more challenging to find.

10. Unpredictable and chaotic

Open source design is unpredictable, and as de Mul (2011) reminds: “We should not forget that the 3D-printers and DNA printers in the Fab Labs and homes of the future probably will not be used solely to design beautiful vases and flowers; they could also be used to engineer less benign things, such as lethal viruses”, and weapons. Upon danger, there might be organizational problem. We can not know beforehand where would open design lead, what would open source bring, because it is open source, which is never final and finished. Kennedy (2011) thinks that the open approach to ideas works both for and against them, with a risk of sounding chaotic, too much choice and over-abundance of experimentation and waste, instead of offering uncontrolled inspiration. The problem for most of the current concepts selling open source design is that they lack professional participation. Would open design end up

in new hierarchies, or, referring to von Busch’s cathedral-bazaar example (see: section 4) are there always going to be micro-cathedrals? (von Busch, 2009: p171).

11. Being exposed

Sharing everything might evoke longing for privacy. Being open, transparent and collaborative is being exposed. Sometimes we do not want to be connected, and desire to be hidden and alone.

2.5 IS OPENNESS A TREND?

Is the open source philosophy a niche phenomenon or a mainstream trend? According to the report³¹ by Michel Bauwens et al. about the collaborative economy, there are two agents of transformation: “*One is the emergence of community dynamics as an essential ingredient of doing business. It is no longer a matter of autonomous and separated corporations marketing to essentially isolated consumers, it is now a matter of deeply inter-networked economic actors involved in vocal and productive communities. The second is that the combined effect of digital reproduction and the increasingly ‘socialized’ production of value, makes the individual and corporate privatization of ‘intellectual’ property if not untenable, then certainly more difficult, and in all likelihood, ultimately unproductive. Hence the combined development of community-oriented and ‘open’ business models, which rely on more ‘social’ forms of intellectual property.*”

The report collects a great amount of empirical study and concrete examples that witness a shift from “vertical” to “horizontal” economy or hybridization of these two (Bauwens & Peugeot, 2012). By “the new horizontality” the report refers to the new dynamics and players emerging through the social interaction, a new institutional field. It further states in the last decade many new collaborative practices emerged among businesses (open innovation, co-design and co-creation, crowdsourcing, collaborative consumption). Mostly these practices are economically quite marginal comparing to the mainstream market economy. However, the open content and open source economy has been estimated to be one sixth of U.S. GDP, and certain practices may be locally influential in some national economies. Collaborative practices and the mutualization of knowledge through open source practices entail also growth in distributed infrastructures for material production (rapid evolution of micromanufacturing through 3D printing), the rapid growth of collaborative workplaces (coworking), and new forms of distributed financing (crowdfunding and social lending) (ibid).

The open source philosophy started quietly among hackers and stayed underground until the Internet entered everyone’s lives. Openness took over the digital world and now it is spreading into the material world. Mass collaboration,

crowdsourcing (Threadless), flash mobbing, coolhunting, blogging, customizing are all open activity on some level. Swap trading, time banks, local exchange systems, bartering, social lending, peer-to-peer currencies, tool exchanges, land share, clothing swaps, toy sharing, shared workspaces, co-housing, co-working, CouchSurfing, car sharing, crowdfunding, bike sharing, ride sharing, food co-ops, walking school buses, peer-to-peer-rental and many more are examples of collaborative consumption systems (Botsman & Rogers, 2011), which are also connected to the essence of openness.

There are some key words that seem to be present and repeated in the material referring to openness or open source philosophy: collaboration, transparency, sharing, activity, connectedness and empowerment. Openness is widely and miscellaneously visible, and it can be seen either as a niche phenomenon or as a trend. Veijgaard (2008) argues that if a new style is visible in two or more industries at the same time, it is likely to be a trend. Also he states that a new trend is often a reaction to what has become mainstream or what has been in the market for many years. From these perspectives, I see “open source” as a trend because it is visible in almost every industry, discipline and other aspect of society, and there must be demand for open structures as a response for the closed systems we are dealing with in our everyday life (despite the user-centered development in design processes, emerging during the last few decades, the mainstream perception of consumer is rather passive and we have only little - if any - possibility to modify our everyday goods, which is most obvious in the electric products: I have no skills to fix or modify my television, for example). Veijgaard (2008: p27) also points out that something is a trend when it is visible among the people who “create or are preoccupied with new and innovative styles”. Designers could be viewed as such people and “open design” is a remarkably visible subject in the design field. “Openness” can even be claimed to be a megatrend³², for two reasons: firstly, one can find almost any discipline with a prefix “open”, from Open Theatre to Open Medicine (just google anything “open -”); and secondly, the principles of openness have penetrated everyone’s lives through platforms such as Wikipedia, Facebook or Youtube. Open content, free distribution and sharing feels normal, even when it is illegal (in the case of torrents etc.). I believe that especially the growing generations view open content as a self-evidence and at some point the legislation system as well as the piracy-fighting industries must find the solutions to gain profit from other value than intellectual property. Today the segments are extremely diverse therefore bridging the gap between production and manufacturing is a consistent procedure. Avital supports the argument that the application of openness has turned into a “megatrend” and he labels it as Rise of Open-X which can be classified according to three archetypes: open innovation, open source and open design (Avital, 2011).

Also Rijken believes that openness changes everything that has anything to do with ideas: “digital tools and media are generic infrastructures for creating, sharing and transforming information”; they enable and facilitate personal learning on a massive scale: “Anything that can be converted into a digital format can also be stored, shared and used by anyone, anywhere. This changes how we design, it changes what we design, it changes how we think about design, and it changes how we learn and teach design. Ultimately, it will also change who designs”. (Rijken, 2011).

How far will openness spread? Probably mostly research, design, marketing and communications. Leadbeater believes that we are moving from “We-Think” to “We-Make” (Instructables, Crowdspirit, Physibles, Shapeways, Tinkercad, Spreadshirt). DIY, collaborative and small-scale manufacturing might become economic through openness if designs can be downloaded for free, machinery becomes cheap and easy to use and raw materials (preferably local and environmentally friendly) can be easily obtained. Actually, Niessen argues that the networked artisans are already “switching from bits to atoms” and from virtual spaces to the real ones, organizing meetups that try to answer multiple needs in terms of technical exchange, leisure, economic feedback and social capital enhancing (Niessen, 2010: p14). There is also a recent trend of start-up companies based on open innovation strategies which increasingly involve makers in their production processes (Chesbrough 2003; Laursen and Salter 2006, cited in Niessen, 2010).

In Leadbeater’s (2009: p48) view, “the cohabitation between commerce and community, what we own and what we share, will shape much of the future in science, culture, politics and economic life”. Some enthusiasts predict that open source approach represents a new, post-capitalist model of production. Maybe openness will intervene in our everyday life only indirectly, but it is definitely a trend, or even a megatrend, and should be taken into consideration when visioning the future of fashion and the fashion designer. The next question is what are the levels of openness that can be considered as trends and what are fads or, on the contrary, the megatrends?

After understanding what is “openness” and how it emerges, we move on to exploring what is the paradigm which dictates how we create, produce and consume fashion. The next section will analyze the “fashion system”, describing its central features and presenting the systems it contains. The fashion system is extremely complex and interconnected thus the following analysis will cover only the parts that I consider relevant to the subject of this thesis.

Figure 6. Openness.

OPENNESS

ENABLERS:
the internet/Web 2.0,
information technology ->
platforms/spaces for openness,
either virtual or physical

DRIVERS:
economic, ecological and social
crisis ->
search for innovative systems
that are adjustable to present
reality

Level 5. Empowerment: DIY, elimination of waste,
search for meaning, slow-culture, participation into
construction of culture

Level 4. Collaboration: co-creation, participation,
customization, 'the death of author' and the ego etc.

Level 3. Sharing: spreading knowledge, free distribu-
tion of intellectual property, 'common pool' of ideas/
designs/blueprints/toolkits, altruism

Level 2. Open-ended: unfinished, undefined, hackable,
modifiable, modular, open for development

Level 1. Transparency: honesty, exposing the system

OPEN SOURCE SOFTWARE OPEN SOURCE
HARDWARE OPEN INNOVATION OPEN POLI-
TICS OPEN MEDICINE OPEN MEDIA OPEN DE-
SIGN OPEN FASHION OPEN SCIENCE OPEN
UNIVERSITY OPEN SOURCE FASHION OPEN
SOURCE GAMES OPEN SOURCE ECOLOGY OPEN
SOURCE PROJECT MANAGEMENT OPEN BIOL-
OGY OPEN SPIRITUALITY OPEN ART OPEN AS-
TRONOMY OPEN LITERATURE OPEN SOURCE
CINEMA OPEN PSYCHOLOGY JOURNAL OPEN
MUSIC OPEN SOCIETY OPEN LIBRARY OPEN
RESEARCH OPEN CLASS OPEN SOURCE PHYS-
ICS OPEN TELEVISION OPEN DOORS OPEN
RELATIONSHIP OPEN SYSTEMS OPEN ENGI-
NEERING OPEN DOCUMENT OPEN BUSINESS
MODELS OPEN MANUFACTURING OPEN COM-
PANY OPEN LICENCE OPEN SOURCE GEOGRA-
PHY OPEN ECONOMY OPEN SOURCE SCOOT-
ER OPEN SOURCE CAR OPEN KNOWLEDGE
OPEN SOURCE TELEPHONY OPEN MONEY
OPEN SOURCE HOUSE OPEN SOURCE YOGA
OPEN SOURCE CRAFTING OPEN SOURCE SEW-
ING MACHINE OPEN SOURCE THEATER OPEN
SOURCE PHOTOSHOP OPEN SOURCE VAPOR-
IZER OPEN SOURCE OPEN SOURCE POLICE
FORCE OPEN SOURCE COOKBOOK OPEN
SOURCE TOYS OPEN SOURCE TRANSLATION
OPEN SOURCE GENEALOGY OPEN SOURCE RE-
LIGION OPEN SOURCE FUNDING OPEN SOURC

- 1 "Common" refers to cultural and natural resources held in common (not owned privately) accessible to all members of a society. Commons-based peer production is a term introduced by Yochai Benkler. It describes a model of socio-economic production in which the creative energy of large numbers of people is coordinated (usually through the Internet) into collaborative efforts based on sharing information, mostly without hierarchical organization. Wikipedia is a good example of such project.
- 2 Open Design Now (webpage http://opendesignnow.org/index.php/visual_index/open-everything/)
- 3 http://en.wikipedia.org/wiki/Whole_Earth_Catalog
- 4 <http://freedomdefined.org/OSHW>
- 5 <http://openwear.org/blog/?p=547>
- 6 Wikipedia - one of the most successful examples of an open movement projects
- 7 Wikipedia
- 8 Charles Jenkins' indication in Alastair Fuad-Luke, 2009
- 9 <http://plato.stanford.edu/entries/kant/#CriEnl> (Stanford Encyclopedia of Philosophy)
- 10 "Postmodernism was all about deconstructing oppressive mental structures that we inherited from modernity. Amongst other things the Cartesian subject/object split and the alienating effects of Kantian's impossibility of knowing true reality; it was a necessary destructive passage, a cleaning out process, but it didn't, as its names "post"- indicate, construct anything. So in my view, if modernity was about constructing the individual (along subject/object divisions), and postmodernity about deconstructing this, then this new era, which I'd like to call the era of participation, is about constructing relationality or participation. We are not going back to the premodern holistic era and feelings, but just as modernity was about rigorously individualising everything, eventually reaching the current dead-end of hyper-individualism, we are now just as rigorously 'relationising' everything. If in premodernity we thought, we are parts of a whole that is one and above us, and in modernity we thought we are separate and unified individuals, a world onto ourselves, and in postmodernity saw ourselves fragmenting, and pretty much lamented this, then this is the mash-up era. We now know that all this fragments can be reconstructed with the zillions of fragment of the others, into zillions of commonalities, into temporary wholes that are so many new creative projects, but all united in a ever-moving Commons that is open to all of us." (Michel Bauwens in <http://blog.p2pfoundation.net/the-mash-up-era-as-an-answer-to-postmodernist-fragmentation/2006/02/26>)
- 11 <http://www.317am.net/2009/10/ras-rip-mix-burn.html>
- 12 http://www.smallisbeautiful.org/buddhist_economics/english.html
- 13 "Crowdsourcing is a distributed problem-solving and production model. In the classic use of the term, problems are broadcast to an unknown group of solvers in the form of an open call for solutions. Users—also known as the crowd—submit solutions". Contributors may be amateurs and volunteers working in their spare time, or experts/small businesses. (Wikipedia)
- 14 derived from Wikipedias description of DIY and DIY ethic
- 15 <http://opendesignnow.org/>
- 16 <http://news.netcraft.com/archives/category/web-server-survey/>, checked in October 2012. In May 2012 there were almost 700 million websites.
- 17 <http://finance.yahoo.com/news/number-active-users-facebook-over-years-214600186--finance.html>
- 18 www.p2pfoundation.net
- 19 this mode of activity can also be called 'collective consumption' (Botsman & Rogers, 2011)
- 20 <http://en.wikipedia.org/wiki/Airbnb>
- 21 http://en.wikipedia.org/wiki/Pirate_Party and <http://www.piratpartiet.se/international/english>
- 22 <http://www.craftivism.com/>
- 23 <http://www.demos.co.uk/>
- 24 <http://demos.fi/>
- 25 http://en.wikipedia.org/wiki/Remix_culture
- 26 the CC-licensed book available for example in <http://digital-rights.net/wp-content/uploads/books/Remix.pdf>
- 27 <http://www.wired.com/underwire/2009/05/brett-gaylor-talks-rip-remix-manifesto/>
- 28 <http://www.everythingisaremix.info/about/>
- 29 <http://international.ohmynews.com/>
- 30 http://www.thebaffler.com/past/of_flying_cars/print
- 31 http://p2pfoundation.net/Synthetic_Overview_of_the_Collaborative_Economy
- 32 'Megatrends are widespread trends which have a major impact and are likely to affect all levels – individuals, organizations, markets, countries and civil society – for a long duration. Understanding megatrends and their rolling effects can provide valuable information for developing futuristic scenarios and can subsequently help to shape current actions in anticipation of that future.' (Avital, 2011)





3

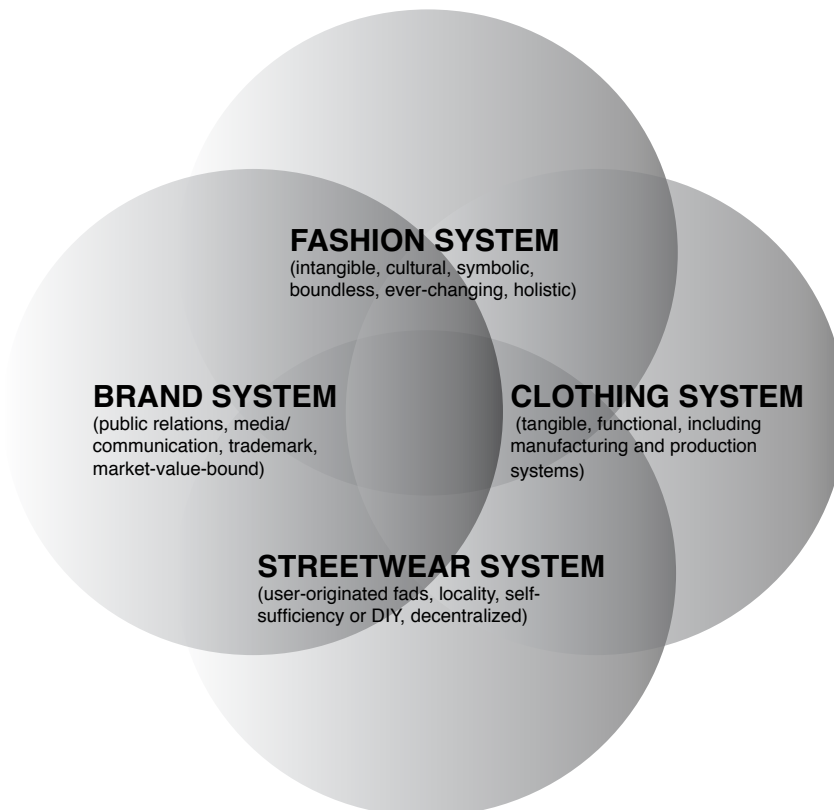
THE FASHION SYSTEM

This chapter attempts to analyze the system(s) that form(s) the boundaries for clothing-fashion to act in. Koefoed and Skov (2010: p22) argue that the fashion system has moved from the linear and biannual collections of the haute couture catwalks (centralized to the fashion capitals) to an extensive global distribution of multi-layered and complex system; today's fashion system is in contingent relation with other systems, and can be linked through symbolic representations such as economic growth/crises and/or political decisions. Fashion system is also commonly associated with clothing but not all clothes are fashion, and not all fashion is expressed through clothes (Kawamura, 2005). The fashion

system can be considered as an open system (referring to Ståhle's three system paradigms, see Introduction), and therefore is impossible to be mechanically defined. I recognize four systems that can be treated either as separate but interrelated systems that form a fashion system, or as four systems related to clothes and functioning simultaneously and often overlapping with each other.

This thesis concerns mostly the fashion, clothing and streetwear systems and deals with the brand system by questioning the brand's intellectual property conventions.

Figure 7. Apparel related systems.



3.1 FASHION MYTHOLOGY

The sense of style, fashion or manner of dress was first recorded around the 14th century, but the French word - *la mode* - appeared in 1482. The word comes from latin word *modus*, which means manner in English and *manière* in French. As for *facio* or *factio*, it means making or doing in Latin (Barnard 1996; Brenninkmeyer 1963: p2; cited in Kawamura 2005: p3) and became eventually fashion in English, standing for a special manner of making clothes, or a current and conventional usage in dress among upper circles of society. In addition to dress, fashion also appears in etiquette, furniture and style of speech. The New Oxford English Dictionary on Historical principles (1901) also proposes synonyms for fashion, such as *mode*, *style*, *vogue*, *trend*, *look*, *taste*, *fad*, *rage* and *craze*.

Fashion is never stationary, never fixed and ever-changing. It is difficult to define fashion, because the word has had different connotations throughout history and the significance of the word has changed to suit the social customs and clothing habits of people in different social structures (Kawamura 2005: p4). Many writers talk about fashion as a shared belief in a myth. Fashion is one of the strongest myths in contemporary society and can be regarded as “another layer of the world, relating to deeper transformations in the lived experience” (von Busch, 2009: p205). Roland Barthes criticizes how capitalist and bourgeois ideologies are veiled and significations are naturalized myths. Ideologies as myth act to disarm complexities and to make dominant values and beliefs natural and common sense. Myths act to naturalize what is cultural. Practices in fashion, such as advertisement and interviews places in the magazines, and taking a bow after a show, are “naturalized, shared and reproduced by the members of the fashion industry who have internalized these cultural practices” (Wilson, 2010). Barthes (1957, 2006: p5) also notes that any sartorial system is either regional (folklore) or international, but it is never national.

Fashion myth is supported by a system, which emerged along with Modernity and Industrial revolution. If fashion is ideology and myth, and does not have scientific or concrete substance. It embodies collective experiences and, according to Wilson (2010), represents the collective conscience. Understanding fashion as a system helps us to demystify the belief in fashion, which was firstly institutionalized in Paris in 1860's with the exclusive custom-made clothes known as *haute couture*. The institutionalized fashion system consists of institutions, organizations, producers, events and practices; and subsystems including network of designers, manufacturers, wholesalers, public relations offices, journalists and advertising agencies, fashion consumers, fashion researchers, trend agencies etc. “Heartbeat of the fashion system, and its racing pulse, reaches us all and the increasing

interest in fashion is taking place” (von Busch, 2009: p34). Fashion is now so pluralistic and fast moving that radicalness is challenging (Mackenzie, 2009: p128). Annette Lynch and Mitchell D. Strauss (2007) see the domain of fashion's influence ignoring taboos, traditions and the lines of sacred space. “Our lives, our intellect, our religion, our creativity, our sexuality are all the vocabulary of fashion and are open for re-negotiation and representation. Yet we view fashion as suspect, insubstantial, the stuff of dreams, not reality. We want it, yet we don't”. Fashion has rarely enjoyed a very good reputation. Despite its undeniable success as a social and commercial phenomenon, it remains the “very exemplum of superficiality, frivolity and vanity” (Vinken, 2005: p3). As long as there has been fashion there has also been resistance to it. In von Busch's (2009: p275) view the counterculture is perhaps the core of market today, the motor of the creative economy, but the subversion tactics subvert everything except capitalism itself and it is more preferable to “plug-in” than to “drop-out”.

A number of writers, from Baudelaire to Vejlgaard, refer to fashion's mystery and in particular the paradoxical relationship between the eternal and the ephemeral. In Elizabeth Wilson's (2010) view, the mystery is usually not acknowledged by academic or journalistic discourse, and that we live simultaneously in parallel universes in which traditional beliefs coexist both with secularism and with a whole mass of less traditional beliefs and superstitions.

Hierarchy

The fashion hierarchy is visible in several dimensions: leading places (metropolitan centers) and events, designers and companies, influential magazines and trend offices. This is professional elitism, but there might also be social elitism emerging either from the wealth or cultural differences (“trendsetters” and “trend adapters”). In the early 20th century one of the first suggestions to explain how style was adopted was the trickle-down-theory (Vejlgaard, 2008). In the society with social hierarchy, new style innovators start with the upper class and then trickle down to the poorer classes. If fashion as imitation starts from the envy of superiors, it tends towards equalization. Herbert Spencer (Carter, 2003) posits two types of imitation: reverential (copying from the powerful) and competitive (becoming the powerful). Gabriel Tarde (1903, in Carter, 2003) believes that after invention and imitation comes the opposition. Simmel says that fashion unites the members of a particular social class and segregates them from others (Kawamura 2005: p22). Many contemporary writers oppose the view of trickle-down-theory, and they argue that fashion is not a product of class differentiation but a response to a desire to be up to date and to express new tastes that are emerging in a changing world. For Koenig (1973) prominent factors that trigger imitation can be sympathy, admiration



Photo: Juuso Noronkoski. *Published with permission. Taken for a Basso-magazine 4/2010 fashion editorial "Muodinmuutos", in which the models, friends of the stylists and shop personnel could borrow 3 random pieces of clothing or accessories they preferred. Stylists built the ensembles from the unpredictable selection which they could not influence. Style and text by Lisa Martelin & Natalia Mustonen.*

or respect for the wisdom or the position of the person we imitate. Blumer (1969) believes that fashion is directed by consumers taste and it is a fashion designer's task to predict and read the modern taste of the collective mass. He is proposing a "trickle-up" theory and situates consumers in the construction of fashion. These thoughts have apparently changed reflecting changes of the concept of the consumer (from customer to co-creator). However, Kawamura (2005: p19) argues that fashion implies a certain fluidity of the social structure of the community as differences of social position are necessary because it must seem possible and desirable to bridge these differences. Rigid hierarchy is not a suitable environment for fashion. In Cannon's (1998, cited in Kawamura, 2005) view, fashion is an inherent part of human social interaction and not the creation of elite group of designers, producers, or marketers, but an expression of individual identity being constantly exposed to social comparison. If self-identity were never in doubt and social comparison never took place, there would be no demand for fashion, and there would be no need or opportunity for style change (ibid). Positive self-image is psychological motivation and social purpose.

Kawamura also argues that the hierarchical structure of fashion which produces the authoritative status of designers is democratic and fluid (2005: p55): "Fashion as an institution produces hierarchy among all makers of clothes by adding social, economic, cultural and symbolic capital to clothes, which are then transformed into luxury, elite clothes". Luxury clothes are meaningful only in relation to non-luxury clothes, but in modern capitalist societies anyone can obtain luxury clothes in less-expensive ways. However, there is still some hierarchy in the fashion system: the top level is haute couture, the middle level is pret-a-porter and the lowest level is mass-production. If the haute-couture designer is a "fashion god" the mass market designer merely has a name. Today the system is more complex, because there are paralleling systems, such as the alternative "young" designers and diverse fashion concepts and applications aiming at sustainable fashion processes. What is their place in the hierarchy?

Despite the hierarchical changes in today's fashion system, the consumers are mainly passive and disengaged, following the trends prescribed mostly by the industry. In Kate Fletcher's view (2008: p119) the homogenous, prefabricated goods, provided by the industry, boost "elitist myth production upon the catwalk altar" and allow the fashion system to mystify, control and professionalize the practice of designing, making and consuming clothes. In a way, the consumer influences fashion nowadays when the "coolhunters" report the looks either on their blogs or report their observations to the trend agencies, the trend-agencies "spot" the trends using different methods (Vejlgaard describes these methods quite clearly in his book *Anatomy of a Trend*,

2008) from intuition and analysis; the trend agencies then make the trend predictions for the companies, or then there are "trendsetting" companies; and the "trendsetters" either set or sense the upcoming trends which eventually become mainstream, and there are simultaneously innumerable amount of trends flowing and transforming. The hierarchy seems to both trickle-down and bottom-up, what comes to the immaterial aspects of fashion, but what we eventually buy is often designed and produced without the customer consultancy. However, the concept of fashion is related to the Industrial society, and the concept of society (compared to community) is the result of industrialization and urbanization. This industrial society is less hierarchical than the feudal system, which makes it more democratic, therefore fashion as a modern concept is democratic per se.

Fashion and change

The essence of fashion is change. In some societies, where the dominant ideology is antipathetic to social change and progress, fashion cannot exist (Kawamura 2005: p5). For Baudrillard¹, fashion exists only in the framework of modernity, which promotes newness. The desire for change is characteristic of cultural life in industrial capitalism, which fashion expresses (Wilson, 2010). Some conspiracy theories believe that the designers, clothing manufacturers and business people impose new fashions in order to increase their trade. In other words fashion is changed deliberately in order to make people spend more money. Kawamura points out that this might be an economic explanation but not sociological one - fashion changes despite of the spent money, though the fashion system supports stylistic changes in fashion. For Barthes (1967: p300) fashion belongs to a phenomenon of neomania which can be linked to the birth of capitalism where the new is a purchased value in an institutional manner, and in our society, "what is new in fashion seems to have a well-defined anthropological function, one which derives from its ambiguity: simultaneously unpredictable and systematic, regular and unknown". From this perspective fashion is always "open" and never final. Female fashion constitutes more novelty than often rather conservative male fashion (ibid).

Referring to Deleuze's "ontology of becoming", von Busch sees fashion as the process of becoming, of producing "intensities of difference". Kawamura (2005: p26) states that to illusion of change is added the illusion of democracy and fashion is linked to the Western society. On a smaller scale, there might emerge regional fashions within every community, and the fashion's popularity depends on how wide our community is and our access to information. The way we dress changes for many reasons: we want to renovate ourselves from outside and inside; we want to be "up-to-date" and follow the fad or the long-term fashion cycles (Lynch & Strauss, 2007); our body or our relation to our body

changes; the world around us changes (politics, events, movies, phenomena, zeitgeist, common goals etc.); we meet new people who inspire our style; we want to be part of a new community or distinguish ourselves from the community; our living environment changes; the status or role changes; our associations with the meanings of the styles; our relation to the marketing of the brands; and presumably many more.

Fashion/clothing

“Fashion and clothing contribute to human well-being both functionally and emotionally. Clothing is material production, fashion is symbolic production. Fashion links us to time and space and deals with our emotional needs, manifesting us as social beings, as individuals. It is symbolic, signifying and communicative” (Barthes, 1967). Fletcher (2008: p119-20) sees that fashion is on catwalks and “equally can be the moment when a teenager crops a pair of jeans” whereas clothing is concerned with physical or functional needs, with sheltering, shielding and protecting. Even though we associate fashion with tangible clothing, garments, apparel, costumes etc., they are not the same as intangible fashion. Fashion is an immaterial object and clothing a material object, because, as Brenninkmeyer (1963: p6, cited in Kawamura, 2005: p1) notes, clothing and dress are the raw material from which fashion is formed, and fashion is a belief manifested through clothing. The fashion system is about fashion production and not clothing production. Individuals, such as influential leaders of fashion, and institutions that help create and spread fashion, such as fashion magazines and newspaper periodicals, are participants in the system (Kawamura, 2005). Also bloggers spread their views about fashion. People wear clothes believing that they are wearing fashion because it is something considered to be desirable. Clothing production involves the actual manufacturing of fabric and shaping it into a garment. Kawamura (2005: p45) notes that clothing is found in any society or culture where people clothe themselves while fashion must be “institutionally constructed and culturally diffused” - a fashion system operates to convert clothing into fashion that has a symbolic value and is manifested through clothing, thus any item of clothing is capable of being turned into fashion. In my experience, today, many designers with green goals prefer to call themselves clothing designers instead of fashion designers, communicating that they do not want to create desires but rather fulfill them. Clothing can be stable, everlasting and sustainable. Can fashion be sustainable?

Genius designer

Charismatic star-designers lead the fashion myth and seem magical. The mass-fashion imitates them, and sometimes even hires to design their collections (star guests in H&M from Karl Lagerfeld to Martin Margiela, recently Missoni

designed a collection for Lindex - this could be also called fashion democracy, i.e. high-end fashion becomes affordable for everyone). The hype of the stars, who could also be seen as artists because they have the same kind of cultural leader reputation, does not come from nothing: they are naturally talented, interesting, insightful and inspiring people, from whose spirit everyone (or at least the fashion lovers) want to obtain a small bite. Actually, without designers, clothes do not become fashion (Niessen, 2010: p57). Designers personify latest fashion that is considered desirable, and some of them made fashion a symbolic sector to empower women (Coco Chanel) or stand for the “new beginning” (Christian Dior’s new look). From a historical perspective, designers received the power to lead fashion after fashion became a “trickle-across” process (Carter, 2003) and the social positions of fashion designers, beginning from Worth and Poiret, have risen with the disappearance of clear class boundaries and loss of subject to imitate, and the emphasis has transferred from wearer to the creator of fashion (Kawamura 2005: p59). Is the emphasis moving back to the wearer?³ In Niessen’s view there is a shift occurring in the social representation of creativity. In its traditional definition (the Romantic tradition, the popularization of psychological discourse), creativity is mainly viewed as something divine and related to individual genius and charisma. “The aura of creativity attached to material and symbolic goods was one of the main engines for value production” - the development of public relations (Benjamin 1963, cited in Niessen, 2010: p11). When designers create images, the skills are less important than the stardom, and it is their admission into the fashion system that defines designer’s creativity (Kawamura, 2005: p41). Designers are discovered and their status is confirmed in the fashion events. Kawamura also argues that in reality, fashion is a collective activity. There is no genius designer. Cultural objects are usually produced by groups rather than individuals.

High-end/streetwear

Crane (2000) divides fashion in three sectors: luxury fashion design, industrial fashion and street styles. Trends come from both and affect each other. “In the last 50 years, upward flow has also been more frequent as the street clothes of youths, blue jeans, have gradually and steadily moved upscale and become ubiquitous. Bill Cunningham frequently had a half page in the Sunday New York Times dramatically showing how ordinary people innovate in clothing. Each of his articles has a theme, e.g., yellow, fur, hats, party dress, belts, etc., illustrated by 8 or 10 photos taken in public places” (Coates, 2005). Cunningham started this, the bloggers (such as The Sartorialist) continue today exponentially - which the fashion companies are aware of, so the star bloggers have a high prestige in the world of fashion. The streets become the laboratories of fashion replacing the haute couture (Kawamura, 2005: p101). According to Everett

Rogers' (Veijlgaard, 2008) diffusion of innovations-theory, there are five types of people: innovators, early adapters, early majority, late majority and laggards. Nowadays class is not important and Crane (2000) remarks that fashion is presented as a choice rather than a mandate. The consumer constructs his/her identity or lifestyle through individual appearance from a variety of options. The subcultures, such as mods, punks or hip hop, defined their agenda and created a "clear-cut ready-made identity" (Hebdige 1979: p23) also through clothing and the subcultural styles emerged paralleling and despite the flow of fashion world. The youth became the "innovators" too and later they stated increasingly affecting the early adapters and early majority. Today, among the maximum information distribution, the subcultures (that originally might have called themselves "anti-fashion") become rapidly remixes of each other and eventually hit the mainstream. Kawamura (2005: p100) calls the creation of styles within youth cultures, another fashion system. Also a growing number of young designers are emerging out of street culture, still going through the process of admission to earn public recognition. "Distinctions between fashion and anti-fashion, high fashion and mass fashion, men and women, and rich and poor, among many other social categories, are breaking down" (ibid) as consumers become increasingly fashion conscious and themselves become producers (trickle-up theory) which could be called decentralization of fashion.

Fashion and the inner self

"There is no inner self without clothing" says Dick Lauwaert (2006: p173) who sees clothing creating the possibility of retreating inside yourself. Nakedness is an exceptional state - a group of naked people becomes anonymous and even in dreams or memories clothing plays an essential role. "Clothing fragments the body, calls up contrasts between covered and exposed, between inside and outside, touches the deepest regions of our existence. Clothing is our triumph over shame, a changeling, a switch, light and unstable, a sensitive membrane that passes on and disseminates in the most diverse directions. Clothing generates the spatial house rules for the body - one clothes oneself in the first place to give oneself form and power. Clothing exalts our inner being through its renewed variations of ourselves" (Lauwaert, 2006: pp175-176). On the contrary, a uniform hides personality and individuality - the self. The dandies felt that too and as an early example of individuals showing that they had paid attention to their clothing, the dandies fashion was an attempt to radically mark out the individual from the common (Barthes, 1962, 2006: p65-69). Fashion is seen as a non-verbal language, that communicates to others an impression of ourselves, from intelligence to the occupation. At its worst, "fashion instigates to constantly reformulate identity which causes pressure, feeds insecurity and even rising level of psychological illness, as well as

consumerism and homogeneity, fueled by the globalization of fashion" (Fletcher, 2008: p117). Von Busch (2008) sees that at its best, clothing can be used as a tool for spiritual self-enhancement and this can bring us closer to see how we can use clothing for "liberation", though the "fashion empowerment" is possible only for "fashion believers" or "fashion heretics" (the ones who opposes the religion in order to freely interpret, in other words - fashion heretic creates an own fashion statement that revolts the latest trends). It is impossible to say what do I really like and what I have learnt to like, because we are surrounded with commerce and media. Fuad-Luke (2009: p188) encourages to go beyond the familiar beauty in order to find "beautiful strangeness" which is adaptable to the future circumstances change.

Public relations and media

Before in the centralized sources of fashion diffusion (such as Paris) fashion magazines and periodicals were printed and spread around the world. When films and TV came, the American style has exceeded the influence of French fashion, becoming the leader of the world (Coates, 2005). "America makes up 4-5 % of the world's population, consuming 24-25 % of the world's energy, and 15 % of every purchase on earth is made by an American. The average American sees 3000 adverts a day - these comprise a sort of propaganda, and this drives the system. The disposability of the products is essential so that we can continue to consume them. To what extent are these products disposable? On average, six months after production, distribution, and consumption only 1 % of what has been purchased is still in use. This is the system." (Will MacDonough, CSF conf. 2009, in Niessen, 2010: p25). The aim of public relations and advertising is definitely not meeting demand, but on the contrary: awake desire for fashion in order to sell as many pieces of clothing as possible. Crane (1999: p16) argues that today the innovators tend to be small firms, created by individuals who belong to the communities in which the innovations originate, thus the system is less centralized. "If the style or fad shows signs of becoming popular, large firms begin to produce their versions of it and to market it aggressively" (ibid).

Fashion shows have been an important medium of fashion since Worth, who was first to present his creations on mannequins (Kawamura 2005: 41). One of the purposes of fashion shows is to show new styles to journalists, editors and buyers. The gatekeepers who represent major magazines and newspapers discover new talents and confirm the known designers' status. This contributes to adding value to clothing and transforming it into fashion although it happens only in people's minds. Fashion designers/companies that make themselves visible, become successful, so media, that offers visibility, plays a crucial role in their practice. Also celebrities offer visibility and additionally apply their

image to the brand, in the same way as the royalty offered the fashion role models before. Journalists and editors hold the power to communicate what is fashion and what is not, or what is important and what is trivial, often forgetting their role as reporters rather than critics. Kawamura explains that the mass media is mainly supported by investments from advertisers so it is difficult for the journalists to report fashion news impartially. Today, the social media⁴ is another highly powerful media platform, that companies pursue to possess because social media recognition seems to be the key to success (see also “social shopping”, chapter 4.3).

3.2 PRODUCTION SYSTEMS

The previous chapter concentrated on the intangible aspects of fashion. This chapter’s purpose is to learn about the conventional ways to produce the tangible fashion items. This helps to reflect on the possibilities of open source philosophy to be applied both in the symbolic and the physical fashion production; and what features are a good foundation to build on the system of fashion openness.

Industrial model

The textiles and clothing industry was the core driver of the Industrial Revolution in Great Britain, affecting the whole Europe, the Commonwealth countries and North America for over 200 years since late 1700s. “The shift from production of garments in the home to large-scale production in the factory is dependent upon a ready supply of cloth, which is dependent on the availability of yarn. Lower costs, which increase consumption and enlarge production, are dependent on the invention of suitable stitching machinery which, in turn, is dependent on the availability on suitable sewing thread, which is dependent on the development of mechanical combs” (Farrer 2011: p24). By the middle of the 19th century two systems of fashion production had materialized: work of the tailor or couturier and the expansion of a ready-to-wear clothing industry that was especially developing in the US and UK. Beginning with the production of uniforms and mens’ daywear garments, a ready-to-wear industry emerged in response to a need for stock supplies of ready-made clothing. The industrial processes represent the “clothing system” which is usually merging with the “fashion system”.

There are a lot of professions involved in these processes: from the company owners and project managers to fashion designers, assistant designers, sample cutters, sample-makers, production patterns-makers, factories to finalize the garments, trimmings and button suppliers, ending to the buyers, the retailer’s staff and the advertising agencies. Sombart (1967) thinks that fashion is “capitalism’s favorite child” and that the consumer does not play any role in

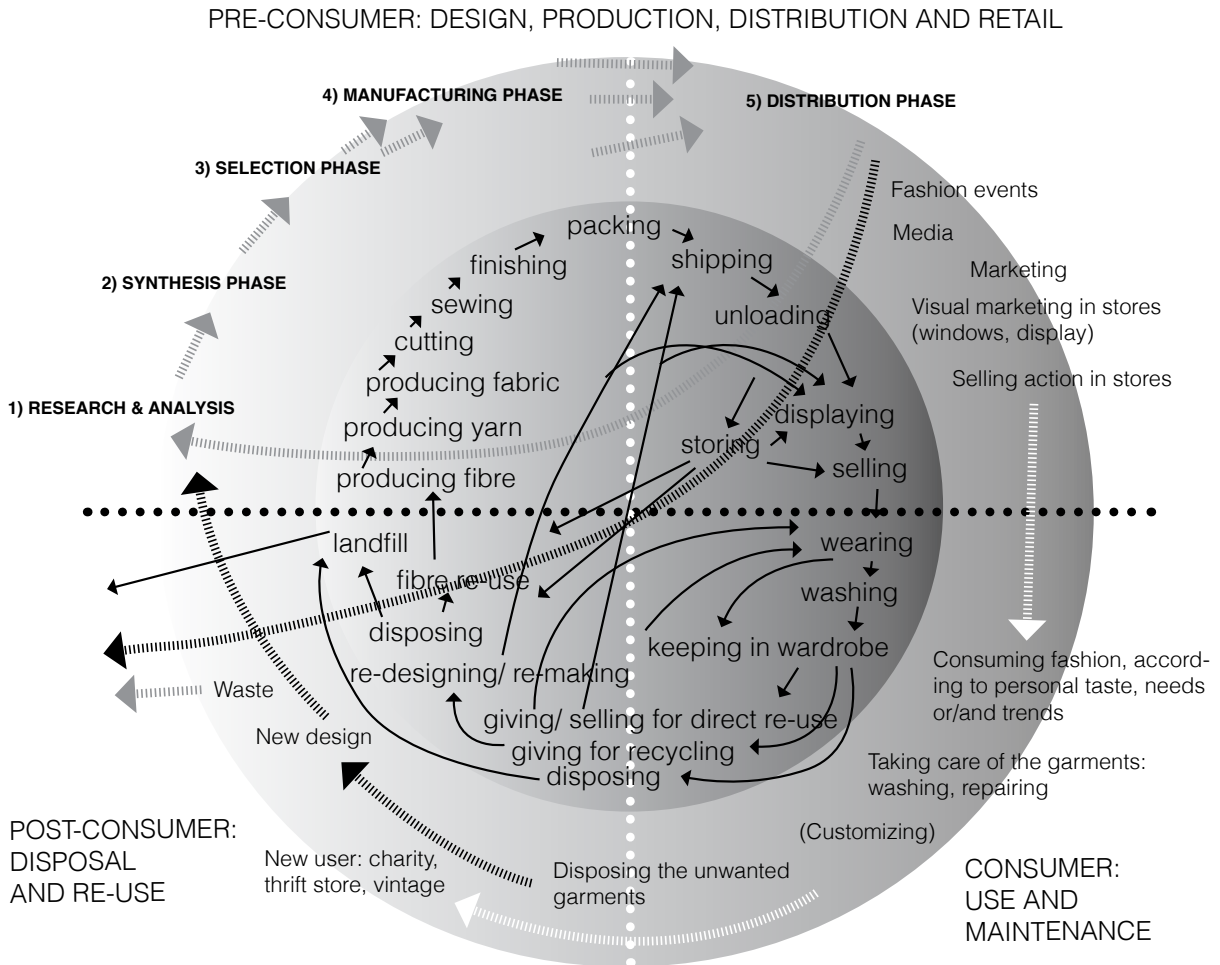
creating fashion hence the fashion production is a one-way process. As presented in Gwilt’s map of the design and production, the system is not completely one-way-based, even though it often is linear and cradle-to-grave, based on low-cost cloth, availability of industrial sewing machines and mass manufacturing - today mainly in low-paid sweatshops of the developing countries. The department stores and the chain stores offer “economies of scale and put high value on uniformity in production, style, and manufacture, with low-cost marginal variations in decoration and color, producing the widely desired diversity” (Coates, 2005). Koefoed & Skov (2010) say that the fashion system is highly buyer-driven today: the big department stores, mass merchandisers, discount chains, fashion-oriented firms, and more specialized buyers, are the most powerful actors. The consumers only choose between different design and brands. The buyers are in this case also the sellers, in charge of the distribution networks. “Fashion represents one of the largest industries today and displays how globalized growth functions, circulating huge sums of money, with the main exchanges taking place between Asia and North America, Asia and Europe, and Latin America and North America” (Dickens, 2007: 268, cited in Koefoed & Skov, 2010: p23). This economic system, where “money tends to flow the same way as the materials, whereas the orders flow the other way” is not balanced.

H&M and Zara “update” their collections weekly. The peak of fast fashion, Zara, is an example of efficient fast fashion, but it encompasses few features that distinguish it from the other fast-fashion giants, and according to Paula Bello (2010) “integrated global processes and logistics, as well as the use of information technologies, have played an imperative role in its success”. Zara is also a good example of the fundamental impact that the organization and technology innovations can have on the whole ecology of the company and its production processes. Because Zara is so widely spread, it has a great impact on consumer behavior (visiting the shops more often; making quicker decisions because the clothes do not stay in stores for long; expecting the latest trends to arrive immediately in stores) in general and the whole fashion system (accelerated flow resulted from the rapid responses to fashion). Through learning the Zara-system, there is potential to find more advanced, open and sustainable ways to circulate fast-fashion processes.

Role of designer and consumer

The role of the designer and the consumer depends on the context they operate in: the society type, ideology, connectivity, the type and size of the company etc. The basic skills fashion designer is expected to master (Gwilt 2011: p62) are creative and technical ability; ability to communicate the new product to the manufacturer and the client (drawings, stylized + technical); garment types (full skirt,

Figure 8. Lifecycle of a garment. The outer circle of this figure represents the garments phases of life in relation to human (designer, manufacturer, retailer, user). The inner circle shows the physical and technological perspective of garment's lifecycle.



Gwilt's (2011: p61) analysis of the phases of fashion design and production:

1) RESEARCH & ANALYSIS

market, trend and resources research
concept development
designing - new and repeat styles

2) SYNTHESIS PHASE

pattern making and toiling
creation of the sample range
modifications to the sample range (small companies)

3) SELECTION PHASE

editing the collection
modifications to the sample range (large companies)
showing range to buyers and selectors

4) MANUFACTURING PHASE

production of the selected garments
on of off-shore manufacturing

5) DISTRIBUTION PHASE

garments shipped to retailer
sales information back to the designer

Figure 9. The Zara System. The following data is based on cited from the in depth study material by Paula Bello (2010: pp81-91) and my own observations collected during the work experience in the company (the store): Ortega (the founder of Zara) noticed a divergence between what his buyers said customers wanted, and what the data from his own shop said. He became aware of **the potentiality of directly using the data provided by the customer**, which raised an interest in information systems i.e the core of Zara's success is in the design of the whole system that is based on efficient communication. Today Inditex (Zara is one of its companies) also holds over a hundred companies associated with activities in the textile and fashion design, manufacture and distribution business. 40% of the fabric comes from Comditel, another Inditex firm, as do the textile dyes. Impressive growth of the company has occurred especially during the last decades (because of the development of information technology?). Zara differs from its competitors in many ways.

The ZARA system

1. It owns majority of its production as well as the most of the stores and integrates production and distribution. Most of Inditex's production and logistics are located in the headquarters in Spain (Galicia, A Coruña) which has long and strong clothing traditions, being home to thousands of small apparel workshops.

2. Stores are not only the physical space for retail of clothing but also the face and the research centers of Zara. In 2006 89% of the shops were self-managed, while the rest were partnerships with local companies, or franchises (in Finland with Stockmann). Shops are also the PR of the company: Zara never advertises, but emphasizes the communication between the store and the customers (display, windows, sales personnel), and the store and headquarters (using the special information technologies). Shop manager, based on the daily happening and responses from the clients, sends to the headquarters two types of data: orders, sales and trends; and customers' reactions, comments, buzzes etc. The first shop opening in every country is a flagship that allows learning about the particularities of each market and the potential customer. The location and display coordination of garments are at the core of visual marketing. When some experience of the locality is achieved and the potential customers become aware of Zara's presence and new stores open in other areas.

3. Links customer demand to manufacturing, and links manufacturing to distribution >> design is the link.

4. Time is the most important factor and the business model is characterized by its flexibility, vertical integration and circularity. The compression of cycle times responds to shorter fashion cycles: it is crucial to optimize all the phases of the process. The circular process followed by Zara differs considerably from the traditional industry, which moves linearly. Design, manufacturing, distribution and sales take place continuously and in parallel - this allows for constant implementation of new designs that respond more quickly to shorter and faster trends and customer wants >> there is no need to have large stock because all products are in constant movement. The accelerated speed makes the items available for sale just a few days after being produced (and two weeks after being designed).

5. Zara has an in-house team of designers. Inditex has developed their own systems for gathering, transmitting and organizing data from the shops for the design team. It also integrates design into the production by utilizing specially developed computer programs, such as one for cutting patterns. The whole cycle of design and production has been reduced from 6 months to 2-3 weeks, the main reduction of time is on the designing and prototyping (not the production itself). Physical proximity between the multidisciplinary teams allows discussion on the designs, making decisions and planning the production in few hours. The information flows from the shops into the headquarters, and then amongst all those involved in the design and production (the physical organization of design and production teams). The major accelerator of the process is the permission for the design and production teams to make decisions without the call for authorization from the senior managers.

Figure 10. Paula Bello's analysis. This data is based on the information of 2009 provided by Inditex, analyzed by Paula Bello. Today the situation might be even more advanced from technological perspective: software and hardware is constantly updated and aims at maximizing the efficiency of information technology thus minimizing the human hours. Inditex holds 5693 stores around the world from which 1671 are Zaras. The increasing net sales grow the company even further.



THE USE OF TECHNOLOGIES

- Computer terminals, that are connected to the headquarters.
- The offer form and the order form (filled 2 times per week) delivery times (in Finland) 3 days.
- Though the technological system is developed, the costs are lower than in other companies.

THE OUTCOMES

- The super-responsive supply chain leads to the record time of designing, producing, and delivering a garment for sale in a mere 15 days.
- Designers create about 40 000 designs per year, about one quarter are developed for production (closest competitors produce 2-4000 products..), besides the number of models, they are then further developed into five to seven sizes and in a majority of cases, into five to six colors >> 300 000 new stock-keeping units per year - 2,5 million items per week are shipped from A Coruña.
- Loyal customers know exactly when the new orders are coming, and thus, visit the store more often.

AGAINST THE ODDS: GLOBAL TRENDS

- The local was favored in front of the global, and it worked exceptionally well (despite the labour costs, the efficient information flows were regarded more important) -> this showed that sometimes favoring the local may actually strengthen the global, as their centralized production system reveals.
- Zara went against the trends by not advertising its products.
- It also uses its resources on following trends in real time, instead of trying to impose trends (the customers were given a voice and the designers responded to it).

TOWARDS HOMOGENIZATION OR HETEROGENIZATION

- By operating on a global scale, with different types of audience, it would be expected that Zara would have problems with the diversity of cultural systems: the situation is handled by the flagship stores and the communication between store managers and headquarters (what is working, what is not, what is missing from the offer...).
- About 85-90% of the basic designs tended to be common in different countries. This strategy also meant that items that did not sell well in one market could be sold in others.
- Within a consistent global array of products there are specific needs and wants varying not only between nations, but also between cities and even neighborhoods; the offer in each Zara is built on the real-time response of its particular customers.

THE ENVIRONMENTAL FOOTPRINT

- The numbers that come out of the production (130 million items per year) cannot go unnoticed, especially the implications for the environment, which is not only determined by the material used in their production, but also on the energy resources used for its production and transportation.



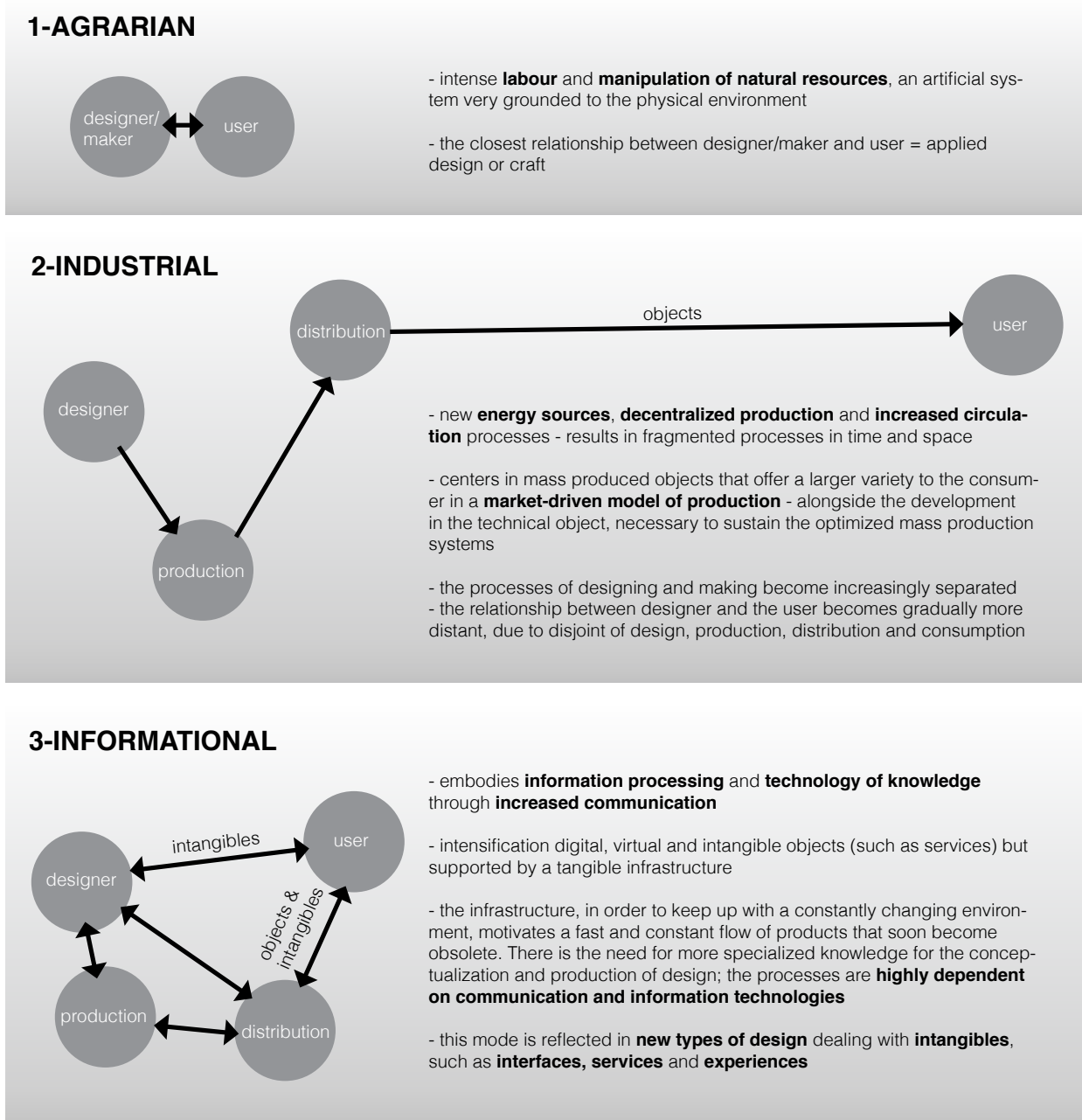
fitted blouse, tailored jacket etc.); implementing the brief: meet the consumers needs and market trends, represent the brand or label's vision, work in relation to the body; ability to design for a specific market, occasion, function or season; ability to work in relation to fabric selection; ability to meet the budget. Before, when goods were obtained mainly through barter and self-production, the activity of consumption was closely linked with that of production but the consumption pattern then changed with the advent of mass consumption which came with mass production (Kawamura 2006, p91). In the 1920s and '30s the power structure turned in favor of the designers, who wanted to design products for the masses, giving directions for how to make things that were good for the masses, believing that they needed to be educated (Renny Ramakers in Klaassen's interview, 2011). This structure turned into favoring the preferences of masses during the extreme market segmentation in the 1960s. For Ramakers, the inspiration from the masses has always been there but design is always a top-down process. Von Busch (2009: p57) perceives that fashion is usually presented as a luxurious and finished ready-to-wear product, something we can choose from, but not engage in, whereas Kawamura (2006, p90) argues that the consumers participate indirectly in the production of fashion, which is an incomplete cultural product if it is not consumed. Production influences consumption and consumption influ-

ences production. According to Stappers & Co (2011), in the 90s and 00s, user involvement and collaboration were discovered to be effective in contextual informing, idea generation, and concept development, but the progress of participatory design processes in the industrial context has been slow. Today the role of designers is becoming varied: part creator, part researcher, part facilitator, part process manager (ibid). "In smaller enterprises, the separation between designer, client and user has always been less clearly defined" (Ramakers in Klaassen, 2011). In Niessen's view (2010: p10) the prosumer trend of co-creation is connected to new market organization chances, and the phenomenon called Long Tail Effect valorizes niches instead of hits: an e-commerce strategy based on selling small amounts of rare items to many customers instead of selling big volumes of a small number of popular items, "linking economies of scale with non-massive productions and reducing enormously stocking costs because of the on-demand production facilitations" (ibid). According to the user-driven innovation model, companies could rely on users to do a significant part of the innovation work because users want products and services that are customized to their needs and are willing to tell what they want and how it should work (Von Hippel 2006:18 in Niessen, 2010: p12). There is a chance that the 2010's will witness the major breakthrough of the creative or co-creative customer⁵.

Photo: Natalia Mustonen. Drying clothes in Shanghai.



Figure 11. The development modes in agrarian, industrial and informational society types (Castells 2000; Bello, 2009: p12). Paula Bello analyses the relationship between the designer and user through Castells' views on the society types. All modes of development exist in parallel. Texts cited directly from Bello (2009).



Handicrafts

Pre-industrial apparel production was based entirely on craftsmanship performed either by the master crafters (tailors and dressmakers) or by users themselves. Every piece of garment was made individually for each customer. In the 16th century some fashionable costumes could be viewed in costume books and by the end of the 18th century, commercial fashion manuals with patterns and instructions came to market for the housewives to materialize the latest fashion from Paris by their own hands. In the 19th century some standardized ready-to-wear production appeared (mainly coats, jackets and undergarments) but it wasn't until the time of mass production⁶ when handicrafts began to slowly to desaturate from the everyday life of a woman. In the Soviet Union, despite the goals of the unifying ideology, individuality and fashion existed due to handicrafts. Opposing the uninteresting obsolete production of the Soviet factories people made or commissioned their clothing trying to follow fashions leaking from the West. According to a documentary, "Unready Dress" (5th Channel, Russia, 2008) this phenomenon had dramatic consequences on the clothing industry: some factories were closed because the sales were close to zero. Clothing ateliers enjoyed extremely high popularity. My grandmother had all of her clothes made in atelier she preferred using until the Soviet Union started showing signs of collapsing. Simultaneously my mother sewed and knitted almost everything our family wore. In the West the generation of our grandparents seems to be the last one to hold general handicraft skills. However there is increasing interest towards gaining this knowledge again, at least on a small scale.

Michel Bauwens sees that there is an undoubted revival of crafts and craftivism and it is directly linked to networks: communities and online tools are used for community building and sharing designs. In Bauwens' view fashion and crafts are optimally suited for a very strong online collaboration component and a whole alternative counter-economy is growing around online collaboration, parallel with the old practices (Niessen & Romano, 2010, p106). Even though personal crafting (sewing, knitting etc.) and other DIY-activity is popular again, the professional level of craftsmanship is very marginal in the Western countries. Most people buy clothing ready-made and for most of the designers it is more profitable to use a subcontractor, preferably outside the West. Becky Stern, a US based artist, crafter, blogger and journalist, ponders in the interview by Openwear, that it is unrealistic to expect to make a decent living by purely making crafts, even for very skilled makers of wanted products. *"The contemporary full time crafter has to be a businessperson, an editor, an educator, and a publicist all in one"* (Niessen, 2010, p103). Despite these challenges there are still tailors and small ateliers, whose work includes a lot of repairing, modifying and sewing dresses for special occasions (such as weddings). Haute couture utilizes craftsmanship too.

For designer-crafters it is almost impossible to make their living⁷.

In addition to the economic unprofitability of handicraft production, today the nature of working has changed: nowadays long service earns no respect and instead of staying at one place or one field, we should move quickly between short-term occupations and new possibilities, rather than explore patiently own craft (Sennett, 2006 & 2008). In Sennett's view, pure competition, will never produce good work. Instead, the values of the craftsman, "whether in a Stradivari violin workshop or a modern laboratory, can enrich our lives and change the way we anchor ourselves in the world around us". Sennett praises craftsmanship in words: "Craftsmanship may suggest a way of life that waned with the advent of industrial society, but this is misleading. Craftsmanship names an enduring, basic human impulse, the desire to do a job well for its own sake. Craftsmanship cuts a far wider swath than skilled manual labor; it serves the computer programmer, the doctor, and the artist; parenting improves when it is practiced as a skilled craft, as does citizenship." (Sennett, 2008: p9) The connection between modern technology and craft traditions, "hypercraft", offers implications for education of design and crafts, and focuses on the process of making itself and the responsibilities that makers take (Stikker, 2011). New, craft-based industries are taking off, either locally oriented or operating globally over the internet (Stapper & Co, 2011). Locally oriented Natalie Chanin (Alabama Chanin) encouraged the women of her community to come together in circles to stitch, quilt and embroider, often using reused materials (Fletcher, 2008). Handicraft traditions are preserved to some extent in local communities, at least among the enthusiastic older population and increasingly interested younger generation. Outside the West, handicrafts have a much bigger role in the production of everyday clothing. In India, for example, despite economic growth, people prefer traditional clothing and appreciate the handicraft masters due to strong cultural traditions.

Photo: Matti Tanskanen. Published with permission. Taken for an article an article about handicrafts in fashion, published in Basso-magazine 4/2011. The photos represent finnish designers-craftsmen. The young woman is a praised fashion designer and a highly skilled artisan, Saara Lepokorpi.



3.3 CURRENT CHALLENGES OF THE FASHION SYSTEM(S)

Sustainability issues

The fast and efficient, low-price manufacturing of new seasonal trend-driven, quickly disposable garments in a competitive marketplace, encourage the consumer to over-consume which increases the use of resources and the waste. This system of production has serious consequences for our society, economy and the environment (Gwilt & Rissanen, 2011). Over 12 million tones of textile are sent to US landfills each year though textile and clothing products are nearly 100% recyclable (Hawley 2011, p143). "The trend for fast fashion has generated an exponential rise in the sale of fashion garments that are often worn too little, washed too often and quickly become discarded, with an estimated 30kg textile waste per person reaching UK landfills each year" (Gwilt & Rissanen 2011, p13 referring to Allwood et al, 2006). Oleg Koefoed and Lise Skov (in Openwear, 2010, p26) are concerned, that in spite of conversation about sustainability in the media, fashion industry has not grown out of its unsustainable form, "leading to poverty, invalidation, toxic waste, landfill excess, enormous CO2 emissions, water waste, loss of local knowledge, precarious workforces with no freedom of movement". Writers think that it is more correct to speak of the unsustainable as the main aspect of fashion. Farrer (2011: p25) believes that free trade and the generation of money-capitalism have become destructive to the ecosphere. Globalization and neo-liberalism of fashion brands have heightened the exploitation of nature (planet) and labour (people) and sustainability in fashion seems to be a Utopia. Gwilt tells, referring to the Centre for Sustainable Fashion, that there is an increasing number of designers aware of their responsibility to engage with sustainable and ethical practices, but often they feel unable to work within a sustainable framework (Gwilt 2011: p59). Also Fuad-Luke (2009: p47) thinks that design's current vision is not telling the ecological or sociological truth, but he believes in designer's abilities to improve the situation by design activism.

Sustainability is a complex term. According to Farrer (2011: p20) there is a struggle in many expert circles to find another word to replace *sustainability*, because its deeper meanings and associated philosophies have become worthless, brand development and "green-wash" tools. Farrer also reminds that there are 70 different definitions of sustainability and wonders what this amount of definitions means for practitioners in the fashion industry now. One problem is that the literature describing the concepts of sustainability never reaches the fashion designers. Also Gwilt & Rissanen (2011: p13) think that the field of sustainable fashion is complex in spite of an increasing universal awareness of environmentalism and ethical issues. The focus of fashion

businesses is still on the combination of brand value and value for money. There must be more efficient development of the service systems in order to provide some responses to the sustainability issues: "cradle-to-cradle", "life cycle thinking", "industrial ecology" (Fuad-Luke, 2009: p67), organizational solutions, technological innovations and most of all: the fundamental intervention to the attitudes and behavior on the consumers and influential companies. For example, designers could engage the consumers to change their behavior and attitudes about their clothing maintenance: according to Koefoed & Skov (2010: p25) up to 80% of the environmental influence of a product is lying after its purchase (cleaning, fast replacement, or purchase of obsolete clothes that are discarded). For Fuad-Luke (2009: p86) sustainability is learning about living well but consuming less. Firstly, the designers must change their behavior by understanding what sustainability is, how they could improve it and spread this knowledge to everyone in an easy and appealing way: the designer can communicate by information, concept, prototype, artifact, event, story, scenario or a project (ibid). A sustainable fashion industry of the future must identify ways of producing fashion that fosters deeper engagements between wearer and garment (Gwilt & Rissanen 2011: p141) and is based on local, self-sufficient production, preferably using recycled materials.

Another concern regarding globalization and sustainability is the homogenization of cultures and cultural imperialism. According to Bello (2010: p57), academics assert that there are two processes simultaneously taking place: one towards a similarity in forms, practices and visions, and the other towards a resistance, or the creation of new, differentiated varieties of cultural representations. The awareness of the diversity of local cultures and plurality of histories has increased and in some cases it is even argued that globalization has boosted local identities and creativities through the counter-movements (reactions and actions questioning and rebelling the current conditions)⁸. Bello (2010: p59) remarks that the social responsibility (in all stages of the consumption of resources, production and distribution) is now the major issue in company strategies, and this is driven by consumer demand. The propagation of counter-movements is facilitated by new technologies that allow the spread of discourses and debates, and the creation of support networks. The developments in communication technologies (especially the Internet) have yielded more efficient ways for local actors to articulate, share and organize themselves, dislocating traditional power structures by linking individuals and groups for joint action regardless of the social, cultural, political or economic standpoint, and by decentralizing networks (Mathews, 1997 in Bello, 2009).

Struggling fashion businesses

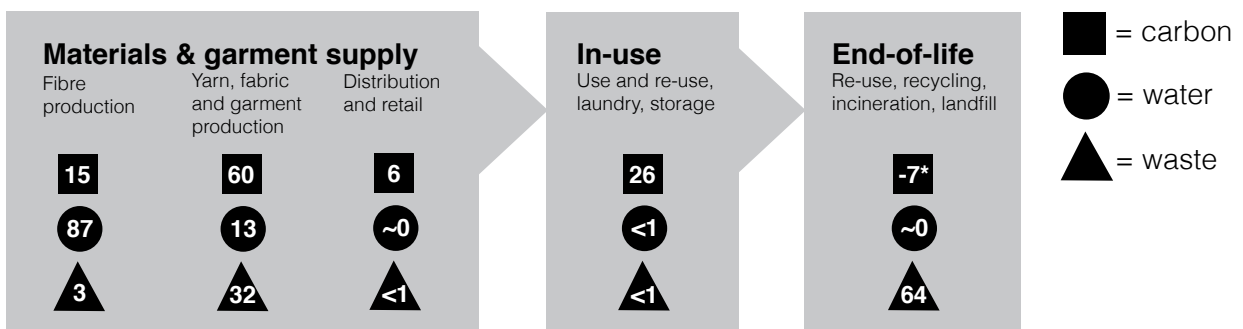
The financial crises, the rising economies of Asia and increasing resource expenses create crucial pressure to the fashion businesses. For example in Finland, some of the big companies were driven to let many of their workers go due to the unprofitability and maybe short-term thinking, which dominates the political and commercial structures. Desirable values are cost efficiency regarding both human and natural resources but the cheap manufacturers in developing countries will be history soon. Another challenge is the upcoming peak oil i.e. scarcity of the energy supply and its high costs. Today the work is mainly subcontracted and even the exclusive fashion companies cannot afford local producers (which reduces the local jobs too) and, in order to succeed, the companies must produce big volumes of garments and distribute the items largely. The fashion industry experienced decreasing sales in 2008 and 2009, but the online retailers have been able to challenge the crisis and achieve financial growth during the economic recession (Koefoed & Skov, 2010: p27). The middle links need energy, money and time, and this is an issue that IKEA has started addressing. According to Renny Ramakers (Klaassen's interview, 2011), everyone is trying to invent something to mitigate this problem, be it *Downloadable Design* (Droog's project) or a designer who works directly for the customer. New systems are needed because the whole production chain is starting to fall apart. The current system does not nurture the creative work of a fashion entrepreneur, whose time must be wasted on a huge amount of administrative work, making connections and building the right kind of network, applying for grants and doing self-marketing, communication, selling and making (and not affording to hire someone else to perform these tasks).

Niessen (2010: p35) argues that an increasing number of fashion professionals is experiencing serious difficulties in finding a satisfying positioning in the labour market. Their social backgrounds are extremely differentiated, because of the great variety in terms of age, gender, class and educational path. Niessen hypothesizes that there are three main sub-categories: 1) young professionals that have acceded only in recent times to the market labour (that is becoming increasingly aggressive); 2) women that have left the main career because of family care; 3) more aged workers that have been excluded from the labour market by outsourcing politics and, more recently, by the financial crisis. Simultaneously an increasing number of creative workers, that are not professionally involved in fashion or crafting, do crafting and sewing activities in their free-time, as a way to regain the enthusiasm of creative experience, lost in the daily work. Niessen (2010: p37) sees this process as a re-appropriation of the relationship among creativity, subjectivity, produced object and production process. These features should be considered while looking for ways to improve the situation of fashion businesses and fashion professionals.

Information overdose

"The amount of information we have access to has grown exponentially, the number of hours in the day, have stayed the same. Never before has it been so easy to create a mini-empire, never before has there been so much competition to do so"⁹. According to Castells, "knowledge is a set of organized statements of facts and ideas, presenting a reasoned judgement or an experimental result, which is transmitted to others through some communication medium in some systematic form". Information is the communication of that knowledge. Leadbeater (2000) sees that information can

Figure 12. Estimated contribution (%) of each stage of the garment life-cycle to the carbon, water and waste footprints (WRAP, 2011)



* "Re-use and recycling of clothes at end-of-life reduce the carbon footprint by reducing the need for new materials: hence the negative figure".

be transferred in great quantities, not necessarily generating understanding. Knowledge cannot be transferred but has to be enacted through process of interpreting, understanding and judging the information (Bello, 2010: p67). The designers are highly connected and updated, with instant access to information and a fast response to it, but it may also result a superficial approach “characterized by an overwhelming amount of data that prompts no reflection” (ibid) and provide with poor content. Although the information overdose is not only a challenge - it is also an opportunity for both designers and users. “Imagination is no longer a characteristic of a selected few, of leisure activities, of distraction, or of fantasy: rather it is a part of everyday life. The users are ‘designing’ their own imagined worlds, because the landscapes in which users experience the everyday are expanding further away from the immediate context.” (Bello, 2010: p73) Is the work of designer becoming useless from this perspective? One strength of the professional designers and other creative talents is that they could find ways to transform imagination into innovation or sort the valuable information from the rest. Main question a consumer might ask, seeking his/her way in the jungle of information overdose is: what do I want? Where goes the line between mine and others identity, or mine and imposed identity? Is everyone losing identity or nurturing it? The consequence of information overdose would probably be longing for exclusivity and authenticity. If everything is easy to get we start looking for things that are almost impossible to have.

- 1 <http://wxy.seu.edu.cn/humanities/sociology/htmledit/uploadfile/system/20100724/20100724150914657.pdf>
- 2 referring to all three dimensions of sustainability: environmental, social and economic.
- 3 Returning to Barthes' manifestation (1968): 'We are now beginning to let ourselves be fooled no longer by the arrogant antiphrastical re-creations of good society in favor of the very thing it sets aside, ignores, smother, or destroys; we know that to give writing its future, it is necessary to overthrow the myth: the birth of the reader must be at the cost of the death of the Author'. His attitude describes the atmosphere of the postmodern spirit. As a play, we could try his dramatic sentence applied to fashion design: to give fashion its future, it is necessary to overthrow the myth – must the birth of the user be at the cost of the death of the designer?
- 4 Twitter, Facebook, Pinterest etc.
- 5 Swedish Fashion Council tells that 'The creative consumer will be more and more active in the future and create their own fashion forecasts through blogs and on-line videos, with fashion forecasting being at least supplemented, and partially replaced, by research online by just about anybody who wants it. A young generation of designers and consumers find their inspiration in a more and more globalized world, where the explosive development of 'trend spotting' on the web, in fashion blogs and social networks lead the way to a more individualized fashion. The huge amount of free information on the web will – at least to a degree – erode the importance of the traditional forecasters.' (Mårtensson, p.3 in Niessen, 2010: p24-25)
- 6 Mass production of women's clothing developed more slowly than men's, because of the need for efficient production of standardized uniforms in the 19th century. The mass production of women's wear didn't start until the 1920's, when the industrial production techniques, the rise of advertising industry, the growth of an urban professional class and the development of national markets accessed through chain stores and mail order catalogs. Ready-made apparel industry was portrayed as modern and fashionable and instead of seeing the purchase of mass-produced clothing as a loss of individuality, Western women began to accept the pieces of ready-made merchandise as convenient, affordable, and up-to-date fashion items that could be replaced easily as styles changed, even though they fit poorly: at least in US, a standardized measurement system for women was created as late as 1940s. <http://museum.nist.gov/exhibits/apparel/> (Virtual Museum of National Institute of NIST Standards & Technology)
- 7 This argument is based on my research exercise completed in 2010, as part of studies of Finnish Clothing and Textile Research in Aalto University School of Art and Design, Master Programme. The research included overview of the Finnish fashion designers-crafters, three interviews and background of handcrafted fashion.
- 8 For example, on the grounds of my observations, organic and local food co-ops are especially popular in United States, which simultaneously has the reputation of the most 'industrialized' food supply.
- 9 <http://www.os-fashion.com/author/angelagilltraplot17media-com/>

Spread photo: Matti Tanskanen. Published with permission. Taken for an article an article about handicrafts in fashion, published in Basso-magazine 4/2011. The dress is made by Aino Vainio (I Know Why Know).





4

OPENING THE FASHION PARADIGMS

The open source approach to fashion and clothing is surprisingly close to everyone. For our grandmothers making clothes themselves was quite normal activity and many times the only way to address fashion. Moreover, even for later generations, that might have learned some basics of sewing in school but haven't tried it since, it is much easier to imagine how the clothes are constructed than, for example, a coffee machine. But open source fashion does not mean that people would make their clothes. Also fashion is present in our lives in many ways and anyone can also contribute to the dynamics of fashion. Von Busch sees fashion as a code set by a myth. He believes that similarly to computer or DNA-code, *the fashion code can be de-coded*. If it is done following the hacker ethics, one shares the code and builds on it. Fashion is often compared to religions and von Busch suggests that "liberation theology", which arose in South America in the 1950s, could be paralleled to his liberation attempts of fashion. Liberation theology was a political movement within the Roman Catholic church as a reaction to poverty and injustice and its attempt was to return to politically and culturally decentralized Christianity. Liberation theology opposed the hierarchical structure of the Church and formed bottom-up based Christian base communities. Referring to Eric Raymond's book *The Cathedral and the Bazaar*, von Busch also describes the hierarchical organization as a top-down cathedral, and a flat, networked organization - like a buzzy bazaar. In relation to fashion: Karl Lagerfeld is the pope in the cathedral, whereas the blogosphere is the bazaar. Von Busch believes that fashion is some sort of energy, which we can use to power up and instead of overcoming it, we can use the faith as a tool for social change. The energy does not have to come only from the designer and von Busch wants to discover how to share the fashion design code and motivate people using it. He proposes "fashion hacktivism" which is presented more precisely later in this chapter.

Through a review of texts on garment construction, repair and maintenance, and case studies of men's shirts from the 18th century to today, it became clear to Timo Rissanen (2011: p128) that "various transformative acts by the consumer pertaining to garment maintenance can become a fashion design consideration, alongside aesthet-

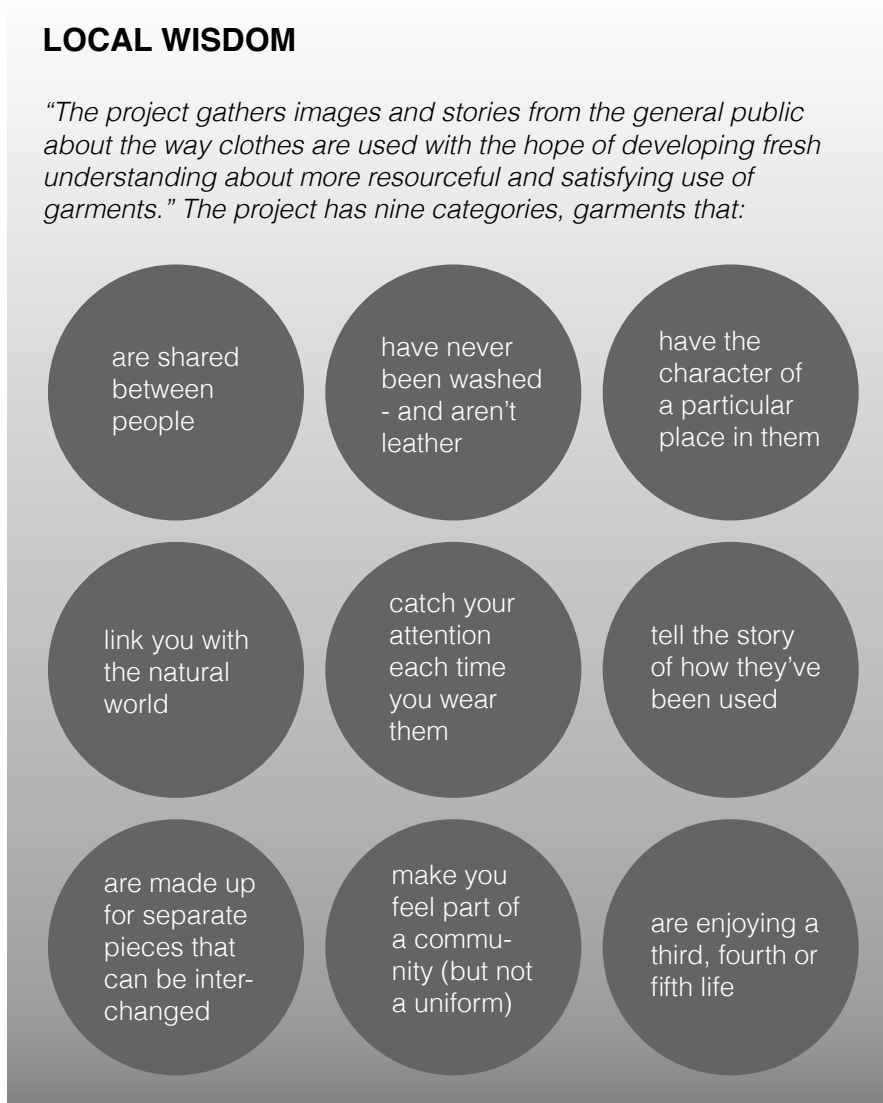
ics, economics and ergonomics". With the pattern maker the designer determines the degree at which the garment may be physically *transformed*. As a beautiful example concerning the graceful aging of a garment, Rissanen describes the Japanese fisherman's coat from Awaji Island, which is made of indigo-dyed cotton covered with white sashioko quilting stitches. "Coats gradually fade with washing and exposure. A hole is covered with a quilted patch of fabric; the patch is initially darker but fades over time. While the number of patches grows, the overall look of the coat is maintained: the patches become the coat" (Rissanen 2011: p130). Even though being perfectly wearable at the time of purchase, the fisherman's coat is an unfinished product that transforms slowly with time. Also Kate Fletcher approaches clothes in a graceful way in her project Local Wisdom, started in 2009, with the aim of recognizing and honoring culturally embedded sustainable fashion activity that exists at the level of the user (Fletcher 2011: p166).

According to Fletcher (2011: p170), in the last two decades the intellectual framework that has most shaped sustainability work in the fashion industry (as in most other sectors) is *lifecycle thinking*, which is inspired by the language and study of ecology. "It works to understand the interrelationships that link material, industrial and economic systems with nature and openness to these relationships is a key precursor of change as it demonstrates the dynamic effect of each part on every other". This challenge requires not only fashion products and manufacturing processes to be transformed but also fashion's context, its rules and goals, business models and methods of promotion (ibid). Ideas that improve people's experience of fashion qualitatively without growing the industry in quantitative scale are important, because the growth imperative that shapes the fashion businesses conflicts the environmental sustainability objectives. Building an economic framework that cultivates qualitative improvement without growth poses a profound challenge for the fashion sector. How could we attain material steadiness accompanied with immaterial growth? Niinimäki (2011) argues that the craft of users often results in a longer life for a garment, maybe through repair and refashioning, or through the forming of powerful emotional attachment.

“Open source fashion” was presented in Fashion Project-magazine already in 2006¹. The interview of Giana Gonzalez, the creator of the first evident open source approach to fashion, a project called Hacking Couture, explicates Gonzalez’s inspiration, intentions and views on the democratic and interactive “hacking” of clothing-fashion. Gonzalez, was inspired by the open source theory, that in the form of software, resulted in vast technological improvements in the 1990’s, “by encouraging a dialogue between participants through its free documentation and distribution” (Scaturro, 2006). The purpose of Hacking Couture was to document the design code of established identities “in order to derive new and evolving fashion aesthetics, serving also as a platform for

self-expression and nest for new ideas”. Gonzalez feels that with all the potential the internet offers, the connectivity and dialogue can happen now (in contrast to the situation during her childhood) and help others to express themselves: “Through a common design language I want to give myself and others the opportunity to connect over something as fun and liberating as fashion”. Hacking provides possibilities for collaborative experiences and room for creativity and playfulness, expressed either through personal or collective expression. Gonzalez has created an “open source library” which is academically determined and collects designers’ most repetitive design elements (the codes). The goal is to enable users’ contribution and modification of “the code”.

Figure 13. Local Wisdom.



There are several reasons for open source philosophy to appear in fashion. There is a lot of conversation about recession and scarcity of resources; DIY, decadence, vintage, recycling, grunge and upcycling are remarkable trends of today. At the same time Web 2.0 and other forms of digital technology - software and hardware - make people feel omnipotent. Upon these sustainability in every manner is called for. "We started to admire again our grandparents for whom mending and altering clothes was part and parcel of owning clothes" (Rissanen, 2011: p130). In the context of this thesis, the source could be the fashion code as a sign or symbol (on a macro level) or the code from which a piece of garment constructed (on a micro level). When this source is open, anyone can contribute, share and build on codes created by others. And there seem to be a lot of people wanting to use that code, share it, collaborate, and even gain profit from it, for example in Etsy². "Crafters are learning techniques from peers in knitting circles and storefront craft workshops instead of from their parents. It means there are a lot of enthusiastic amateurs out there who are thirsty for projects to inspire them and teach them more." says Becky Stern (in an interview by Bertram Niessen, 2010: p103). Niessen also enlightens that according to the followers of the peer-to-peer economy theory, we are entering a period of ever more socialized innovation which is accompanied by a new and more radical DIY-culture where also material production becomes diffused and networked (Bauwens 2009; Arvidsson 2008), benefiting from tools provided by the web, an increasing number of individuals "exploring the possibilities given by open 2.0 manufacturing and distribution in fields such as design, architecture, clothes and prosthetics". (Niessen, 2010: pp13-14). If fashion openness would function as a paradigm i.e. all the fashion in the world would be at least made on-demand, there would be no need to produce huge volumes of garments that would have to be sold and quickly discarded. This is the problem of ready-to-wear fashion, which Margarita Benitez tackles by building community-based online tools for small scale "ready-to-make" (prêt-à-faire) fashion³. In a more open source mode and advanced technology, one could download, purchase or create a whole collection, and get the fashion novelty sense of fulfillment from that, without even materializing the garments before the actual need for use.

As von Busch compares fashion to religion, I also see many similarities. Our relation to religions is similar to our relation to fashion, and open fashion represents some sort of "spirituality". We may have fashion as a religion - with rules, hierarchies and causalities - or then we can practice fashion "spirituality" and stay open-minded in order to find what the "fashion me" really is. There is no "Fashion God", because everyone embodies the "divine energy" of fashion.

4.1 THE SHIFT OF THE POWER STRUCTURES

"We know fashion engages many, but how can the many engage fashion?"
(O. von Busch, 2009)

Democratization of fashion

One of the most significant reasons for the democratization of fashion in the 21st century focuses on the rapid modes of communication (Lynch & Strauss, 2007: p1). The internet or Web 2.0 played a prominent role in marketing strategies of fashion companies as well as the relationship between the people and fashion. Founder and editor-in-chief of The Business of Fashion, Imran Amed, speaks out that "successful brands aren't defined by a set of rules conceived in the control tower of a company's headquarters and broadcast to the world. They are ideas that live in conversation with the world. They can't be dictated. They must be nurtured. It's a serious wake-up call for a PR team that is clearly living in the pre-digital age"⁴. Amed refers to the PR team of YSL, that gave the editorial staff some headache by complaining about BoF's tweet and incorrect use of their brand name. The PR department also disliked something that a BoF columnist wrote, and the editorial team wasn't welcomed to YSL's shows anymore.

Fashion has always held a sign of exclusivity, and today the elitism is fostered by the stardom culture, the financial and cultural elite and the press. "The production of value in fashion is inextricably linked to the narrative of the label, the surrounding media discourse and shared cultural valuing" (Lyng-Jorlén, 2010: p139). Until the 19th century the elite was the aristocracy, but then the social structures changed and the West moved to class society. The fashion "power" was passed on to the wealthy bourgeois, the dominant upper class, and fashion became increasingly democratic when everyone, regardless of rank and status, had a right to look fashionable. Immigration brought the influence of ethnicities to fashion. Due to the technological advances in clothing manufacturing (lock-stitch sewing machines in 1840, embroidery machines etc.), distribution and logistics (railway, steam and telegraph systems, later transportation), fashionable clothes became widely available and international dressmaking business was enabled (Lynch & Strauss, 2007: p3). The population increased and money economy developed. Interest in fashion as a topic was aroused as fashion changes were taking place more and more rapidly (Kawamura 2005: 7). Over the last few decades, fashion has become even more "democratic": today mass media and the internet enable trends to be followed by individuals with initiative and one no longer needs to travel to observe international trends. We might be photographed



Photo: Juuso Noronkoski. Published with permission. Taken for a *Basso*-magazine 4/2010 fashion editorial "Muodinmuutos" (style and text by Lisa Martelin & Natalia Mustonen), in which the models, friends of the stylists and shop personnel could borrow 3 random pieces of clothing or accessories they preferred. Stylists built the ensembles from the unpredictable selection which they could not influence. Items of this photo are chosen by the model, 4-year-old Frey.

for a street-wear webpage and anyone can set up a blog, basically participating in the fashion system. The trend of mass-customization allows consumers to choose some of the features of the products (Nike i-D) or even to join brand workshops to recycle and customize garments. Still it is usually done within a strict framework, calculated by PR people. An equally accessible and egalitarian “democratic fashion” is not possible, but in von Busch’s (2009: pp32-35) view, there is a real opportunity offered to “talk-back” to the system, and he wants to go far beyond the recent “democratization” of fashion. The next step of democracy would be to have even greater impact on the fashion items in the form of “prosuming”⁵ - not only participating in the changes in fashion, but in the development of actual goods that can be personalized and customized to one’s fit and desires.

Post-industrial fashion

In “Three Lectures on Post-Industrial Society” (MIT Press, 2009) Daniel Cohen argues that the capitalism of the twentieth century was constructed around a central figure: the industrial firm. 21st century capitalism is engaged in “systematically dismantling that industrial society” and tasks not considered essential are now assigned to subcontractors, the engineers are grouped together in independent research bureaus, nobody comes across workers anymore. Actually the number of industrial workers is declining but there is still the world of objects. Objects cost less to make, so the proportional value of production is shrinking, but they continue to increase in volume at the same rate as before. Cohen presents several options to define the transformation. One of them is a shift to a *service society*, using the classification into primary (agriculture), secondary (industry), and tertiary (service) sectors. Service society means more direct contact between the producer and the client. In the *new economy* the most expensive unit to produce is the first one (which might be changed due to the development of 3D-printing technology). *Information* has the most value, whether in the form of a digital code, a symbol, or a molecule. Cohen observes that post-industrial society widens the gap between the imaginary and the real. But what is post industrial fashion? If the industrial era was mainly about designing products for the masses, in the “post-industrial digital era, the masses themselves are seizing the chance to design, manufacture and distribute products” (van Abel, Evers & Klaassen, 2011). The value of goods in post-industrial fashion lies in the immaterial production, such as marketing, service or production process strategies rather than manufacturing. Even when the consumer pays for a tailored piece of clothing, it is not only about getting a good quality but also expressing one’s lifestyle (von Busch, 2009). Post-industrial fashion is highly dependent on the collective mindset and therefore the most effective intervention on the paradigmatic level (Meadows, 1997) might be more probable to succeed.

Post-industrial fashion can also be approached from the temporal process perspective: fashion that emerges *after* industrial production. Or fashion that comments the industrial paradigm. Deconstruction could be one approach to post-industrial fashion. Derridean deconstruction as a movement within literary criticism “seeks to expose the text’s contradictions, instabilities and unexpected relationships and stretch meanings beyond boundaries, pushing textual meaning to its limits, in order to discover the differences within the text, the ways it fails to say what it means to say” (Wilson, 2010). Used in a fashion context, if the modern (pre-deconstruction) criticism and fashion industry could be paralleled, “deconstruction makes the construction of the garments explicit and destroys the principles of it as well as of fashion’s underpinning structure - hence its French coinage *La mode destroy*” (Wilson, 2010: p142). The anonymous myth maker, Martin Margiela, is a deconstructor of a garment and a re-designer or reassembler of second-hand clothes. The “replica” garments and the many “unfinished” designs that bring to light their construction and assembly “instill the garments with an internal dynamic of exposure and concealment”; the “traces of the production process are literally turned inside out” (ibid). Amateur models, the street as catwalk, hidden faces, puppets, all pursue the idea of “in-famous” and embedded in these tangible objects is the subtle questioning of the naturalized constructs of the fashion system. For Wilson, Margiela is *fashion on fashion* - both as garments and as a system - *meta-fashion*. Not anti-fashion nor is it in opposition to fashion: it renders the construction of fashion garments explicit through craftsmanship. Deconstruction offers us an abstraction of fashion as garments and system, a reflection of fashion, in which naturalized, taken for granted, practices are both exposed and modified. Punks have deconstructed in their own way since the 1970s, underlining the DIY-culture and created their own “post-industrial” fashion. Of course, they did not want to call it “fashion”. Punk styles first emerged in London as a way of visibly and symbolically protesting against accepted categorizations of class and gender (Lynch & Strauss, 2007). According to Wikipedia, the DIY punk ethic “applies to simple everyday living”, such as sewing, repairing, modifying clothing rather than buying new clothes. In the 1980’s punk-style was adopted and capitalized by some fashion designers (Vivienne Westwood, Jean-Paul Gaultier) and instead of being “anti-fashion”, became fashion. In the 90’s when the economic crisis hit again, another “anti-fashion” emerged: grunge and its thrift store chic. In 2000’s, “punk-style” and “grunge” became fashionable and did not have the straight relation to the countercultures anymore, even though we are again struggling with economical and social problems - and on top of that the environmental crisis is broadly recognized.

What is the relation between post-industrial and pre-industrial fashion? According to Leadbeater (2009: p27)

the culture created by the web is a potent mixture of post-industrial networks, the anti-industrial ideology of the counter-culture and the revival of pre-industrial ideas of organization that we marginalized in the 20th century. People are certainly craving for authenticity, hapticity and locality in products as a counterweight to the increasing digital dominance. Pre-industrial fascinates to this end and the post-industrial mediums can serve to connect and inform to enhance the “pre-industrial” activity.

4.2 EXISTING EXAMPLES IN THE CONTEXT OF CLOTHING-FASHION

This chapter explores and presents some examples of fashion that has somewhat adopted the open source philosophy. The fashion-hacking practices have a methodological and even politically flavored approach, based mainly on the principles of soft-ware hacking. They talk about “codes” and “building-on” a system. Otto von Busch’s *Fashion-able, Hacktivism and engaged fashion design* (2009) is a central publication about open source philosophy in fashion, and one of the sources of inspiration for this thesis. An international project called Openwear pursues to embrace the “fashion openness” in a more holistic manner through its website and web-community. One of the significant outcomes of this project is an e-book, *Openwear: Sustainability, Openness and P2p Production in the World of Fashion* (2010), that is constantly cited in this thesis. Two commercial examples, Threadless and Burdastyle, represent different levels of openness. The former is based on crowdsourcing, and the latter on handicraft hobby. All the existing “fashion openness” is not encompassed in this thesis, but the examples aim to comprehend the nature of fashion openness emerging today.

Hacking Couture and fashion hacktivism

Hacking Couture⁶, as presented previously, is a concept created by Giana Gonzalez. It combines open source theory and fashion (interview by Scaturro, 2006). Otto von Busch’s⁷ “fashion hacktivism” means the hacking of fashion merged with political activism, i.e. it brings in the social and environmental aspect. “It is the modification of systems, programs or devices to give more users access to action spaces that were otherwise unavailable. These new spaces are shared within the community for others to build further on” (von Busch, 2009: p75). In Hacking Couture, workshop participants de-program material and sign systems of famous brands, to open their expressive source code into various forms of charts and diagrams. Using the brand maps, participants then make their own interpretations of the brand in a form of re-making, for example “Guccifying”, their clothes. Workshops educate to read the fashion code and use it to create a new code - the participants become fashion programmers (or fashion DJ:s, samplers, remixers). Hacking becomes hacktivism, when the action goes beyond

the personal or collective self-expression and generates a purposive input to the system (or a least aims to do so, similarly to any kind of activism).

“Hacking” is associated with digital deconstruction and illegal network activities. Basically it is a mindset of adding a small contribution or component to a larger system and tuning this system’s processes into more desirable directions. Hacking does not aim at destroying the system, but to modify and advance it, “because you love it, not because you hate it” (von Busch, 2009: pp41-42). “Fashion hacktivists” work together in workshops on as equal terms as possible. The input of the designer in this process is his or her inspiration and vision as expressed in patterns, prototypes, operating instructions and practical advice, providing tools to engage and become “fashion-able”, instead of being passive listeners or choosers of existing consumer goods (von Busch, 2009: p29). Von Busch’s book aims to “offer participatory frames of reference for fashion designers who would like to develop their practice towards social inclusion and the spread of craftsmanship, knowledge and affection”. Von Busch brings forward a number of different approaches to understand and develop the role of the fashion designer in relation to engaged forms of consumer participation and enhance social change. The ambition is to increase the variety of both what it is possible for the fashion designer to achieve and to better equip him for his role as an “agent of intervention” (von Busch, 2009: p27).

Workshopping is a common way to practice couture hacking or fashion hacktivism. Gonzalez’s workshops offer the code-exploration of fashion brands and participants are encouraged to hack that code. One of the example workshops von Busch executed was Swap-O-Rama-Rama. The entrance ticket to the workshop was a bag with obsolete clothes. All the raw material (the unwanted clothing) was put in a big pile where the participants could choose any garments for remaking. Finally the outcome was presented on a catwalk. The project was not only about redesigning clothes but also sharing skills and making friends (von Busch, 2009: p289). Von Busch (2009, pp94-100) also talks about craftivism (additionally called NeoCraft or NuCraft) that combines crafts and activism. Crafters raise political questions, act against consumerism and comment the “unproductiveness” of crafts by knitting or stitching. Cat Mazza, for instance, knitted a helmet hood, similar to the one used by American soldiers, for every member of the senate, as a reminder to end the war in Iraq. The Internet made this project visible and made it a part of a larger political discourse. Another fashion hacking method is “shopdropping” where modified or alien products are placed to the shelves of the stores.

Before even starting his research work, von Busch made “instructables” for reforming and upgrading clothes. His step-by-step manuals were like cookbooks that became a

Copyleft library called “recyclopeda”. He also created a radically democratic fashion Copyleft “zine” Syntax/144, which is a “symbiotic method embracing a synergetic and open programming of fashion activism” as well as “an exploration in how other modes of production might create wider multitudes of fashion promoting local talent, flows and expressions”⁸. Von Busch’s intention is not a rebellion against the system or an elevation of subcultures or counter-cultures who aim to subvert fashion, or simply a new style. Fashion hacking is about the symbiotic and open participatory ecologies between actors engaged in fashion – it is not about designs but rather modes of production. A common misunderstanding has been that such ideas create a situation where everyone has to sew their own clothes. In von Busch’s experience, rather the opposite has often revealed in his workshops - as participants get to understand more of the craftsmanship behind fashion they learn to appreciate the ingenuity of material, colour, drape, cut, and pattern making. “Inclusion intensifies affection and works as a complement to the established ready-to-wear fashion”. The question is not about “everyone” being engaged, but rather “anyone”. Von Busch wants to escape conventions by building on traditions in a collaborative way and to ultimately offer new tools for action to fashion designers. (von Busch, 2009: pp25-26) He wants to reveal the pride in the craft skills and encourage people to understand the word through quality instead of consumption.

For Gonzalez, in a successful hack of a fashion brand, “the designer/contributor includes the core elements of the design code as part of their design, although they do not have to include all of them. To a certain extent, the new creations are ‘part’ of the same species, but not exactly of the same kind – anyone can visually connect the elements of the design and then relate them to the same family”. The decoding tool to understand a brand and the skill to use its core successfully in one’s design is essential to any designer working for a brand that is not one of his/her own. A similar method is sometimes used in fashion education in order to teach the students this skill (I have personal experience of this method from my exchange studies in University of Buenos Aires). Couture hacking gives no limits for personal contribution. One way for fashion brands to practice fashion openness would be to organize worldwide workshops for enthusiastic users and designers to create their own visions based on the core of the brand, share them and send them back to the brand. The best designs can be voted for (as in Threadless⁹, presented later in this chapter) or chosen by the brand, awarded and/or brought into the production.

Openwear

Openwear is not only a book (2010, curated by Bertram Niessen) but also a collaborative platform¹⁰ for fashion creation. More precisely, in their words: “Openwear is an online community where you can share values, access

knowledge and practice of collaborative and distributed work; Openwear is where makers, fashion producers, small local enterprises, educational institutions can network to participating in the production of a new vision of fashion based on micro-communities and sustainability”. In openwear.org it is possible to open one’s own showbox which is a public space to present user’s profile and activities, find collaborators to work with (as a student, independent designer, social enterprise, researcher etc.) and benefit from meeting the community, which provides online tools to discuss ultimate practices of micro fashion production, find common solutions and discover learning opportunities. Openwear promotes the alternative approach to fashion through a series of Collaborative Collections, that are freely downloadable and customizable. The garments can be produced and sold under an open source collective brand. The main objective of the EDUfashion project Openwear was to foster community, collaboration and innovation to provide a new vision and practice for fashion. Their main goal was to support the “dissemination of knowledge, skills and practices so to empower a self-managed workforce, in order to create an alternative learning environment for sustainable garment crafting and selling”. Openwear wants to reframe corporate culture and consumerism for a new form of entrepreneurship creating businesses as a way of achieving and sustaining social goals. In Openwear’s view, re-imagining branding tools and intellectual property has potential to “foster social bonding and redistribution of value instead of exploitation and accumulation of rent”. Openwear sees online community as a new public space where to share knowledges and skills is to produce culture and wealth (Niessen, 2010: p7).

In my view, the Openwear project is the closest and clearest concept in terms of what can be called “open source fashion”. In the scale of fashion openness it is the most open global platform to create fashion. It even offers a downloadable kit that a researcher, educator or professor can utilize in his/her classes. Openwear book (Sustainability, Openness and P2p Production in the World of Fashion)¹¹ discusses and introduces several themes that are central to open source fashion. The e-book is based on research reports produced during the first year of the EU financed project EDUfashion, a two-year project for development of the platform. The book starts with an argument that we are experiencing a twin trend diffusing across the fashion sector. “On the one hand consumer demand is being increasingly oriented toward ‘ethical’ fashion items, meaning no sweatshop, ecologically sustainable, locally produced, and fairly traded apparel. On the other side, we’re witnessing the emergence of self-organized employment focusing on independent, socially engaged, critical and multitasking creative production driven more by communal needs than market imperatives or consumer fads. We think that here lies a new perspective on fashion that can be translated into reality by exploring the forces that are behind these consumer and producer trends”.

Commercial example no. 1: Threadless

Threadless¹² is an apparel (t-shirt, hoodies etc.) concentrated company based on crowdsourcing¹³. The object of design is the print of the garment (not the garment itself). The members (2 338 646 of them in December 2012) make the designs, which are then voted by other members, manufactured by the company and sold online to the members. By December 2012 there have been 248 338 submitted designs, and 1347 artists have been awarded altogether with 7 120 000 dollars. The platform of Threadless has four sections: make, pick, play and shop. The first one provides tools for designing, starting with an own idea or improving others'

ideas. The second section is for "picking" others' designs: scoring, giving critique and seeing the awards. The play-section is a forum and a section for different themes such as "threadspotting" and "artist stories". The fourth section is the shop, which offers five subsections: "guys", "girly", "kids", "home & kitchen", "other stuff" and "gift guides". The voted designs are also produced on-demand, which eliminates the leftover garments. This principle and strategy would be interesting to expand to other clothing-fashion practices either as a part of a brand or a part of an open source fashion community.

Figure 14. Cited directly from Openwear.org.



OPENWEAR.ORG

Openwear is an open brand. Openwear is a type of collective trademark that recognizes the productive role of co-production, engages in strategies that aim at redistributing the value thus produced and seeks organizational solutions that give co-producers a say in determining the overall governance of the brand. Openwear wants to be a practical experiment to institutionalize mechanisms of revenue sharing through which co-creating consumers can benefit from the value that they produce and involve consumers in determining the overall social values towards the brand should contribute to. Openwear community members are authorized to use the Openwear brand by anybody who complies with the standards defined by the Openwear License.

If subscribed to Openwear Community you can:

- download the codes (Lookmaps) of any Openwear Collaborative Collection
- produce garments and accessories based on those codes
- produce garments and accessories based on a customization of those codes
- sell the items labeling them with Openwear brand (link to utilities/label) and also add your own label to it.

If you do so, you agree to:

- Produce handmade or partially handmade the garment or accessory
- Publish on your Openwear profile (link to Open your Showbox) at least one picture of the garment or accessory you produced
- Publish on your Openwear profile (your Showbox) the information necessary to produce the Customized (modifying the original code of the Lookmaps) version of the item or accessory

MANIFESTO:

The era of high fashion is on Sunset Boulevard. The age of mass-customization clothing is at hand. Open Fashion is open to cultures and genders of the planet. Open Fashion is collectively produced style and value, thanks to the cooperation of networked artisans, local hubs and creators of taste. Open Fashion is a process towards ethical fashion, from the rights of textile producers to the environmental conditions in which the fabrics were obtained: a fair wage to all garment workers, a fair share to all p2p fashionistas. Open Fashion is predicated on the premise that open source hardware, software and peer networked social production are radically transforming all sectors and industries. A commons-based peer-production economy is emerging and open-source fashion will be its stylistic apparatus. Open Fashion is locally harvested, globally consumed and its customers are direct creators. Fashion is increasingly immaterial, and legions of immaterial laborers are behind its wealth and power. Open Fashion is enlivened by the creatives precarized by the Great Recession. Street fashion doesn't exist: the poor have style, the rich have fashion. What exists is a world space of fashion media fought over by established and emergent actors in old and new fashion capitals.



Figure 15. Openwear-instructions from the kit for researcher, educator or professor.

THE INSTRUCTIONS FROM THE KIT FOR RESEARCHER / EDUCATOR / PROFESSOR

- ➔ Set up a session for students to discuss about Openwear main concepts on the base of Openwear Brand Manual (you can find the PDF in the kit)
- ➔ Find more resources using our database of links <http://www.delicious.com/edufashion>
The research is facilitated if you explore our tag and tag bundles here: <http://www.delicious.com/tags/edufashion>
- ➔ Create a Local Hub/Educational Institution profile on Openwear
- ➔ Choose and download one or more Lookmaps of Openwear Collaborative Collection at this link <http://openwear.detextive.net/lookmap/>
- ➔ Set up a session for your students to analyze designs and instructions. Use the Openwear Program Guidelines (you can find the PDF in the kit) of the kit for ideas on questions and topics or find inspiration in the Openwear forum.
- ➔ Assign a Lookmap to each student or group of students and make them produce the garment (+ filling technical form) as it is or making a special customization with the focus on collaborative interactions. Customization means changing the original pattern. Take pictures of the work in progress and upload them to your profile or have students opening up their Personal/Student on Openwear.
- ➔ When students complete their assignment, each one give a presentation of the item created and explain the reasons why.
- ➔ Open up a post in the Openwear forum in the section “Engage your class” and add some highlights that came out during work or interact with other schools involved in the activity
- ➔ Send the Feedback Form back to us and the pictures + technical form of the 3 students/group of students that got better feedback from the class: they will be featured on Openwear website with their work!

Commercial example no. 2: BurdaStyle

Burda Style¹⁴ is a fashion magazine, familiar to many, and published today in 16 languages, in over 89 countries, it has provided fashion and sewing lovers with patterns for over sixty years. It was the first Western magazine to be published in Soviet Union and China. Today they have an online community called BurdaStyle which contains a pattern store (the price of one pattern is around 5 euros), a projects section (where both the community members and BurdaStyle exhibit their projects to inspire others), resources (“collaboration is the heart of our mission”), a forum, a blog and a gallery. In the Resources section of the website there is a great amount of instructions and pieces of advice about sewing and other DIY, posted by BurdaStyle

or the members. In their Forum section they write: “While creating BurdaStyle, we were captivated by the open source philosophy: the sharing of intellectual property and allowing the public to adapt it to their specific needs. We assimilated the concept to BurdaStyle, removing the copyright from our patterns. Our open source sewing patterns are free to be used as a base for your own design. Whatever you sew, you can sell if you like. We believe that removing copyrights from our designs will inspire creativity and spawn multiple new designs – and that’s wonderful!”¹⁵ BurdaStyle seems to gain profit from the patterns available in the store, from the advertisement space on their website and internationally distributed, legendary magazine Burda, which is also still sold worldwide. The *intellectual property* of the patterns

is free, meaning that one pays for the *piece of pattern* - not the *design* of the pattern. The design is free to use for any purpose, can be modified and preferably (not compulsory, of course) shared back in BurdaStyle community. There are also community members who run their own databases online, sharing free downloadable patterns and guides.

Other fashion openness

Fashion openness can be identified among the fashion giants such TopShop, that offered craft workshops, “*Topswops*”¹⁶ (“Topshop wants your rubbish”), in some stores. Topswaps invite stylists and designers to make visitors rethink the fast-fashion cycle (Fletcher, 2008). Also Swedish *Weekday* (owned by H&M) sells second hand clothing in their stores. They have in-store-studios for printing t-shirts. Today, besides the traditional Burda-like crafting publications, multiple fashion magazines and innumerable amount of blogs provide customizing advice and handicraft instructions. *Etsy* is a huge online handicraft community that combines professionals, pro-ams and amateurs - in the similar way as *Shapeways* brings together the 3D-modeling and -printing enthusiasts. *Antiform* is a “forward thinking fashion company” aiming to “push the boundaries of ethical, sustainable design by using reclaimed materials and mixing fashion forward shapes with heritage craft”¹⁷. All of the materials and workmanship involved in their production is sourced within 20 miles of their studio boutique in Leeds, Yorkshire. The company is run by local designers, researchers and communicators, who are also available for lecturing, installation work, curatorial projects, undertaking research, consultancy, freelance design work, sampling and ethical production. If one wants to recycle one’s own clothes, Antiform has a partner organization, *ReMade in Leeds*, who runs upcycling events, clothes swaps, recycled fashion courses and workshops in the Leeds area. Another company like this, *Here Today Here Tomorrow*¹⁸ is a “collaborative and experimental shop/studio that is used to make, showcase and sell sustainable fashion and accessories”. Their aim is to connect the customer and local passer-by to the processes involved in making the products, because they believe that showing people the materials, skills and time required to create unique products by hand encourages customer engagement and understanding. Their work “focuses on different elements of sustainability including high quality handmade craftsmanship, durability, locality, recycling, natural dye, organic materials, individuality, fair trade and transparency of production”. They hope that in the future “sustainable fashion will be about longevity of products, beautiful design, reconnecting with nature, understanding limits and recapturing values”. Returning to Otto von Busch, he once invited six designers to a century-old shoe factory to merge with the workers (production) and to create new interfaces. He wanted to “try to probe nonlinear means of action and co-design, open for spontaneity and crafty interventions during the normally strictly

linear production process”. Unique shoes were made as a co-creation between designers and craftsmen, but what was most important: the collaboration was fun and educative for both. Designers learned more about the shoe craft, the factory workers became more *fashion-able*. (von Busch, 2009: p323). This method could be beneficial to “upgrade” or “update” forgotten local factories, though famous classics are wanted again (Barbour, Burberry, etc.).

In Finland, Liisa Jokinen has contributed actively to opening fashion structures driven by sustainability goals. She has operated a Helsinki streetwear blog *Hel-looks*¹⁹ for many years, together with Sampo Karjalainen. *Töölö Fashion Institute*²⁰, an imaginary fashion institute, founded by Liisa Jokinen, Aki Luomanpää and Suvi Saloniemi, organizes open workshops called “saumuriralli” (serger rally) for like-minded DIY-fashionistas and recyclers. *Vaatelainaamo*²¹ (Clothes Library), run by Liisa Jokinen and Hertta Päivärinta as a part of Nopsa Travels, lends clothes and accessories, for a small seasonal fee and is sponsored by many Finnish designer brands. Hopefully these projects inspire the Finnish designers to search for alternative service concepts as well. There is also *Pukuhuone*-website, which is a project created by several fashion professionals and enthusiasts. The role of Pukuhuone is rather educative: it talks about sustainable fashion, guides to responsible products and inspires the user to create his/her own, environmentally friendly wardrobe. Pukuhuone is a good example of “open fashion”. On company level there is brand *Nomo Jeans* which makes relatively inexpensive (169€) jeans by customer’s measures using a 3D-body scanner. They have stores (one in Helsinki and one in Hamburg), and after being measured once, the customer can order jeans online. Nomo Jeans does not offer the possibility to engage the design itself, but the garments are made on-demand and perfectly customized, which probably fosters the emotional attachment to the jeans, hence the concept is sustainable in many ways: no obsolete production, no transportation (if purchased in the store) and long-term use.

There is also an open source fashion community in New York, which arranges meetups, offers consultation and some services for fashion designers in order to form networks etc.²² The crowdfunding company Fashion Stake (<http://fashionstake.com/>) was relevant only for its advertisement techniques (Niessen, 2010: p57) and in the beginning of 2012 it was bought by Fab.com, whose CEO Jason Goldberg explains their action in Forbes-magazine (13 January 2012): “We’ve taken a highly fragmented market with thousands of suppliers and married that with a consumer model that values product more than brand, price more than luxury, exciting more than generic, color more than bland, and where witty and humor and stories to be told bring products to life”²³. Fab.com is a social platform, good at curating and sharing, and it connects independent designers with con-

sumers. Goldberg describes the company's belief in design and its inspiring effect, and their ambition to make it easy for their members to discover inspiration and share it with their friends. Goldberg also states that their "Inspiration Wall" and "Live Feed" are the beginning of "social shopping". CEO and co-founder of FashionStake adds that "the future of discovery revolves around who we're discovering from"– e-commerce will become inherently social and the trusted individuals (celebrities, influencers in a particular vertical, or even friends), will be curating products and making them known to consumers.

There is an innumerable amount of fashion games, fashion software and other platforms addressing fashion in the web. Most of them are probably cumbersome or unattractive - at least for a "fashion conscious" adult. For example in my experience fashion design games at <http://www.azdressup.com/>

or <http://www.fashionplaytes.com/> are appealing only to children. Actually they only foster the frivolous and shiny sides of fashion. I am sure there are no designers behind these platforms. There is also a lot of different chargeable software for designers: from 3D-services to pattern making tools. Until now, apart from Openwear.org, I have not found a platform in the web that I could call both open and valuable from designer's point of view.

4.3 ENABLERS & TOOLS OF FASHION OPENNESS

In fashion, the most self-sufficient manifestation of openness is DIY. For Niessen (2000: p16), the increased interest towards Do It Yourself comes as no surprise because even in the flourishing age of mass production some individuals continued to make things on their own.

Figure 16. Niessen (2010) lists the features that characterize the present-day situation of DIY giving it new perspectives.

DIY TODAY

1. open approach from the point of view of copyright
2. peer-to-peer production and co-creation
3. unforeseen chances given by technology, both from the point of view of production (desktop manufacturing) and circulation (platforms for sociability)
4. cross-fertilization among different know-how and disciplines
5. technology revisions: a core technology gives rise to new implementations of existing projects
6. technology clustering: groups of products tend to cluster around a core set of technology and integrate with one another
7. customization/specialization: with free and open source software small groups are capable to customize a large project to specific needs
8. green motivation: a tendency to reuse and recycle that is frequently a conscious refusal of planned obsolescence of mass-produced goods
9. rise of the professional amateur: an emerging field in-between hobbyists and professionals
10. quest for authenticity: many of the actors involved in makers culture need to compensate both the lack of human face-to-face interaction in virtual worlds and the feeling of alienation generated by mass-markets
11. emergence of grassroots economies that moves the focus from mass production to ethical, personal, political and sustainable values of the goods
12. overabundance of law-paid creative workers that have developed a different conception of the value attached to their work
13. viral diffusion of culture and tendency to post-subcultural aggregations
14. rising of the open innovation start-up movement

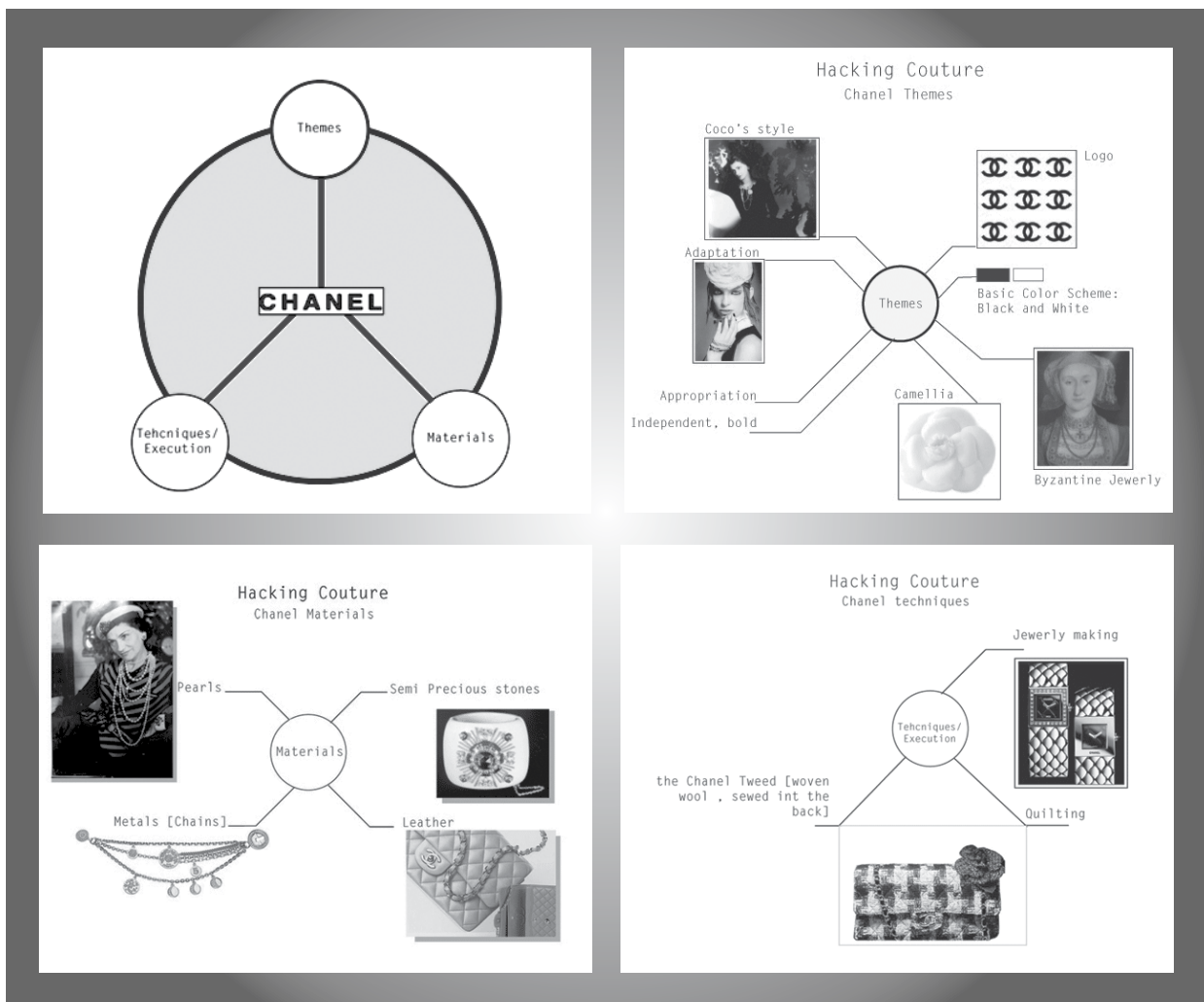
On the grounds of already existing examples and previously presented material about openness and fashion, and presenting some suggestions of researchers, this chapter seeks the means and the methods of making fashion openness possible. The fundamental enablers of openness are the evolution of information and communication technology, which provide the main characteristics of openness: *collaboration, transparency, sharing* and *empowerment*. The main drivers are the environmental, economic and social crisis and insecure future of our civilization. Other drivers could be the increased demand for personal creativity accompanied with rapid and precise materialization of desires. What are the necessary conditions for openness? Openness denotes opportunities and possibilities due to its open-ended character, similarly to the chaos theory, in which the important point is not the composition of the system, but the dynamics it creates and its processes (Bello, 2010:

p102). What aspects would improve these dynamics? In this chapter I talk about the strategies of fashion openness; the unfinished and undefined characteristics of an open design product/process; the design literacy and skills, essential for the contributors to gain and educate; the infrastructure enabling fashion openness projects through providing the tools to manufacture and interact; and finally the possible business models that could both motivate and facilitate open source fashion activity.

Strategies

In order to begin a fashion openness project, one must think of a suitable strategy that enables the open source approach. Giana Gonzalez describes her strategy to open the fashion code in the Hacking Couture-project as follows: “The current structure of the documented code is static, but

Figure 17. Hacking Couture by Giana Gonzales (OS-licence).

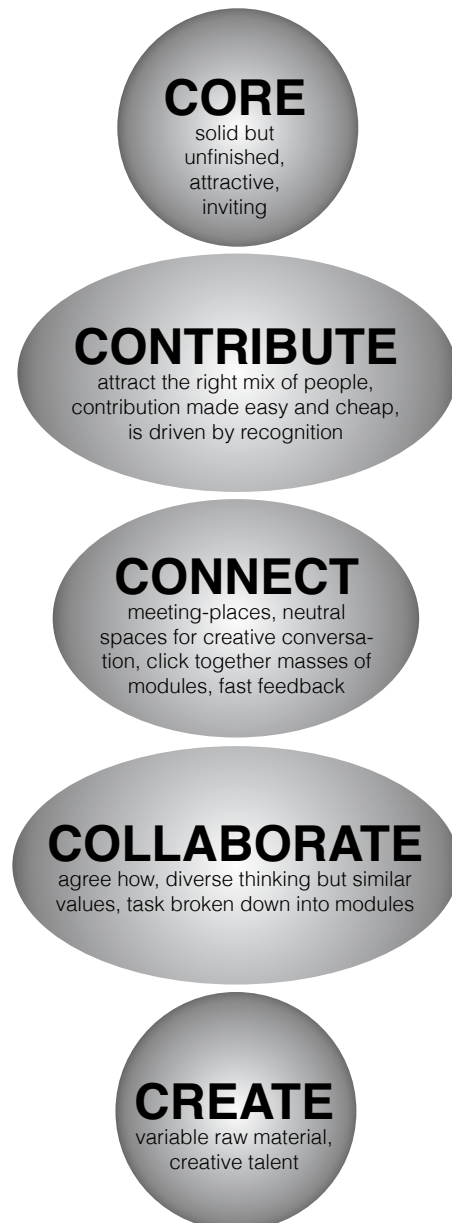


we are working on a way to allow the public to input ideas or new elements into the code. Ultimately there will be a fluidity, as the library will document both existing and revised codes. This is just one of the challenges of this project. The main challenge is trying to reverse-engineer a brand by creating a strict set of design rules which are then broken to some degree. First, we must determine the digital (or visual) aspects of a brand, for example Chanel's main color scheme is white on black. The next step is documenting the analog aspects of the code, which we do through looking at the representations of a designer's works in advertising and editorials." (Scaturro, 2006) One of the codes Gonzalez offers in the Hacking Couture-project is the code of Chanel. Gonzalez first shortly describes the main characteristics of Chanel, such as its traditional materials, use of pearls and chains, its basic color palette of black and white and the inspiration of designs, derived from the personal style of its founder, Coco Chanel. Then Gonzales derives three aspects - themes, techniques/execution and materials - and presents an analysis of each in following form²⁴:

This is one strategy to practice fashion openness: first finding a way to analyze (decode) a brand or any part of a fashion system and then to insert a personal contribution to it. Using collaborative platforms of internet, the hack can be placed back in the system and this effort can be seen either as personal expression/contribution, or a part of collaborative synergy. Von Busch (2009) believes that the social knowledge of craftsmanship would engage in the development of skills and action spaces, creating synergy where the most symbiotic instead of most competitive win. His strategy is to open action spaces in order to become "able" which is more a question of *access to skills and tools*. Charles Leadbeater presents basic strategies and tools for opening systems in his book *We-Think*. How something becomes "open-source"? Why would people want to participate, interact and contribute? How to empower the ones who want to be active? Leadbeater argues that there are five principles, which should be present in a successful open (*We-Think*) project.

Motivation is the fundamental enabler of fashion openness and it is essential to find ways to attract people to participate in design and production processes. According to Stappers & co (2011) awakened expertise can lead to confidence, inspiring users to take responsibility and initiative, participating in co-creation²⁵ or co-design processes. One of the strategies is to "lead user approach" by selecting subgroups of dedicated, tech-savvy users that are eager to contribute to the process of generating solutions (developing new features for products). This approach serves only the needs of specific skillful subgroups, but still challenges the traditional design process. Stappers & co also suggest *context-mapping*, a specific aspect of co-design, in which end users are the expert informants becoming partners within

Figure 18. Five principles of We-Think. Leadbeater argues that there are five principles, which should be present in a successful open (*We-Think*) project.



the design team, having access to tools for observation, reflection and expression. Professionals with a design and /or research background create these tools and facilitate the processes (ibid). Additionally, Niessen (and the Openwear-project) believes that the success of open source or P2P-fashion projects is connected with the importance given to different local contexts: grouping actors routed in their territories and used to produce clothes in a material (offline) world that is locally defined. Each local fashion system has a different structure, according to “the different kind of historical productions; the presence or absence of small producers at different steps of the production process; the networks in which the area is involved; the kind of educational and non-educational institutions rooted in the area; and the size of the context and its rural or urban nature.” Local scenes are related to the world of *subcultures*, often meaning the styles and attitudes like the ones of punk, mods, hippies, etc. Niessen argues that nowadays there is a tendency to *post-subcultural identities* which means that people are going to integrate different values, icons and elects of styles in a less structured way. Simultaneously most consumer and user communities can be partially seen as subcultures and to Niessen this is a crucial point: in order to get in contact with the local contexts we have to establish direct connections with subcultural gatekeepers (local actors with a notable subcultural symbolic capital). *Local hubs* are the physical spaces relevant for networking. According to the characteristic of different local contexts (or specific subcultures) they can be shops, laboratories, associations, cultural institutions, schools, markets, art centers, informal aggregation centers. *Stakeholder mapping*²⁶ can help to create environments and provide easy-to-use and accessible tools for visualization and making. Fuad-Luke (2009: p177) points out that when planning *events*,”their success depends on good planning, communication, facilitation, application of appropriate tools and techniques, information capture, dissemination of results, and some form of measurement of action on the ground”.

Joan Farrer, who sees the consumer as the major source of the problem in achieving a sustainable fashion industry, compares mass consumption to small retailers, who have the flexibility to try innovation, perhaps to make locally, using ethical trade, connecting maker and consumer, or can trade online with a first sample range, then produce the numbers in the correct sizes, almost a “buy before you make and produce”. She calls this a *customized system* (Farrer 2011, p22). For small entrepreneurs the most important features are creativity, reputation and quality - these values are also essential for peer-to-peer-ecologies (Niessen 2010: p41). The fashion system is characterized by abundance and distribution, the two conditions that Bauwens identifies as necessary for the emergence of peer production. “Abundance of signs is a keyword in the world of fashion: all the actors are constantly involved in processes of creat-

ing, re-creating, transforming and mixing. Distribution is fostered by the general trend of user generated contents and the blogosphere is documenting and making accessible this whole amount of creativity. In a P2P perspective, both these aspects have to be implemented and systematized. Re-appropriation and bricolage can be seen as the first steps in a path towards the establishment of a conscious co-design process oriented towards a commons perspective” (Niessen 2010: p43). During the co-design processes it is essential that a right kind of synergy takes place: this can not be controlled. Successful projects would be creative and high quality, and gain good reputation among the peers. There are greater possibilities for fruitful synergy if the platform or event is designed well. However, the key factor behind these projects should be the creation of social and individual action and change of behavior rather than designing objects or concepts. Open source fashion design aims to intervene in the paradigms of the fashion system(s) - not only the information or material flows, and not even the rules or other details of the system.

Unfinished and undefined

In addition to a general strategy of a fashion openness endeavor, the characteristics of the process or/and the product determine its accessibility of action spaces. Sociologist Erving Goffman discovered that the most successful and sophisticated advertisements were “half-finished” frames which invited the consumer to fill in the remainder of the picture (Leadbeater, 2009). According to Rissanen (2011: p99) extending the use life of a garment may be achieved through design and pattern making that enable transformative practices such as repair and alteration. The less a garment is finished and defined, the more room the user has to modify it. While doing so, a special attachment is born between the user and the garment. A designer could take this aspect into consideration: how to design a complete but unfinished garment? Changeable components or *modular clothing* is one answer. Transformable garments, which allow to be converted into multiple looks and functions to satisfy various consumer needs and wants, could offer a potential paradigm shift (Koo, 2012; Farrer, 2011; Dombek-Keith & Loker, 2011; Loker, 2008). According to Koo’s research about the design functions in transformable garments for sustainability, *versatility* is the most important reason for preferring specific changeable design functions. Functional, hedonic and social expectations include ease of matching, ease of layering, comfort, usability, ease of care, and durability (usability, care, and durability, were requirements for frequent and long-term use of transformable garments; having fun and being able to experiment with various styles; as well as context aptness and modesty (ibid). The most preferred functions are transforming colors/patterns and sleeve lengths. Koo argues that instead of educating consumers to care more about sustainability, transformable garments can

lead and motivate consumers to engage with sustainable acts *even without their awareness* by offering the satisfaction of the needs and desires. Designers can support this behavior by encouraging consumers to naturally consider transformable fashion while still satisfying their needs and wants, because a transformable garment is hypothesized to be worn for a longer period of time, preventing and minimizing waste in a product's lifecycle, and reducing the amount of materials in the fashion ecosystem (Koo 2012). The designers typically seek to enhance sustainability through making choices within the existing practice of garment design, which addresses *symptoms* instead of the *paradigm* of the fashion system (ibid).

The open source thinking connotes undefined and unfinished qualities per se. Open-ended design cannot offer a closed object, one-way information flow, thus can not be controlled throughout the design process. Uncertainty gives room to contribute as well as possibilities for unexpected synergic innovations. Unfinished design has potential to generate two-way information flows and encourage the consumers to become better skilled. Leaning on a study that looked at people's favorite clothes, Fletcher (2008) asserts that having some control over their garments through making or even influencing the design brings people pleasure and emotional attachment to these specific garments.

Design literacy & teaching skills

Another enabler of fashion openness concerns the contributors' skills. A deskilled consumer believes in the myth of genius fashion designer and in the insuperability of the fashion industry. When one receives the knowledge on how the clothes are made, it becomes clear that the process is not as complicated as it seems. Two generations ago and for centuries before it was natural that the garments were made and maintained by their wearers (Fletcher, 2008: p187) whereas today the ready-made culture separates the professionals from the users. If active, motivated "prosumers" want to express their identities, they need knowledge and skills, which together make up what Rijken (2011) calls "design literacy".

Pro-Ams, who innovate for the pleasure of making thus are not dependent on financial benefit and might try ideas that the industry does not risk to try, are seen to play a significant role in innovation, particularly in emerging fields like sustainable fashion, influencing the market with the workable ideas (Fletcher, 2008: p190). The existing cultural institutions - public libraries, archives, museums, maybe schools and other spaces at their off-time - could organize the exchange of knowledge between professionals, amateurs, pro-ams or anyone who is interested. In such places the amateurs could work on their expertise and professionals teach what they know, and learn themselves at the same time. Rijken (2011) gives an example of such hotspot: a stu-

dio for electro-instrumental music in Amsterdam (Netherlands), STEIM. Also von Busch (2009: p153) reminds that skills and crafts are traditionally learnt through copying and examining the existing products, and by working next to a master. Skills are gained little by little through hard work and practice: in order to become fashion-able, amateurs should learn how they relate to the fashion system, how to navigate and interact with its dominant expression (or go beyond it) and how connect with other fashion enthusiasts. In addition to the web meeting places (Etsy, Fab.com, blogs) the real-world spaces would increase the productive interaction in form of "fashion academies" that function all the time, not only as workshops. Demos organized a weekend event named Koulu (School in Finnish) which gathered volunteers to teach others something that they are good at. It was an alternative "school" where people could learn what they really want to learn, and others could teach what is not taught in schools. The main idea was probably to activate the citizens, bring them together and give ideas to diversify their city life. These kind of workshops seem to bring a lot of pleasure to both children and adults.

Gwilt (2011: p67) notes that there are three key areas that would improve the status of sustainable fashion within the conventional fashion system that dominates the fashion magazines: understanding sustainable design strategies; linking sustainable strategies with the fashion design and production process; and applying lifecycle thinking to the fashion design brief (ibid). First designer must be familiar with the strategies and then start to apply them. For example, an haute-couture designer might work with local artisans or, if making a draped garment, zero waste is easily attained. Designer can apply durable construction finishes or educate the wearer how to consume the garment slowly. And finally, the designer must be lifecycle oriented and the design brief should meet the needs of the environment and society, extending beyond the economically driven conventional criteria (Gwilt 2011: p72). The designers and other fashion professionals are the ones who understand systemic structures and the strength of design is the ability to communicate ideas either visually or in any understandable and appealing way. When the users become more design-literate, it might even lead to the greater appreciation of the professional talents.

3D-technology

Enabling fashion openness starts with defining the action strategy, the nature of product or service and the mapping of contributors (and their skills). Digital manufacturing or 3D-technologies are a somewhat symbol of the "maker culture" and can represent the infrastructural enabling aspect - a physical tool - of open source design. The 3D-printing is even said to revolutionize the industry in similar way as digital technology has revolutionized domains like music

and photography. Developed in the mid 1980s, 3D-technology was first very expensive and used by big companies to make cost-effective prototypes (Atkinson, 2011). Today 3D-printing (also called rapid prototyping, desktop manufacturing or additive manufacturing), is already affordable through companies like Shapeways and simple printers are not costly either. Easy 3D-design and sharing models online empower people to create everyday personalized objects themselves, at home. One may get blueprints and instructions for an open-source DIY-printer for example on Makerbot webpage. The frame has to be lasercut and all the other parts are available at an ordinary hardware store, but the assembly and use requires skills. According to electronic studio master in the Fablab of Aalto University, Jukka Helle²⁷, a simple printer might not cost more than 600 euros, but for many it is necessary to take a 1000 euro course on 3D-modeling, the construction and use of the printer. Companies like Tinkercad, provide less 3D-skilled users with easy modeling software - for free. If one does not want

to design, models ready for printing might be downloaded for example from Pirate Bay's new section: Physibles. Users of Tinkercad mostly leave their designs open. Designer at Tinkercad and 3D-printing enthusiast Pekka Salokannel points out that the technology might be developed faster than we can imagine due to the sharing and open-source-philosophy it contains (Mustonen, 2012). Studio master of the Aalto Fablab, Anu Määttä agrees with the surprises and benefits that open source might bring along, but it also makes maintenance of the machines more challenging and forum-based, if there are no firms responsible for the printers (ibid).

The 3D-hype is evident in the stock market, which shows a the biggest winner to be 3D-Systems Corporation with 172,1% growth in only one year (<http://seekingalpha.com/symbol/ddd>). For Atkinson 3D-printing is a return to a cottage industry model of production and consumption that has not been seen since the earliest days of the

Figure 19. Vision, design, production. Rijken (2011) suggests to conceptualize design literacy at the following three levels, that also interact with each other. Available production tools and infrastructure determine what can be made, so operational skills and tactical choices are often strongly aligned; tactical choices and strategic vision are in relation, for example in case of user-friendly and easy tools, well connected to the production. The users can work in a state of flow when all three levels are active simultaneously (ibid).

<p>1. Strategic vision: know what you want, based on knowing who you are and what you want to achieve -> designers can be inspiring through what they make, but also through showing how they came up with the right vision to begin with.</p>	<h2>VISION</h2>
<p>2. Tactical choices: be able to make choices that determine what it is that you are making. What you are making is ultimately a design that can be produced, in order to make the vision a reality -> open design plays a crucial role in this. Online environments that feature collections of high-quality examples that can be analyzed, used, modified, discussed and re-published hold immense potential. Users need to be able to inspect the internal structure of a design, and then modify and share it. Designers can produce these examples and share their methods and insights in interviews or debates, and design teachers can develop new pedagogical methods and formats.</p>	<h2>DESIGN</h2>
<p>3. Operational skills: be able to use available production tools and infrastructures, the development of vision (strategic), the formulation of a design (tactical), and technical production (operational) -> technical production is the easiest skill, since all it requires is decent interface design for the relevant tools, supported by access to technical knowledge in the form of instruction manuals in print, video, or other formats. Many people can teach themselves how to do this and help each other using social media, such as forums or blogs.</p>	<h2>PRODUCTION</h2>

Industrial Revolution: “What at first glance appears to be a futuristic fantasy is revealed, in fact, to be just the opposite: a recurrence of past ways of doing things” (Atkinson, 2011). Pioneer of 3D-printing, Janne Kyttänen, founder of Freedom of Creation in Amsterdam, has been talking about the 3D-technology for couple of decades, but only recently the companies all over the world got interested, and the amount of FOC-webpage guests exploded (Säntti, 2011)²⁸. Kyttänen believes that 3D-printing will soon be everyday activity and in Hart’s view (2012)²⁹ 3D-printing will “change the world when the world is ready”. Will it be possible for everyone to design and print anything they want, from coffee machines to clothes? Printing would probably first be centralized i.e. processed in special places or companies, or at 3D-specialists homes. Salokannel believes that it is more efficient to divide tasks within the community, resembling the dynamics of pre-industrial times: there is one tailor and one blacksmith in the village. Logistically 3D-printing might be a savior for struggling companies and solution at a moment of emergency when, for example, pilots or sailors could print the exact part that is missing - the tool boxes are not needed anymore. The printer can create anything from digital 3D-models and the printing material is reusable. One can melt the object printed previously and turn it into a new good. Reusing makes printing apparently also cost-efficient and sustainable. It is basically zero-waste and 100% recyclable. Cheap and durable ABS-plastic, Nylon-powder and biodegradable PLA-plastic are the most common materials at the moment, but there are new materials developed every day: for example Filabot-system (<http://filabot.com/>) offers producing material out of plastic bottles and other plastic waste (Salokannel, Määttä & Helle in Mustonen, 2012).

3D-printed fashion is already emerging and it is only a matter of time when it will gain more popularity due to its new possibilities in the creativity of designers. Janne Kyttänen (FOC) and Philip Delamore (London College of Fashion) are searching for seamless, flexible textile structures, using software that converts three-dimensional body data into skin-conforming fabric structures (www.ecouterre.com, Jasmin Malik Chus, 29.07.2010). Dutch haute-couture fashion designer, Iris van Herpen, is the most famous 3D-printing utilizer. Her 3D-printed dress, carried out in collaboration with an architect and Materialise, was named as one of the 50 Best Inventions of the year 2011. Van Herpen made costumes for performers such as Björk and Lady Gaga. Salokannel forecasts that 3D-printing will (and already has) become an important tool for the entertainment industry. It is considerably easier to print Batman-suit rather than make it in any other way. *Cost-effective uniqueness* is one of the main advantages of 3D-printing. The cost of product is bound to the cost of the material - not the mold, human hours, transportation and waste costs. The 3D-printed fashion today concerns mainly accessories: hats, bags, jewelry, eyewear. In 2010 Pauline van Dongen presented a futuristic

style Morphogenesis-shoe collection, which could not be completed using traditional shoemaking techniques. The first affordable ready-to-wear object is N12-bikini, designed by dutch Continuum Fashion and produced by Shapeways. It is available for purchase. 3D-printed clothing might become everyday, if the technology becomes easier, cheaper and faster, the materials more flexible and softer, and the structures smaller - and in Salokannel’s view this might happen even in 5 years because nanoprinting already exists. He also thinks that the Netherlands, Finland and USA are the top 3D-printing countries. The next step for the business is to make it mainstream and develop non-plastic, user- and environmentally friendly materials.

There are also some challenges concerning 3D-printing. As Rijken (2011) reminds, buying a guitar does not make one a musician, as well as access to 3D design tools does not make one a designer. Everyone does not need to purchase a personal 3D-printer and local communities could share both the skills and the technology which is enough for a quiet revolution in production at local level. 3D-printing might turn into nurturing materialism and urge people to fill their world with even more objects, wasting even more resources. If 3D-printer-business becomes big, there is a possibility, that it will be one disposable plastic device more on the market.

Online communities

Infrastructure that enables fashion openness includes the tools for making as well as the tools and spaces for interaction. By now, interaction through social networks is natural to us. Platforms for interacting, sharing and distributing connect a great amount of people who can create individual profiles describing their skills and other personal features. LinkedIn, for example, connects professionals from different fields globally. Avital (2011) says: “Evocative, engaging, adaptive and open online communities could be the infrastructure, that can help in the creation of open systems or platforms that provide connectivity, enable transparency, allow information sharing, and encourage dialogue with no regard to institutionally or culturally imposed boundaries”. As presented before, Fab.com, Etsy and BurdaStyle are a good start, but there is room for more open systemic features. Open design is a highly social affair: amateur users gather in online environments that offer examples, designs, and access to communicate with their “heroes” (Rijken, 2011). Pro-ams have a great sense of belonging, which flows from being part of a community where they collaborate, share ideas, learn from and teach each other; and form a strong sense of self-worth (Fletcher, 2008: p190). The communication platforms of the web have become both sites for dialogue, blogging (an important aspect of fashion communication today), and advertising; for viewing videos and for fully interactive services and co-creation. In May



Photo: Hilla Kurki. Eyewear by Pekka Salokannel. Frogs printed in Aalto Fablab.

2008 Hitwise reported that social networks accounted for 6.37% of upstream traffic to websites in the apparel and accessories category, making sites such as Facebook, MySpace and Bebo a more important source of traffic than lifestyle/fashion websites (5.13%) (Koefoed & Skov, 2010: p29). More research will be needed to identify which types of e-trade fashion sites tend to succeed. Or even whether the key factors lie in the set-up, technology or content of the site itself – or in its overall network, marketing efforts, communication politics, etc. Many argue that the main key factors to online fashion trade success are choice, functionalities, virtual experience, and good payment services³⁰ but these statements are related mainly to one-way trade, dealing with enterprises such as asos.com and Inditex, and not including Do It Yourself or Do It Together approaches, or re-design or recycle solutions (Koefoed & Skov, 2010: p28-29). In this area as well as independent design by small producers, according to the CEO (Jason Goldberg) of Fab.com, the social aspects are most important. In the ocean of information, we choose the ones we want to follow and buy what our “heroes” buy (Goldberg talks about “social shopping”). The issue of choice is central in the e-commerce because

we do not have capacity to embrace the whole supply of internet thus some simple technology can be utilized to full potential only if it finds the users.

Search for new business models

The final aspect of enabling fashion openness is the economic one. If the designers’ input requires great amount of time it is important to be beneficial. Workable business models are the enabler and tools that could attract both the designers/producers and the users. According to Fuad-Luke (2009: p193) there has been a growing interest by some European governments in new models with an ambition to grow human and social capital rather than only financial capital. These models involve public or private partnerships, social enterprises, community interest companies and “crowdfunding”-concepts which allow to start a business if the community users want to support the project. This frees entrepreneurs from loans and capital-saving. Still, it is challenging to find profitable business models in the field of sustainability or open design in the contemporary economic system. How to grow the company if the last

thing that should be done is to sell as much as possible, but at the same time to encourage self-sufficiency and modest consumerism? At this stage, not so many solutions have been found and designers are working on it. The sustainable business model discourse seems to circulate around service design.

Renny Ramakers (in Klaassen, 2011) has attempted to find solutions during her *Downloadable Design*-project. Ramakers introduces some designer's suggestion: as the products are downloaded, they get more and more pixels; if the download is stopped half-way, the design is free but incomplete or low-resolution; if they decide to download the whole product, they would have to pay for it (see also: Better than free, chapter 4.5). The *Open Design Now*-book (in which Ramakers is interviewed) is distributed this way: they released the content little by little, and if one wants to read it immediately, the book must be paid for. Another proposition Ramakers presents is an interior design service, where the customers could have their interiors custom-made to suit their individual needs, based on designs that are available on the platform ("They would pay for the customization rather than for the products"). She asked the designers to think of different stages, levels and services

they could offer. Customers have to get used to physical customization, otherwise they do not dare to buy a product which is not offered as a ready, tangible result (ibid). People want to know and feel the material, what the product looks like and how it fits. There must be a sample, or several samples/examples, which people can choose from and suggest individual corrections. Ramakers points out that people do not want to make all their clothes by hand themselves; they want to try the garments on. During the designer workshop, that concentrated on finding business models, they discussed whether there should be offered a separate category of designs: not only for download but also for sale. "But what would be the point of a platform for downloadable design if you also have a web shop?", asks Ramakers (in Klaassen, 2011).

For Troxler (2011), it seems likely that the current trend will develop into a "plethora of different models" that embrace various aspects of commons-based peer production, with users switching between different models as appropriate - how the traditional businesses will be able to adapt to a new reality? Open design paves the way to the *shift from push to pull business models* (Avital, 2011). Whereas the push business models are based on top-down value chains

Figure 20. Sustainable business models with open aspects. Koefoed & Skov (2010: p73) suggest six different sustainable fashion business models that are based on openness.

SUSTAINABLE BUSINESS MODELS WITH OPEN ASPECTS

1. The file-sharing (like in music etc.) model challenges the concept of ownership and thus challenge the underlying (unsustainable) economic system. Probably, this system will grow rapidly in the years to come, but is questionable as to its impact on various aspects of sustainability.

2. Cradle-to-cradle in design and industry. A product of this lies in the development of a new model for production and consumption: the consumer leases the product, and when it wears or becomes obsolete, it is returned to the producer, who delivers a new product to the consumer.

3. Practices of mutual help - qualitative growth (little or no money involved). DIY/DIT-culture: lack of money and the need for trust in exchange - network relations are tighter than the average producer-consumer relation. Closer relations formed by common spaces, sounds, etc. Anyone who wants to belong to the network, must contribute. This model is present today in the work and communities of designers and other people sharing ideas and fabrics, tools, etc.

4. Micro-financing or micro-sponsoring in fashion can be taken from inspiration from other fields (crowdfunding).

5. Collaboration is beginning to take over the agenda of young designers in fashion, taking over the role of competition. This trend would point towards open fashion, as suggested by some young designers themselves in an interview from New York Fashion Week 2010.

6. Micro-events and swapping etc. are probably the fastest growing examples of a sustainable practice in fashion consumption

and economies of scale (mass-production) that emphasize cost-efficiency, the “pull business models are based on bottom-up value chains and flexible manufacturing (mass-customization), where a line of customer-configured products are distributed individually through features-driven upstream marketing techniques” (ibid). In other words, we are moving closer to on-demand supply and production.

It seems that the fashion designer’s work would be either a service, service design or - on the contrary - craftsmanship. Either it is a shop of samples and modifiable blueprints or a practice for upcycling (adding value to) the existing goods. The network structure of fashion production, distribution, and consumption is important, because the entrepreneurs can turn to it to seek support and collaboration.

Figure 21. Business models for DIY-crafts. Massimo Menichinelli³¹ presents eight business models for DIY-crafts. These models can basically be applied to fashion on the whole i.e. could be treated as business models for open (source) fashion.

BUSINESS MODELS FOR DIY-CRAFTS (Massimo Menichinelli)

1. Selling a consulting or support service or content.

2. Piracy: there are no copyright or patent protections in Fashion Design, there are only trademark protections³²

3. Etsy and the long-tail of user-generated craft: (charging a listing fee of 20 cents for each item and getting 3.5 % of every sale) + income from advertising company Showcase, which the sellers are using. Etsy started running workshops open to local crafters and would like to provide support services, such as business advice and small loans in the future. Most probably Etsy attracts women with the hope of successfully combining meaningful work with motherhood. Unfortunately, it is very hard to make a living only with Etsy.

4. Threadless: crowdsourcing the design and then manufacturing the products³³.

5. Openwear.org: shares open source fashion designs with all its members, creating thus a complete open source fashion brand. The designers won’t need to start from scratch and will save time and resources for designing new clothes.

6. Stitch Tomorrow: microcredit for development through fashion design - a youth-led fashion microfinance initiative from Philippines, aimed at facilitating South East Asian underprivileged teens with summer sessions in order to make them able to create their own fashion lines with clothes made of recycled materials. Stitch Tomorrow offers them education (in fashion and business), capital and resources, design, business and marketing consulting services, participation of the customers in the design and business process. Once these fashion designers can work independently, they gradually pay back Stitch Tomorrow and the interest is used for other teens the following summer.

7. Sewing cafes: places for DIY Craft and Microproductions - rent-by-the-hour sewing machine cafes have opened, and now they can be found in many countries across US, Europe and Australia.

8. A lesson from DIY Craft: microcredit as a tool for building collaborative networks - one of the biggest problems of the DIY Craft movement (Menichinelli refers here to the interview of Zoe Romano and Bertram Niessen from Openwear), especially compared to Open Source and Open Hardware, is the extreme fragmentation of the community: in Open projects communities may be small, but there are definitely more people collaborating together in the same project than in DIY Craft. It’s easier to profit with the long tail of DIY Craft than with a single project, and here we could use microcredit as a tool for community building and for building and managing collaborative networks among the many makers.

4.4 PROBLEMS & CHALLENGES

The problems and challenges of fashion openness are quite similar to the ones of open source philosophy in general. The biggest question are: how to trust others and avoid exploitation? How to gain monetary profit? How to ensure that the content is valuable? How to motivate people to participate in design and making processes but prevent forced involvement? How are the logistical and technological issues solved, especially if the contributors are not skilled in fashion design or sewing?

Lack of motivation

Motivation is the biggest problem of open source fashion. Why would people participate if they can skip the responsibility, spare their time and buy inexpensive garments from the shops, offering their goods on every corner? Our relationships with garments are mostly based on consumption and it is problematic to build a system where the users spend more time on clothing themselves than they do today. On the other hand participating in the design process might spare the time spent on shopping. Fashion enthusiasts might succeed to find time but they do not necessarily have the needed skills nor the motivation to acquire them because there is no one to be dethroned and no common cause or strong ideology in open source fashion. High motivation is also needed for the self-educative attitude: if a problem occurs, there is no responsible facet that “can give you your money back” or even repair. Everything has to be solved independently or with the help of peers.

Requires investments

If the amateur or professional contributor wishes to practice open source fashion he or she has to purchase suitable equipment, invest time to gain skills and find a space to work and maintain the products in (or at least the tools and materials). This is a challenge that does not appear in open source software design or any other information based activity. A sewing machine is not expensive but if the contributor is not willing to train DIY, the fashion object must be tailor-made and produced on-demand, which today is quite costly. Affordable innovations are needed to enable clothing to be manufactured easily, rapidly and locally.

Reputation and concern about our visual environment

One of the designer’s main tasks in open source fashion system would be to “sort the wheat from the chaff” and finding the valuable content. There is a concern that the open paradigm brings along chaos; “erosion of professional authority and knowledge” (Leadbeater, 2009: p233), the loss of individuality and privacy (longing for privacy and being disconnected is a probable trend to follow the social

network overdose); the fear of critique and inappropriate behavior of others; and degradation of the real world relationships (collaboration in physical space) as well as dystrophy of professional skills. When the designers involve the users to participate and decide what has value and what has not as well as create the boundaries of the creation, the outcome might even harm the fashion democracy or fashion in general, by fostering poor, forced and quasi-creative action. Open source fashion might also remain a marginal niche phenomenon because the term is not familiar to many and might seem unappealing to both designers and users who enjoy the safety of the conventional, traditional methods and brands. Open source has an “uncool” and geeky reputation which has to be corrected if a broader popularity is desired. The unexpectedness of openness is a double-edged sword: we can not predict where open source fashion would lead, *because* it is open, which is never final. “Sewing machines came to free the housewives but soon they resulted in sweatshops” (Heath & Potter, 2005: p303 in von Busch, 2009: p309).

Trust and revenue

Fashion openness does not yet have principles, rules and ethics which exposes it to a risk of exploitation. It is impossible to foresee how open structures will be formed without taking part in open source fashion processes. The shared designs can be copied and capitalized by someone who has not contributed to the process. Though, in fashion copying or borrowing has always been present to some extent, and we are accustomed to it (“authenticity” is an important aspect to consumers when talking about a garment). Trust among peers is crucial and it is challenging to achieve, but the designer has to be assured that his/her work will be accessed and used appropriately and with respect. In collaboration projects the fair work distribution is essential.

The suggested business models do not ensure the economical profit from open source fashion. Economically, fashion and clothing production on a small scale is actually quite unprofitable. The top challenge for sustainable design is to develop business models that effectively pay the designers’ bills, and open source fashion faces the same challenge. If it tends to take action on a big scale, the current system must be modified too. It has to be discovered, how the right people can get credit for their work, both socially and economically.

The significance of designer’s personality in his/her design work is another authorship problem that open source fashion faces. As Giana Gonzalez admits in the Fashion Project interview, “...all the design guidelines are a result of the designer’s “lifestyle” and philosophy, or at least what they want to convey within their stories, through their design”, so when creating an open source code library for fashion, it

is important to include the background of designers behind the original brands in order to “combine all the dots”.

4.5 INTELLECTUAL PROPERTY

Legislation

“Few seem to have noticed a significant empirical anomaly: the existence of a global industry that produces a huge variety of creative goods in markets larger than those for movies, books, music, and most scientific innovations, and does so without strong IP protection. Copying is rampant, as the standard account would predict. Competition, innovation, and investment, however, remain vibrant.” (Raustiala & Sprigman, 2006)

There are no copyright or patent protections in fashion design, there are only trademark protections (Menichinelli³⁴ referring to Raustiala & Sprigman, 2006³⁵). Any garment can be copied entirely, except for the brand. In Menichinelli’s view, the lack of copyright accelerates creativity and innovation: one side effects of a culture of copying is the faster establishing of trends and the faster induced obsolescence, leading to more sales and revenue, and to more creativity and innovation. The fashion system is more similar to electronic or hip-hop music than to other forms of cultural production: sampling, citation and other forms of original contents bricolage are at the core of the production process (Niessen, 2010: p38), in other words, wide parts of the fashion system can be viewed as open source economy and many of its production as “a commons”: the whole system is based on continuous sharing of forms and contents. Also Bollier & Racine (2011: p5) agree with these views: “The fashion business reveals a great deal about the ‘cultural hydraulics’ of creativity and the novel ways in which intellectual property law can foster, and not restrict, creative freedom”. Only fabric designs or innovations, specific ornamental features, manmade textiles, and, most importantly, the logo (trademark) are strictly copyrighted. The brand, which is represented by a logo, is the part that produces the value in the fashion system (openwear.org) instead of the actual form of the garment, which is the expression of the fashion designer’s creativity.

The practice of cool-hunting is used by designers at all levels, and is a good proof of the collective innovation aspects being central in fashion instead of pure individual creativity (Bollier & Racine, 2005 p39). The designer or the concept gives the special brand “aura”, but the design itself does not need to be exceptional, unless it is a patented object or a specific trademark. Fashion could function as an example for other industries that are struggling with copyright issues and dilemmas at the moment. There is probably no return to the old times: piracy exists and nobody can stop it. Free sharing has taken over the music and the film industry, and little by little also the design field (Physibles in Pirate

Bay - it will be interesting to see how designers react on this phenomenon when it becomes bigger). The law must adapt itself to reality and new concepts for providing the compensation for creation are called for. The question is: how the creators of the intellectual property could make their living? Smiers (2011) points out that the present copyright system is extremely beneficial for a few best-selling artists and fails to benefit the majority of creative professionals. He asks, how can the market be improved to include a better financial situation for most artists and designers? Can we achieve that goal by keeping the sources of our knowledge and creativity in common hands instead of privatizing them? Kennedy (2011) also asks: who really owns an original idea? Is anything truly and completely original? “Every creative person pilfers and borrows ideas from everywhere; referencing what came before is a natural part of the creative process” (Kennedy, 2011). In this sense fashion confesses its real nature in a quite transparent way, as Raustiala and Sprigman argue, “the fashion industry counter-intuitively operates within a low-IP equilibrium in which copying does not deter innovation and may actually promote it”. They call this “the piracy paradox”.

The biggest critique towards copyright does not want to take from the creators, but to decrease the power of production corporations, who decide which cultural products are available in the market (Smiers, 2011). They dictate which kinds of content are considered acceptable and appealing, and can determine the atmosphere in which they are enjoyed, consumed or used. Small-scale creators do not really benefit - on the contrary, they are at risk of being exploited by the big enterprises. As Ronen Kadashin (in Troxler, 2001) remarks, “copyright protection gives you the big guns, but can you afford the ammunition? You can register your intellectual property, but you don’t usually have the money to defend it. This is life; the big fish eat the little fish”. Batliwalla (BoF, 23 Oct, 2012) addresses also the trademark issues related to 3D-printing. Writer wonders whether the democratization of the design and manufacturing process has serious implications for intellectual property and brand copyright. “What happens if I see a Marni bracelet that I like but think I can improve on? Would I be breaking the law if I clone it using CAD, make a subtle change or two, and then print my own? And what happens when digital product design files are shared as routinely as music and video files?” Kenneth Mullen, a specialist in intellectual property law at Withers Worldwide, comments in Batliwalla’s article: “Increased access to inexpensive 3D printing potentially presents a significant challenge to designers, as well as brand owners, a great degree of whose power resides in their control of manufacturing and distribution channels”. Is it a threat or an opportunity? If the companies are brave enough, the ones who are willing to embrace the technology will be able to open up new markets. 3D printing technology can extend the mass-customization possibilities (Nike

i-D, Burberry Bespoke). “It may be more about downloading a pattern from Prada and printing it in a color or material you choose,” says Ruth Marshall-Johnson, lifestyle analyst and senior editor of the Think Tank directory at WGSN trend forecasters. “I can see the more innovative brands working with 3D printing on marketing projects and one-off campaigns alongside their normal lines.”³⁶

What is intellectual property in general? Intellectual property (IP) is the unique and un-obvious product of human intellect that has at least some marketplace value. According to the World Intellectual Property Organization (WIPO), intellectual property is divided into two categories: 1) Industrial Property: including inventions (patents),

trademarks, industrial designs, and geographic indications of source; and 2) Copyright (Library/Artistic Property): including literary and artistic works such as novels, poems and plays, films, musical works, text and images on a World Wide Web (WWW) site, architectural designs, scientific publications, and artistic works such as drawings, paintings, photographs and sculptures, as well as performing artists in their performance. Intellectual property addresses legal issues surrounding the rights of ownership of ideas, inventions, trade secrets, processes, programs, data, formulas, patents, copyrights, trade secrets, trade dress, service marks or trademarks, the application or registration (referred to as copyright, patent, trade dress, trade secret, trademark or intellectual property law), and the legal or illegal use of this property.

Figure 22. The four main types of intellectual property (in US) are³⁷.

FOUR TYPES OF INTELLECTUAL PROPERTY

<p>COPYRIGHT: LIBRARY / ARTISTIC PROPERTY</p>	<p>1. Copyright: protects the expressive arts - copyrights do not protect ideas, only how they're <i>expressed</i>.</p>
<p>INDUSTRIAL PROPERTY</p>	<p>2. Trademarks: Trademarks protect the names and identifying marks of products and companies. The purpose of trademarks is to make it easy for consumers to distinguish competitors from each other. Trademarks are automatically assumed once a business begins using a certain mark to identify its company, and may use the symbol TM without filing their symbol or name with the government.</p> <p>3. Trade Secret includes formulas, patterns, device or any compilation of data that gives a company a tangible advantage over its competitors (e.g., Coca Cola's formula for its soft drink).</p> <p>4. Patents: protect an invention from being made, sold or used by others for a certain period of time. There are three different types of patents in the United States:</p> <p><i>Utility Patents</i> - these patents protect inventions that have a specific function, including things like chemicals, machines, and technology. <i>Design Patents</i> protect the unique way a manufactured object appears (<i>fashion designs are usually not patented, except for technical innovation concerning mainly the functional clothing</i>). <i>Plant Patents</i> protect plant varieties that are asexually reproduced, including hybrids. (Inventors may not assume that their creation is patented unless they apply and are approved for a patent by the US Patent and Trademark Office. This process can be complex and time consuming.)³⁸</p>

The copyright laws nurture the closed systems of the industries (Thackara, 2011) and the “one-to-many broadcast distribution model distorted our perception of creativity” (Katz, 2011). The roles of creator and consumer are defined and contrasted. As the public grew accustomed to the idea of passive consumption, creativity became increasingly marginalized, at least in those areas covered by copyright. The Pirate Party’s agenda³⁹ as well as Lawrence Lessig’s, is to reform of copyright law.

Lessig (2008: p271) outlines 5 steps:

1st: Deregulating Amateur Activity.

2nd: Clear Title.

3rd: Simplify.

4th: Decriminalizing the Copy.

5th: Decriminalizing File Sharing

Creative Commons & Copyleft

Because the intellectual property of fashion *design* is not restricted by law, Creative Commons or Copyleft are not as relevant as in other creative fields (music, books, films). Any fashion design is “ready-to-share”. What is called “theft” in music industry is “borrowing” in fashion. But fashion is more than design of the garments: there is also technical design and fiber/textile innovation; print and textile design; books and magazines; research material; and most importantly - the brands. These domains can be protected with copyright or patents, or alternatively with Creative Commons or Copyleft licenses.

The Creative Commons⁴⁰ offers flexible copyright licenses that allow a creator to retain all rights while giving permission in advance for work to be shared, distributed and modified. The licenses are intended for use in relation to a broad range of media, including music, literature, images and movies. The creator chooses the extent of openness. The licenses are drafted to be simple to understand and are modular, in that the rights owner can choose from a selection of options. There is an *attribution* option; the *share alike* option; the *no derivatives* option; and the *non-commercial* option (Katz, 2011). While the licenses can no longer be considered innovative, they can be applied in new ways, or at least the knowledge is distributed freely. For example, TED-talks uses the Attribution-NonCommercial-NonDerivative-license, which means that the content can be distributed without restriction, but can not be modified or sold. One of the most prominent open source models has been the Creative Commons movement itself. There are also GPL-license (free software license) and BSD-license

(permissive free license) which are more associated with the software domain. In both cases, they seek to support a software commons which will enable the social mode of creativity to flourish (Katz, 2011). Another form of open intellectual property license is *copyleft*⁴¹. Copyleft is a general method for making a program (or other work) free, and requiring all modified and extended versions of the program to be free as well”. The work has to be put in the public domain. Openwear - an open, collaborative fashion brand - has developed an Openwear License, which the members of Openwear community (Openwear.org) are authorized (and obliged) to use (see Figure 14, chapter 4.2).

Better Than Free

Kevin Kelly (2008)⁴² writes in his article “Better Than Free” that everything produced or distributed on the computer is copied somewhere thus - unlike the mass-produced objects - the copies are not only cheap, but completely free. Kelly asks: “If reproductions of our best efforts are free, how can we keep going?” How does one make money selling free copies? Kelly believes that people are willing to pay for the features that *can not be copied* and suggests eight “generative values” that might enhance the value of the free copies.

De Mul thinks that one more value should be added: designability. He believes that this value will “encompass all the others, presenting a great challenge for the meta-designer” (de Mul, 2011). Meta-designer works with communities and Kelly also believes in the power of sharing, by saying that sharing is social activity and everything increases in value when being shared.

All of these generative values could be implemented in fashion openness, thus providing designers ways to gain some profit. For example, one can share the design (the pattern) for free, but sell the *authentic* copy made by the designer for a high price. Or making a garment from the free pattern takes time, but a professional can make it *immediately* (immediate sewing workshops could be a good business model for on-demand production). *Personalization* is basically customization. *Accessibility* is an important issue in huge communities, where it would be important to *find* the right peers and the right products (no matter are they open or closed). One could pay for the service which helps to find what you want. The same value could offer the maintenance of clothes: what if you would not need a wardrobe anymore and someone else could wash and iron your clothes? What if all consumption was based on rental or would function like Netflix or Spotify: customer would pay for membership in a huge Wardrobe, and could go weekly (or daily) to pick up the garments he/she wants to wear. The Wardrobe would also have stylists and designers, who, for an additional fee, would consult the members and create the style-maps together with the customer. Finally, there would

Figure 23. 8 generative values that enhance the value of the free copies (Kelly, 2008)



be Wardrobe parties, where the most popular (according to the members of the Wardrobe) designers or crafters would perform their creation process thus *embody* fashion. And naturally, the member customers could support their favorites with additional donations - do the “crowdfunding” - so these designers and crafters could continue to create.

4.6 SUSTAINABILITY AND FASHION OPENNESS

Niessen (2010: p33) argues that an increasing number of social fields are adopting a p2p organizational model. The discussion around the potential of open source as a model for economic systems is relevant to the question of sustainability in economic systems, although of course not the only possible perspective. The issues at stake in sustainable economics have to do with two different matters: the issue of the relation to nature and what human societies are doing

to it, and the issue of fair distribution of wealth (Putnam, 2000). In open source people share the work and share the benefits; they progress towards a collective goal. When the goal is sustainability in fashion, open source design has potential to “provoke a shift from blind consumption to reflective competence” (Fletcher, 2008: p191). If people are actively engaged in something, they feel more fulfilled, and do not seek the pleasure only from the ownership of objects. Engagement requires skills and knowledge, which come with belonging to a community. Open source might take fashion *beyond* the unsustainable world of commerce. According to Koefoed & Skov (2010: p68-69) the main problems in fashion in terms of sustainability are the creation of desires for unnecessary renewal of the wardrobe (planned obsolescence), and the unsustainable practices of production, ranging from cotton production methods to poor working conditions for workers involved. The profit-

driven industry ignores the planet thus the main problem is a systemic one. The major companies will not inspire customers to lower their consumption as long as the general system remains. The attitude of corporations is not the only challenge: most of the environmental impact appear after they are purchased. Despite all the public conversation about sustainability the surveys show that in purchasing behavior there is a big gap between what people say and what they do, because “shopping is similar to sex – a powerful desire which it would be unhealthy to repress, and which once satisfied can resurface again almost immediately” (Koefoed & Skov, 2010: p70-71). A conscious, aware and empowered consumer knows that there are no such desires. Innovative ideas are needed to suggest appealing, profitable and easy business models for big scale companies, that lead the culture of consumption.

Transparency

The most simple way to practice fashion openness is transparency, which means that everything the company does is naked. By being transparent the company guarantees that it keeps to ethical etc. production and through that gains the customers’ loyalty and trust. For a company that promotes sustainability transparency is essential, in order to avoid the accusation of *greenwash*, the threat of which reduces trust towards green companies hence reduces the consumers motivation to support green brands. Many fashion companies practice greenwash when they speak of sustainability yet work from a concept of planned obsolescence⁴³ (Koefoed & Skov, 2010: p72). Transparency shows the details of the production processes, from seed to shop, telling a story behind the garment: the fabric used, the working conditions in the field, the ethical credentials of the factory involved, manufacturing and transportation. Fletcher (2008: p194) believes that transparency is an important step toward the possibilities of user involvement.

About “Ecofashion” & “Eco-Tech Fashion”

Regina A. Root⁴⁴ describes “ecofashion” to invest its wearer with a creative agency: “The concept of sustainable fashion celebrates ingenuity, self-awareness, and empowerment. At the heart of ecofashion we find a radical sense of “can do” opportunism. Ecofashion is aware and responsive. It inspires local connections that contribute to social change and environmental stability. It calls into question the role of consumer and wasteful consumption practices in the age of expanded globalization.” Root brings up Kate Fletcher’s note in her manifesto on “Clothes That Connect” that speaks for the “beauty and greatness in in garments that value process, participation and social integration, in pieces that advance relationships between people and the environment” (Fletcher 2007: p123). These thoughts about ecofashion sound identical to the characteristics of open

source fashion, i.e. on the grounds of Root’s and Fletchers reflections, I could argue that fashion openness promotes sustainability to some extent.

Root also points out that most of the scholars represented in that issue of Fashion Theory concur that ecofashion has the potential to reposition the fashion system and imagine alternatives for the future. Ecofashion demands a new paradigm through slowing down fashion cycles, understanding why and how a garment is made, “treading lightly on the earth, seeking workable solutions in an era of urgency and crisis”. Quoting again Fletcher - “fashion as usual is not an option” - and Root states that ecofashion rests on the premise that sustainable future is possible and necessary. In her view the scholars of the issue consider fashion as a response to the crisis of environmental degradation and global climate change and manifests that the world seems ready to redress its wrongs. Patagonia is one of the forerunners in promoting ecological fashion on a big scale, as a global, mass-production company. Patagonia’s Common Threads Initiative is an attempt to create a partnership between the company and its customers to reduce the consumption and resource use. Their statement is: reduce what you buy, repair what you can, reuse (share) what you have, recycle everything else and re-imagine a sustainable world.

Textile conservator Sarah Scaturro argues in her article *Eco-Tech Fashion: Rationalizing Technology in Sustainable Fashion* (Fashion Theory, Vol.12, issue 4, 2008: pp474-486) that technology is essentially the prime enabler that allows sustainable fashion to thrive and develop today. Scaturro presents that “technology can be envisaged negatively as a hierarchical deterministic force driving consumption and commoditization, thus leading our environment into an inequitable stasis, disembodiment from our natural world, which leads us to question the authentic qualities of living in a technocratic society”. The pessimistic view of the technological world is classified as “ecocentric” and the opposing environmental mode is termed “technocentric”. The latter believes in the human ability of science and high technology to manage the environment. Scaturro argues that “balancing the dismay regarding the role current technologies play in the fast fashion system alternate belief that the right technologies, when selectively developed and applied, can play an integral role in the growth of sustainable fashion”. She calls the concept “eco-tech fashion” which enables the emergence of sustainable fashion system through “an innovative technological framework containing thoughtful manufacturing processes and consumption patterns.” Scaturro also refers to technology philosopher Andrew Feenberg, who promotes adaptable, democratic and horizontal technology system that can best respond to the sustainable needs of society through his concept of “democratic rationalization”. She quotes Feenberg: “Technical democratization cannot proceed primarily through...

formal means. The state and its administrations are products of centuries of centralization of power in bureaucratic structures that are congruent with a specific technical code. To the extent that the code is inherently authoritarian, it must be changed from below, not from above, and that requires active citizen involvement". (Feenberg 1999: p106; Scaturro 2008: p476).

According to Scaturro, the role of technology within the sustainable fashion realm is broken into two main areas: the physical manifestation of sustainable fashion garments and the digital domain. The material realm refers to physical fashion creation, covering areas such as design choices, the manufacturing of fiber and the recycling of old clothing. The digital part emphasizes the impact of the Internet on sustainable fashion through the enabling of socially conscious consumption and information dispersion. For this thesis, the digital area is a more relevant aspect. Digital technologies, including cameras, home computers, and Internet access, are tools for subverting the conventional fashion system, as seen with the rise in eco-consumption, networking, and information distribution. Scaturro (2008: p483) describes the Internet as an actualization of technology in daily life, and can be politicized (or depoliticized) by those who use it. "Commerce sites, blogs, editorial magazines, networking platforms - each portal allows individuals to participate in a techno-fashion system that, more times than not, has real-world results. Sustainable fashion, as a subset of a larger fashion system, is particularly suited to the horizontal diffusion capabilities and subversions of the internet". There are vending portals offering ethical and ecological (both features are difficult to define though) garments, real-time exchange venues, purchasing portals for recycled clothing (such as eBay) and online DIY-oriented marketplaces. In Scaturro's view, Etsy.com best embodies a site where consumers and makers practice small, but effective democratic "rationalizations against the prevailing, large-corporation market economy". Etsy offers transparency (where, how, by whom the garments are made) and considers itself as a builder of new economy by countering the conventional fashion system through its strong DIY-ethic. The Internet is also the easiest communicational tool, and activists, including sustainable fashion advocates, use the Internet to recruit like-minded thinkers to create change (ibid). The Internet might work as a launch field for projects with smaller or bigger aims: someone wants to inspire, and someone to subvert the entire fashion system.

Scaturro considers eco-tech fashion a successful way to provide a promising future in pushing forward sustainable and ethical ideal in fashion and hopes that one day eco-tech fashion will replace the traditional fashion structures by developing effective sustainable collaborations between all players in fashion - the designers, manufacturers, scientists, retailers, and consumers. Both concepts - eco-fashion and

eco-tech fashion - are seeking optimistic visions about the future of fashion and consumer behavior.

Slow / fast fashion

Despite the fast change of trends the problem of the fashion industry is its operational slowness. Global clothing chains are typically buyer-driven, "characterized by a fragmented, even dispersed production, with concentrated intermediaries, and maintaining cross-border links between retailers, marketers and consumers" (Bello, 2010: p78). The "mould" principle is slow and costly even if, when the volumes are giant, it is fast and cheap per one piece of the product. On the other hand "fast fashion" tends to change trends as often as their production facilities allow (which basically means real-time reaction to customers wants, at least in the case of Zara). High speed results in high volume consumption (Fletcher, 2008: p161) but there is still a supply chain which consists of many actors having distinct schedules. In order to keep the costs low, the amounts of products must be huge and manufactured quite commonly far from the location of retailers. Bello (2010: p78) points out that information technologies play a central role in the gathering and distribution of data, and fast fashion is a good example of how increased connectivity and accelerated global processes are redefining the practices of design. The conversation about the speed in fashion does not concern only fast fashion and its unsustainability: fast actions might also innovate and bring rapid feedback hence improve the products in real-time. Raustiala and Sprigman (2006) implicate the "piracy paradox" i.e. the openness of the intellectual property of fashion to the fast innovation rate, which can also improve user-centeredness and sustainability.

Nature combines fast and slow processes: slow big-scale and fast small-scale changes, and the varying rates within the ecosystem help to sustain it - the fast parts react and the slow parts sustain (Fletcher, 2008: p163). Also the ancient and indigenous cultures tend to combine the concepts of moment and eternity balancing each other. According to Stewart Brand there are several, different speed layers present in human civilization: from fast to slow they are Art/ Fashion, Commerce, Infrastructure, Governance, Culture and Nature (ibid). All the layers should respect each other. So how could the slowness and durability relate to fashion? Mostly, people get rid of their clothes because they are bored with them (in the West). Even the cheap fast fashion products last physically much longer than aesthetically (in consumers view). The long life of garments is better achieved through design rather than durable materials etc. The slowness trend (Slow Food Movement) is partly applicable to the fashion sector. Some people want to pay for what is scarce, customized and carefully made (Fletcher 2008: p173). Slowness denotes better quality and a care for oneself. Open source fashion can merge the slowness

and fastness in fashion. On the other hand, if made by hand, the process can be paralleled to a slow preparation of food, which emphasizes the “authenticity” and the process. Simultaneously, fabricating locally and on-demand is actually a faster way to react to the changes of trends or personal mood. Similar thought is applicable to fashion openness which does not include home-sewing: openness provides fast reaction but long attachment to the product.

Emotional attachment

Elizabeth Bye and Ellen McKinney (2007) investigate in their article “Sizing up the Wardrobe - Why We Keep Clothes That Do Not Fit” reasons for keeping garments that do not fit the current body and women’s feelings about these garments. The writers bring up McCracken’s (1986) view on separation from self as a ritual process in his study of the cultural meaning of consumer goods. He believes that meaning is transferred from objects to individuals and in order for separation from self to occur, an individual must remove the meaning attached to the clothing before it can be passed along. Bye & McKinney propose four reasons for keeping unfitting clothes in the wardrobe: *Weight Management*, *Investment Value*, *Sentimental Value* and *Aesthetic Object*. Jonathan Chapman (Fletcher, 2008: p168) argues that a product must evoke an occasional emotional response in the user, during an extended period of time. Sennett (2008: p21) sees that the craftsmanship holds an emotional reward: people are anchored in tangible reality, and they can take pride in their work. Von Busch (2009: p62) says that “in the case of numerous consumer products, where there are no longer any screws that can be loosened and consequently access to the workings of the product are almost impossible”. It is harder to become emotionally attached to a ready-made product than to a product in which the user has put some personal effort. Niinimäki (2011: p5) studies in her doctoral dissertation *From Disposable to Sustainable*, person-product relationships through various design strategies and through a Product-Service System approach by either deepening the person-product attachment or better delivering consumer satisfaction. She argues that designers have an important role in the changes of consumption behavior toward a more sustainable manner. Focus change from tangible products to *service thinking* allows customer needs to be met in a more sustainable way. Consumers have transformed from value users to value creators. According to Niinimäki’s study the following design strategies foster emotional value: long life guarantee; customization; half-way products; modular structure; co-creation; open-source design; design services and unique design. Niinimäki says: “Through studying the consumer’s product attachments, the designer has the opportunity to create reflective dimensions in the product in order to promote discursive engagement and emotionally durable design”. She lists the attributes that create sustainable attachments to clothes (2011: p82):

- **design/style** (classical/timeless, not overly loud visual messages; strong design, represents some unique period of design style; the experience of beauty in multi-sensorial way)
- **quality** (high quality in design, materials and manufacturing; durability)
- **material** (aging well, aesthetically and gracefully - wool, leather)
- **functionality** (multi-functionality; fit; reparability)
- **personal values** (uniqueness; tailor-made; self-made; self-designed; made for me; expression of one’s own ideology)
- **emotional values** (memories - history/past, places, people, moments, childhood; family ties; positive associations; safe and soft tactile feeling; expressions of self)
- **present / future experiences** (promise of experiences - modification possibility, party clothes, opportunities for narratives to emerge; family ties and continuity aspect; suitability for gift-giving; satisfying experiences)

Functionality, personal values, emotional values and present/future experiences are the most evident and relevant attributes in open source fashion.

On-demand

Another important sustainable value in fashion openness is its ability to create on-demand systems of fashion consumption and design: potential to contribute balance between the demand and supply. Idealistically speaking, if garments were made on-demand (the opposite of ready-to-wear) there would be no need for stocks and marketing; needless waste of natural, human and energy resources; and overly pollution from production and transportation. When the garment is extremely user-centered (wants, needs, fit) or even includes the users’ contribution, it is also more intimate in an emotional way thus the attachment extends the garment’s life. When there would not be a highly fast and saturated fashion system circulating around us and intervening in our everyday life through advertisements, media and entertainment, our demands and desires would not be as insatiable as we think they are. The ideal is that we should not limit our creation and our production of valuable goods - we just should stop making the goods that never end up in anyone’s wardrobe, or if they do, are used reluctantly and only a few times. There must be more reasonable ways to “grow the economy” or maybe even find a paradigm where the well-being is sustained without the need for quantitative growth.

4.7 FASHION DESIGNER / USER

This chapter reflects on the several roles and relationships of the fashion designer and user in the context of fashion openness. What would be the role of the fashion designer and the user in an open fashion system? Bauwens (2012:

Figure 24. Values of Anna Ruohonen. One example of on-demand designer, who believes in timeless and long-lasting design is Anna Ruohonen who describes her values in following ways:

VALUES OF ANNA RUOHONEN

MISSION - Long lasting Design: I believe in design with a strong personal touch and vision. The seasonal trends are not my driving force. My clothing is neither in, nor out of fashion. My style is a result of an individual design process. High quality products with a strong idea of design stand up to the time. Creating aesthetic objects is our responsibility for our mutual visual environment. The heritage of Scandinavian design is to create beauty for everyday life.

STRATEGY - Production on demand :To my mind, ecological responsibility means that you concentrate on the quality and you reduce the quantity. I only do what is necessary. There are no unnecessary stocks or prototypes. We fabricate only once the clothing is ordered. There is no wasted clothing in wrong sizes or in wrong colours.

INVESTMENT - Respecting the client: I believe in a human touch, personal service and flexibility. I am interested in the ways people are individual, personal and asymmetric. The clothes only come alive and find their final form once worn by somebody. Everyone is beautiful in her or his own way. What matters is the style, not the age nor the physique. Our clothing is adapted to the size of the client. Our sizes are individual and real, no standards, no vanity sizes. As we keep records on our clients, you can make new orders later on from where ever you find yourself that moment.

RESULT - Intentional simplicity from uncompromising design: In a beautiful final product every tiny detail has found its place. It seems that the piece has always existed. Simplicity is the ultimate sophistication.*

*<http://annaruohonen.com/>

p37) describes the players in collaborative economy from three points of view:

“In commons-based peer production one can usually distinguish between:

1. A community of contributors,
2. non-profit (or ‘for-benefit’) associations that manage the collaborative infrastructure or the continuation of the project; and
3. entrepreneurial coalitions that operate in the market place.

In the sharing platforms, we can distinguish between:

1. The community of ‘sharers’,
2. the corporate owners of the platforms who commercialize the attention of the sharers, and
3. the commercial players which pay for advertising.

In crowdsourcing, we can distinguish between:

1. The free agents who provide the supply,
2. the intermediary platforms, and

3. the buyers. Each form has different combinations, and within each form, each players has different functions, roles, and interests.”

When applying these aspects to fashion design the designer and the user have several possibilities to be placed. In the commons-based peer production system, the designer can act in a community of contributors or coalition of entrepreneurs, giving his/her own effort to the common goal (a collection, a platform, or any other system that requires design). The user(s) can operate within the same community, or the experts can have their own community and the amateurs their own, but these communities could collaborate with each other. In the sharing platforms, designer can both share and spot the user-shared material. A consultant-designer then helps the corporates to commercialize desirable features. The designer can also create the sharing platforms for collaborative consumption (Botsman, 2011) or digital market places. In the crowdsourcing projects, the designer can be positioned in the intermediary platforms that operate between the contributing users, buyers and the production systems.

In Otto von Busch's (2009: p65) view, the designer's role is transforming into a mix of designer, artist, producer, manager, social development worker, and even into a therapist or a coach. He suggests the practice of an engaged 'hactivist' fashion designer to be:

1. *Reawakening a spirit*: inspiring and boosting the thirst for exploration and emergence, expanding action spaces through simple examples, workshops and manuals to form new forms of attention and awareness
2. *Giving voice to the silent*: creating a language of practice and also encouraging experiments in visual expression. To develop a critical usage of existing media channels as well as creating new ones.
3. *Going through informal channels*: Bypass gatekeepers; find your own, low-level paths of action.
4. *Building self-reliance*: teaching simple modular methods or subsystems that can easily be expanded into other interventions and creations, developing a trust and courage in ones skills.
5. *Mobilizing resources*: Reorganize production, open new action spaces by recruiting the existing ones. Use the possibilities of what is considered as junk, making the leftovers of society your pool of treasures
6. *Provoking the "taken-for-grantedness"*: help to make the virtual or possible imaginable and discussable. Make models and visionary prototypes. Challenge the participants' imagination.
7. *Making micro-plans*: think in small steps, plan small, but be open for serendipity. Make examples of how the single informal action might be turned into a stabilized activity and a sustainable project or business, at least resulting in richness of dignity and self-respect. Map relations and prototype protocols.
8. *Forming alliances*: engage participants, share resources and skills, collaborate and build assemblages together. Be a rhizome, a pack of wolves, a swarm of rats. But be conscious of its risks and take seriously the responsibilities it demands.
9. *Intensifying the power*: plug the project into a larger energy system, use its potentiality, connect with other lines and ride their shared power, boost the flows, accelerate the participation, celebrate a shared re-engagement.

Von Busch (2009: p73) also notes that these aspects require a large portion of idealism, hands-on pragmatism and adaptive imagination. If all these factors come together, the designer can contribute to a positive social change without being involved in politics. But this would not be possible without motivated and empowered users.

New opportunities in undeveloped land

A designer today can go beyond his or her original, traditional occupation as the creative author and the user as a passive recipient and uncritical consumer. Avital (2011)

does not think that the traditional design and mass manufacturing will disappear in the future, and that open design is a threat to the designers' livelihood: "Quite the contrary; it opens new vistas and new opportunities and is likely to generate increased consumer appreciation of the role of designers. Moreover, it is likely to bring designers closer to the intended and unintended applications of their designs. Grand opportunities also imply undeveloped land". It is difficult to predict what new opportunities would emerge even though there is a lot of speculation. Atkinson (2011) argues that designers will have to learn to develop systems that will be used by others rather than trying to remain the sole author of their own work. When the designer is removed from the end product they are involved in, there is an opportunity for the designer to become more closely involved with the process of production.

The work of open fashion designer can also go far beyond the boundaries of the object world in the form of "service design" or "design thinking". Menichinelli (2010: p89) sees that designers have an "unprecedented opportunity to be involved in organization issues rather than being limited by management and marketing representatives": when designers will be acknowledged to fit the organizational design, the service design will have its breakthrough. Menichinelli hopes that along with the interest in design thinking companies will realize that design is not a "shallow anarchic creativity, but rather rules and processes, tools and roles for the collective development of projects oriented toward users, social, environmental and economic context". Von Busch (2009: p27) hopes that instead of only the catwalk or narrow mass market, designer can be an active participant in the social changes, which gives rise to another kind of fashion designer, "whom is neither a divine genius nor brand engineer", merging hacking, creative resistance, micro-politics, DIY-practice; organizing base communities and platforms.

Designing design

Von Busch lists further possible roles of a fashion designer, who instead a "genius", can operate in form of orchestrator and facilitator, as an agent of collaborative change; negotiator, questioning and developing design as a skill and practical production utility; "multiplier" designs a "catalytic loop", matching many processes in a dynamic harmony; intensifier - the capability to spot and reveal existing potentialities and initiatives (found by coincidence or by careful mapping and systematic curiosity). Spotted initiatives are then supported and amplified through situated practices and workshops with the aim of energizing existing and emergent processes (von Busch, 2009). This can also be called metadesign. Metadesign means designing the designing process of material, immaterial and cognitive artifacts (Menichinelli in Niessen, 2010, p85). "If we are willing to involve users in the designing process we will immediately realize that

the final outcome is no longer fully controllable and that is much more convenient to structure and plan the process itself, rather than the final result". In metadesign projects, the releasing of the first source code is the tool for the community to arise. The importance of the metadesign approach is in enhancing the project's potential to suit the actual users', communities' and markets' needs. Open P2P Design or metadesign is an open source method itself, that can be modified and further adapted for each specific local context and its needs (ibid.). Both Fuad-Luke (2009) and de Mul (2011) think that, the designer of the future has to become a metadesigner, who, instead of objects, would shape multidimensional design spaces, in which unskilled users can access user-friendly environments and design their own objects. Metadesign is about encouraging, shaping and catalyzing rather than directing and controlling. It is open-ended, welcomes diversity and encourages a pro-am community of designers (Fuad-Luke, 2009: p151). According to G.Fischer (2003; cited in Fuad-Luke, 2009) "metadesign characterizes objective techniques and processes for creating new media and environments that allow the owners of problems to act as designers".

Applying the metadesign approach to fashion: a meta-fashion-designer could either build well-equipped online spaces (or social software) or physical spaces similar to fablabs - specialized on garment fabrication. In fashion-fablabs fashion designers, pattern makers, 3D-modeling and printing masters, and sewing masters could together guide visitors and users to make any garment they want. These kind of action spaces could additionally organize workshops and collaborate with educational and healthcare institutions ("fashion-craft therapy") as well as commercial companies. The metadesigner operates as a scientist who, instead of linear argument generates a model that enables the user to explore and analyze a specific domain of reality, or a game designer who designs a game space that facilitates meaningful and enjoyable play⁴⁵. Atkinson (2011) also says: "While the director is recognized as the creative force behind the film, it is widely understood that the process of film production is intrinsically a team effort of co-creation, involving a large cast of equally creative individuals. Likewise, an orchestra cannot function well without a conductor, but while the conductor's role is key, the quality of the orchestral music produced relies on the active involvement of all the musicians (...). The professional designer, I suspect, will become an agent of design, with the audience of end users selecting which designer's system they wish to employ".

Fashion consultant

A designer could be a style advisor or style coach, the one who chooses from all the information available. Most websites for e-commerce, DIY stores etc. feature some form of assistance. There are tips and suggestions from famous designers; online tools that help buyers figure out their per-

sonal preferences; moodboard tools (Rijken, 2011) and today there are also concepts of 'social shopping'. Professional designers with the necessary expertise have an important role in the large-scale development of design literacy, when their high-quality designs inspire eager amateurs; they can produce examples to be shared on online platforms that can be used, modified and re-distributed. Designers can operate as teachers in face-to-face courses and provide video manuals. Rijken (2011) highlights that in the advancement of design literacy, professionalism is still the starting point. Consulting can emerge as in Leadbeater's example of two different engine developers from the late 18th and 19th centuries. Boulton & Watt created a successful engine for mining and made a strict patent on it. They earned a lot of money but at some point miners started to complain - they could not improve the engine because of the patent. Similarly to contemporary software pirates, miners soon started to build their versions of this engine which was followed by court and expansion of patent. The engine was no longer popular. In turn, Trevithick & Woolf introduced a patent-free engine, which was widely copied. *They made money by installing, adapting and improving the engines.* Eventually, the mines with the T&W engines became three times more efficient than the ones with B&W engines (Leadbeater, 2009: p55). In today's world, designers could provide services that involve everything else but the customized design of the garment. Designers can also be the "librarians" or "museum curators" of fashion: the ones who collect, preserve and share the knowledge about fashion and crafts.

Fashion therapist

There are already art therapists, so why not fashion therapists? Handicrafts have always been and still are one of the treatment forms in psychiatric hospitals. "Participatory design in fashion and textiles is concerned with similar therapeutic alliance (as the therapist and the patient have) between designer and user and attempts to empower individuals to become more engaged with the design and production of their products" (Fletcher, 2008: p193).

A therapeutical effect of fashion openness could also lie in the freedom from competitiveness - at least for the designer him/herself. When the accent is in the process, collaboration and sharing, the competitiveness fades away. The mutual goals of designers are more efficiently achieved. The feeling of belonging and the lack of pressure to win for surviving also fosters the well-being of designers. From the users' perspective, the absence of hierarchical structures in the fashion system could provide freedom from the social status pressures.

New relationships

If practicing open fashion design, the relationship between the designer, user, garment, craft and community would change. Actually, the relationships are central in fashion openness, instead of the egos of authors. "Traditional models of authorship and ownership and the existing legal structures over rights and liabilities do not sit well with open systems of design and production, and trying to maintain them will only lead to heartbreak and disappointment. These lessons have already been learned in the allied creative industries of graphics, film and music production as they have tried to protect their income streams, and need to be heeded here" (Atkinson, 2011). Even though fashion does not have such legal and robust authorship structures, the open fashion designer must "let go" from his/her creations similarly to what people have to do with their children: they raise them but after some point, they lose their authority and influence on the children and must accept that. The designer must also renew the relationship to amateur who becomes a colleague (with) instead of target (for). Hummels (2011) talks about libertarian approach to design which emphasizes the freedom and personal responsibility of every individual. "This means that the designer is no longer placed above users when determining what is right for them; rather, the designer is part of a larger community. (...) The design profession is still something that requires many years of education and practice, like any other profession. It does mean, however, that potential users now add their own experience and specific competencies to the mix" (ibid).

Knowing the craft and material makes one a better social designer. The main purpose of hands-on workshops is both the advancement of skills and craft, but also of struggling against the contemporary "spectre of uselessness", the feeling of lack related to these liquid times (Sennett, 2006 cited in von Busch, 2009: p68). According to Chris Norman, creator of Kraftwurx, a Texas-based marketplace and community for 3D printing, the 3D-technology might unleash a wave of entrepreneurial professional consumers because there is enormous interest in the DIY segment. Soon software systems will allow anyone (with or without CAD skills) to be a product designer (currently these products are mainly accessories - 3D printing still has some way to go before it starts to impact everyday fashion (Batliwalla, 2012)). New relationships can be formed if design functions as an intersection instrument (the materialization of the interaction of cultural practices, economic drivers, available technologies, environmental resources, political conditions, etc.) and communicator linking the discourses, forms and practices of the local into the global field (Bello 2010: pp59-64). Bello argues that design can provide more efficient and inclusive tools that enable access and give power for small, local actors to voice their opinions. Design can also be a mediator between the global and local dialogues rather than being an end in itself (ibid).

In co-creation the roles and responsibilities are interacting, merging and swapped between the parties; some roles are disappearing, new roles are appearing. According to Stappers & Co (2011) "Users are getting savvier, Designers are getting savvier too, Design clients are diversifying".

According to Bello (2010), one of the growing trends in design is the creation of networks for collaborations. These networks are increasingly international, are thus defined by many international regulations and there is a need for new designer capabilities. As the processes are global, designers are dealing with other cultures and disciplines, being sensitive to cultural products and forms, keeping sight of the world picture. "The designer becomes a creative individual who enables relationships between people, between and with products and services, and between global and local needs, potential and restraints" (Bello, 2010: p67).

Educating open designers

According to many scholars, the traditional role of institutions in symbolic systems selection, organization and hierarchization is moving towards more distributed processes (Wood 2004; Parikka 2007; Deuze 2007; Niessen, 2010). Hummels (2011) discusses how the educational model of design could be shaped to provide the designers precocious skills to operate within an open structure. Even though the amateur-contributors of open design do not need to be professionally specialized, open design oriented education is needed. Hummels points out that education should defy its paradigms, and envision different type of designers in the future society. In transformative curriculum⁴⁶, teachers discard their authority and nurture students' own thinking as well as social learning. Diversity of positions, procedures and interpretations are emphasized and supported. In Hummels's view, design education for open design could benefit from theories like Constructivism, where "learning is the learner's active construction of meaning in context (...) and should focus on forming self-directed and life-long learners, who are intrinsically motivated; take responsibility for developing their own competencies and delivering high-quality work; learn to trust their senses and their intuition and to embrace ambiguity, open-endedness and experimentation; develop the attitude geared towards collaboration, preferably supported by methods, tools and structures that foster collaboration" (ibid). Cooperation with other experts and work in multidisciplinary teams (especially when addressing larger societal questions) with people/students on different levels would be essential. Also design students *need to learn to collaborate with potential users*, not only as objective researchers or facilitators of co-design, but as subjective participants. Schools should think both physically and virtually about workspaces that enhance collaboration. Design education can support students in exploring tools for designing and sharing (for variety of contributors) through methods

Figure 25. Designer-client-user-relationships (Stappers & Co, 2011).

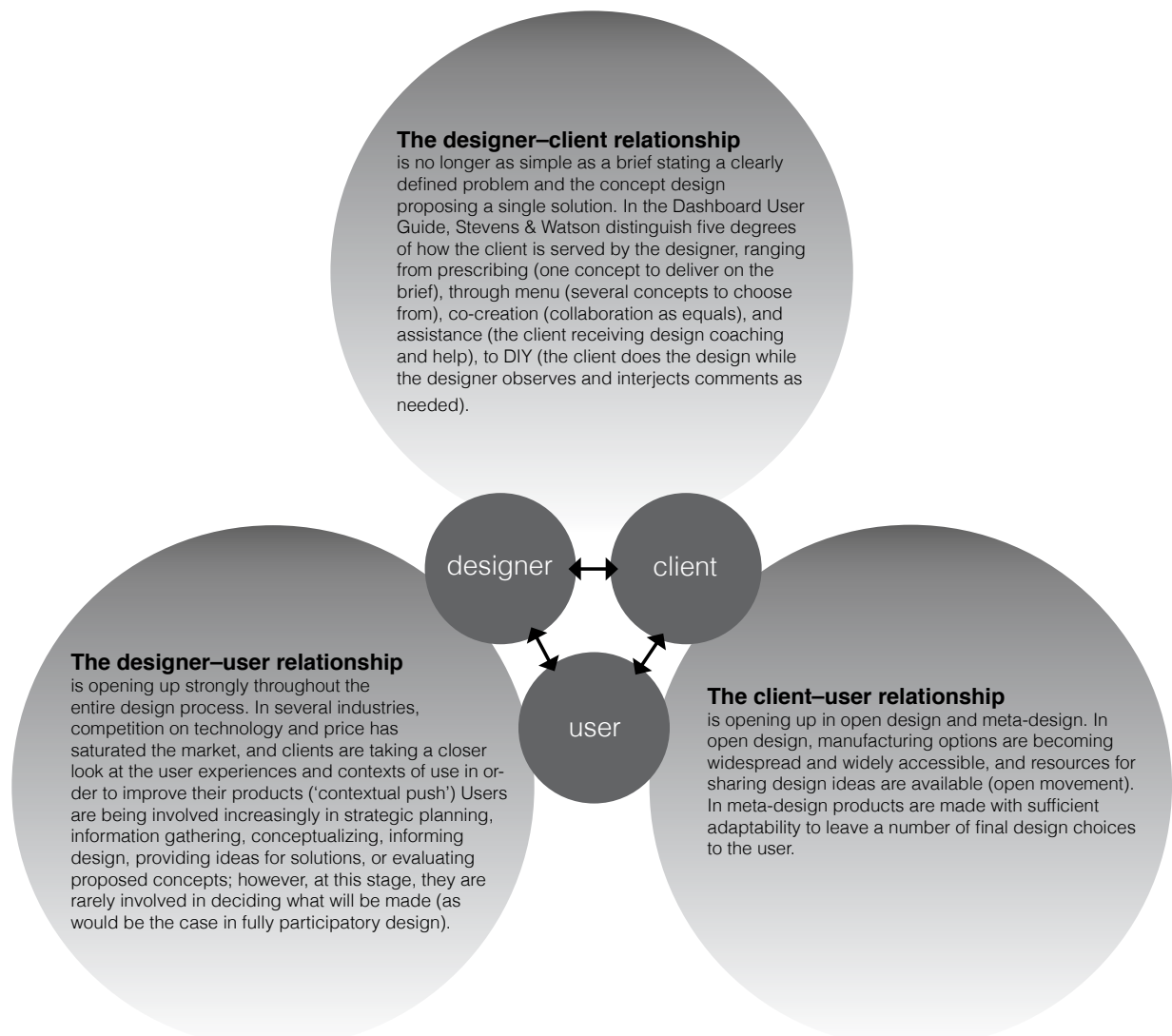


Figure 26. Five main changes in learning related to the emergence of makers' culture (2020 Forecast n.d. in Niessen, 2010: p15).

1. Expect the maker economy to influence traditional curriculums, school to work programs, and vocational training;
2. The maker economy will give new meaning to efforts in project-based learning and purpose driven knowledge acquisition;
3. Design will become an effective entry to learning critical skills, ranging from designing production teams and work processes to physical goods themselves;
4. Cooperation across disciplines, skill domains, and national boundaries will trump competition as makers demonstrate the value of open, cooperative practices;
5. Kinetic learning from interacting with physical objects and materials will open up new ways to experience complex concepts and principles"

such as participatory design, co-design or rapid prototyping equipment at Fab Labs. Hummels also reminds that the educational model for open design should be flexible and open, and will need continuous development and testing with all parties involved to become an open design system.

Empowerment

The volumes of self-help industry demonstrate the longing for personal empowerment. Also, in addition to the environmental and social sustainability aspects, the main goal of fashion openness is to empower the users and decrease the power structures of the fashion myth and the industry. Empowerment connotes self-sufficiency which is the most extreme implementation of the open source philosophy into the fashion paradigms. According to one of the most user-empowered platforms, Wikipedia, an empowered user would have the ability to make decisions about personal/collective circumstances; access information and resources for decision-making; consider a range of options from which to choose; exercise assertiveness in collective decision making; learn and access skills for improving personal/collective circumstance; and inform others' perceptions through exchange, education and engagement. The individuals with such capabilities would be optimistic about the ability to make change and involve in the never-ending and self-initiated progress, increasing one's positive self-image as well as ability in subtle segregation of right and wrong.

- 1 September 27th, 2006, interview of Giana Gonzalez, conducted by Sarah Scaturro, 'Open Source Fashion: For the Masses, by the Masses', <http://www.fashionprojects.org/?p=42>
- 2 <http://www.etsy.com/>
- 3 <http://www.fashioningtech.com/profiles/blogs/smart-fabrics-conference-speaker-margarita-benitez>
- 4 <http://www.businessoffashion.com/2012/10/a-wake-up-call-for-ysls-pr-team.html>
- 5 producing + consuming (Ilich, 1971)
- 6 <http://www.hacking-couture.com/>
- 7 more of his production in <http://www.kulturservern.se/wronsov/selfpassage/index2.htm>
- 8 <http://www.kulturservern.se/wronsov/selfpassage/syntax144/syntax144-method.pdf>
- 9 <http://beta.threadless.com/>
- 10 <http://www.openwear.org/>
- 11 <http://openwear.org/data/files/Openwear%20e-book%20final.pdf>
- 12 <http://beta.threadless.com/>
- 13 'Crowdsourcing is a distributed problem-solving and production model. In the classic use of the term, problems are broadcast to an unknown group of solvers in the form of an open call for solutions. Users—also known as the crowd—submit solutions. Solutions are then owned by the entity that broadcast the problem in the first place—the crowdsourcer. The contributor of the solution is, in some cases, compensated either monetarily, with prizes, or with recognition. In other cases, the only rewards may be kudos or intellectual satisfaction. Crowdsourcing may produce solutions from amateurs or volunteers working in their spare time, or from experts or small businesses which were unknown to the initiating organization.' (Wikipedia)
- 14 <http://www.burdastyle.com/>
- 15 <http://www.burdastyle.com/discussions/getting-started/topics/what-is-open-source-sewing>
- 16 <http://www.top-swap.com/>
- 17 <http://www.antiformonline.co.uk/about/> & www.remadeinleeds.org
- 18 <http://heretodayheretomorrowblog.wordpress.com/about/>
- 19 <http://www.hel-looks.com/>
- 20 <http://liisajokinen.com/toolo-fashion-institute/>
- 21 <http://www.nopsatravels.com/nopsa-perustaa-vaatelainaan/>
- 22 <http://www.os-fashion.com/OS-Fashion.com/Home.html>
- 23 <http://www.forbes.com/sites/lydiadishman/2012/01/13/absolutely-fab-fab-com-buys-fashionstake/>
- 24 the material of the www.hacking-couture.com is marked as open source, i.e. is free to use and distribute.
- 25 co-creation indicates a large or small, often localized collaborative creative effort, while co-design refers to co-creation used in the course of the design process (Stappers & co, 2011)
- 26 "Stakeholder mapping is a collaborative process of research, debate, and discussion that draws from multiple perspectives to determine a key list of stakeholders across the entire stakeholder spectrum. Mapping can be broken down into four phases: 1. Identifying - listing relevant groups, organizations, and people; 2. Analyzing - understanding stakeholder perspectives and interests; 3. Mapping - visualizing relationships to objectives and other stakeholders; 4. Prioritizing: ranking stakeholder relevance and identifying issues" (http://www.bsr.org/reports/BSR_Stakeholder_Engagement_Stakeholder_Mapping.final.pdf)
- 27 Jukka Helle, Anu Määttä and Pekka Salokannel were interviewed for an article about 3D-printing of the fashion items (Mustonen, Natalia, DDD, Basso, 4 / 2012)
- 28 <http://www.talouselama.fi/uutiset/3dtulostaminen+mullistaa+maailman/a2032214>
- 29 <http://www.forbes.com/sites/gcaptain/2012/03/06/will-3d-printing-change-the-world/3/>
- 30 (<http://news.alibaba.com/article/detail/apparel/100073862-1-online-fashion-battle-heat-up.html>)
- 31 <http://www.openp2pdesign.org/2011/open-design/business-models-for-diy-craft/>
- 32 This means that any wear or fashion product can be copied entirely, except for the brand. The lack of copyright actually accelerates creativity and innovation: one side effects of a culture of copying is the faster establishing of trends and the faster induced obsolescence, leading to more sales and revenue, and to more creativity and innovation (because the life cycle of a fashion design is increasingly shorter).

- 33** 'Members of the Threadless community submit t-shirt designs online; the designs are then put to a public vote. A small percentage of submitted designs are selected for printing and sold through an online store and the winners receive a prize of \$ 2,000 in cash, a \$ 500 gift certificate (which they may trade in for \$ 200 in cash), as well as an additional \$ 500 for every reprint. There are even two Threadless stores: Threadless and Threadless Kids, in Chicago. Anders Sundelin (<http://tbmdb.blogspot.fi/2009/12/business-model-example-threadless.html>) noted that producing a predetermined demand keeps costs low and margins high, and because community members tell the company which t-shirts to produce Threadless never produces unsold t-shirts: this is why it generates more than \$ 17,000,000 in annual sales with a 35% profit margin with a growing community. Moreover, Threadless has a subscription revenue stream via the 12 club (a limited edition t-shirt for 12 months) and it has also a Street Team affiliate program members earn points toward future purchases by referring sales or submitting a photo of them with a Threadless t-shirt.'
- 34** <http://www.openp2pdesign.org/2011/open-design/business-models-for-diy-craft/>
- 35** <http://www.virginialawreview.org/articles.php?article=124>
- 36** <http://www.businessoffashion.com/2012/10/3d-printing-copyright-nightmare-or-diy-heaven.html>
- 37** http://www.alllaw.com/topics/intellectual_property
- 38** http://www.statelawyers.com/Practice/Practice_Detail.cfm/PracticeTypeID:54
- 39** 'All non-commercial copying and use should be completely free. File sharing and p2p networking should be encouraged rather than criminalized. Culture and knowledge are good things, that increase in value the more they are shared. The Internet could become the greatest public library ever created.'
- 40** <http://creativecommons.org/>
- 41** <http://www.gnu.org/copyleft/>
- 42** http://www.kk.org/thetechnium/archives/2008/01/better_than_fre.php
- 43** Planned obsolescence or built-in obsolescence is a policy of planning or designing a product with a limited useful life: the product become either unfashionable or no longer functional i.e. obsolete after a certain period of time (Wikipedia)
- 44** Fashion Theory magazine's (Vol.12, issue 4, 2008, pp. 419-425) special eco-fashion issue
- 45** <http://www.attainable-utopias.org/tiki/tiki-index.php?page=MetaDesign>
- 46** According to Doll, "New Science" (which is a paradigm of quantum physics, relativity and self-organizing structures, developed by such scientists as Einstein, Bohr and Prigogine) requires a transformative curriculum. (Doll cited in Hummels, 2011)

Spread photo: Juuso Noronkoski. Published with permission. Taken for a Basso-magazine 4/2010 fashion editorial "Muodinmuutos", in which the models, friends of the stylists and shop personnel could borrow 3 random pieces of clothing or accesoires they preferred. Stylists built the ensembles from the unpredictable selection which they could not influence. Style and text by Lisa Martelin & Natalia Mustonen.





5

THE DELPHI PANEL

I wanted to perform the Delphi panel in order to see what are the probabilities of open source philosophy being applied to the paradigm of fashion, and on how big of a scale it is likely to happen. The Delphi method can be considered as a “modern participatory ritual” providing a “committee-free environment and anonymity” that “stimulate reflection and imagination, facilitating a personal futures orientation”. (Linstone & Turoff, 2002). Therefore I see the Delphi method, also being an application of the systems thinking and a characteristic method for future research (Kuosa, 2009) as a suitable technique to explore the future developments of fields as inexact as fashion, design and the future. What do the contemporary experts from the creative fields think about the subject of open fashion design? This study covers seven topics: fashion dynamics; identity and material values; fashion communities and new business models; technology; driving forces of co-creation; the role of designer; co-creation and social networking. The study aims at finding what makes open fashion possible or impossible (motivation, technological and economic aspects, societal values and paradigms) and exploring what are the most important and unimportant reasons for open fashion to exist (such as sustainability issues, technological change in fashion production/manufacturing, identity/psychological aspects, equality values or sharing attitude). The panel is also meant to discover who are the likely or unlikely actors in the open fashion processes: are they the educated professionals of fashion (designers, producers, clothing engineers), craftsmen/artisans, fashionistas, fashion lovers, the ordinary people or someone else? What are the demographic attributes of the open fashion system?

The question forming was quite challenging, because I was dealing with the Delphi method (or a large, partly quantitative questionnaire altogether) for the first time. The learning process started after I received the first answers. I agree with Theodore J. Gordon, who believes that Delphi studies are difficult to perform well: the choice of participants is crucial; the questionnaires must be meticulously prepared and tested to avoid ambiguity; multi-round studies require a great deal of time. In the first round of the survey, the first challenge was to decide what kind of experts to ask to participate in the panel and how to communicate with them. How complicated can the questions that I ask

be? What kind of language can I use? The experts have different backgrounds and the question forming must be understandable to all of them. As a post-review I can see that this survey was too long and apparently too difficult to understand. I learned that the questions must be formed in a considerably simpler manner and in smaller amounts. Furthermore, instead of sending the questions and receiving the answers through e-mail, it would have been more convenient to use a survey program, such as SurveyMonkey or Webropol, but unfortunately my finances did not allow to do so. Despite the unappealing figure of the survey, the return rate of the first round was 40% (16/40) which is enough for this study. The return rate of the second round was 37.5% (6/16) despite the improvement attempt (it was notably shorter and, in my view, easier to contribute).

5.1 EXPERTS

According to Gordon (1994), the key to a successful Delphi study lies in the selection of participants. I wanted to collect data from people working (or being enthusiastic) around fashion, research, marketing, media and other fields concerning lifestyles, culture, future visioning or open philosophy. The group must be diverse to implement views and knowledge from different angles. The list of the experts that were asked to participate this panel consisted from researchers and academics from Aalto University and Demos Helsinki; some of the central names behind my literature review; fashion practitioners and professionals from the fashion industry; influential fashion fans, enthusiasts and bloggers; and other relevant actors such as marketing professionals, producers, editors, writers, consultants, curators, copyright lawyers, design students and activists. I found them through publications (used for this thesis), recommendations and personal judgement. 40 experts were asked from which 16 answered the survey. I do not use anyone's name in the summary or questions of the second round, because the identities of the participants must not disturb the conversation. The names and occupations of the participants who did not wish for anonymity in this study, are listed below. The ones who wished for anonymity are presented only as capital letters. The occupations of the experts are presented as they informed in the questionnaire. Maria Rehbinder, *Legal Counsel IPR for Aalto University*

Zoe Romano, *social entrepreneur, activist, craftivist*
 Simo Vassinen, *researcher, producer, urban enthusiast (Demos Helsinki)*
 Salli Raeste, *fashion editor*
 Minna Ritoluoma, *marketing professional*
 Miiika Särämäkari, *Editor-in-Chief of music, arts, culture, fashion and lifestyle magazine (Basso)*
 Matti Liimatainen, *designer*
 LM, *designer and MA student*
 Kirsi Niinimäki, *researcher (Aalto University)*
 Kaarle Hurtig, *designer, blogger, AD, writer*
 Jasmiine Julin-Aro, *designer and professor*
 Cecilia Hammaren, *fashion design MA student*
 Anniina Nurmi, *designer, consultant and writer (green clothes and sustainable consumption - Nurmi, Vihreät Vaatteet)*
 Giana Gonzalez, *interaction designer*
 JS, *writer, curator*
 PK, *fashion enthusiast & blogger*

5.2 ROUND 1, SUMMARY

The goal of Round 1 was to explore the experts' views about the future of sustainable fashion, the connection between open fashion and sustainability and the probability of open fashion to emerge, as well as discuss the details such as de-

mographics and the partition of roles among different actors of the fashion system. The questions were derived from the themes that I considered relevant to open source fashion: co-creating, networking, sustainability, future systemic and technological developments, motivation for participation, the participants, the future of fashion designer's tasks and the driving forces behind open fashion. The questionnaire was divided into three parts, that covered following aspects: *future societal, economic, technological and paradigmatic developments that might have an impact on fashion* (12 likelihood questions, 6 open questions); *visionary, maybe controversial predictions about future developments in fashion and how fashion is produced* (4 likelihood questions, 2 open questions); *personal opinions and visions with regard to fashion and its future* (5 likelihood questions, 1 open question). This division was inspired by Gordon's (1994) example-Delphi-study.

Top 10 Most Likely Developments

This list presents developments that have received the most likely points: the biggest amount of number 1:s. In the survey number 1 stands for "almost certain" and number 2 for "likely"; on the contrary number 5 stands for "almost impossible".

TOP 10 MOST LIKELY DEVELOPMENTS

- 1** If there will be more specific networks created around fashion creation, the most likely role of the amateurs will be to share information (1,27), initiate (1,33) and realize (1,67)
- 2** If there will be more specific networks created around fashion creation, the most likely role of the fashion designers will be to inspire (1,31)
- 3** The most likely driving force for users to co-create with a fashion company/professional designer rather than buy a ready-to-wear garment is self-expression / creativity (1,33)
- 4** Young population are the most likely to be the ones to participate (1,5)
- 5** If there will be more specific networks created around fashion creation, the most likely role of the ordinary consumers will be to share information (1,5)
- 6** The role of fashion supply today is more likely about creating consumers' desires (1,5)
- 7** Good reputation / brand is the most likely motivation for companies to create sustainable fashion (1,6)
- 8** Social networks for their field of interest will be the most likely non-material force for people to form their sense of identity from (1,6)
- 9** The most likely driving force behind forming fashion co-creation and co-production networks between the professionals and non-professionals will be collective creativeness (learning from each other, sharing ideas and information) (1,64)
- 10** Individual self-actualization/creation will be the second most likely non-material force for people to form their sense of identity from (1,67)

Top 10 Most Agreed Developments

This list is based on the smallest deviation between experts' answers. The smaller the number, the more participants agree with each other. In this survey, when the participants are more unanimous, the deviation number is smaller than 1; when less unanimous - bigger than one. The answers with deviation number that is bigger than 1 can be considered unreliable (i.e. experts disagree with each other and no conclusion can be derived).

Fashion dynamics

Different kinds of trends emerge at the same time and parallel each other. According to the results of the survey there will be two polarized types of trends: very fast and very slow. Cycles can not get faster with a one-way approach where the consumer gets an offering of pre-selected products each season. Trends could be very diverse and dynamic, if the consumers would influence the work of designers already during the creative process.

Sustainable fashion is considered attainable, but the most efficient way is still to be found. In addition to new product innovations, open fashion is very likely to be a competitive

option in creating sustainable fashion, but it will not replace the current industrial system completely. It could be used as a tool or a separate department inside a big company. Smaller start-up businesses have a greater possibility to utilize open fashion in order to abandon current paradigms. The creation of sustainable fashion is most probably going to be initiated by the users, design professionals and academics. New manufacturing methods, materials, business ideas, services, etc. can be first initiated by an expert of a particular field, and then adapted by the people who understand the problems of current systems. If approaching sustainability through open fashion - it is open to all, so innovation might come from the less expected. For the companies, the motivation to create sustainable fashion is most likely going to be the good reputation and social pressure, which are posed mainly by the users, who are concerned about the environment, resource limitations or, at least, increasing prices and decreasing offering. It is a deal between consumers and producers, rather than other driving factors such as law or universal ethics.

“OSF potentially has a couple of routes for existing fashion brands: R&D (research and development: “creative work undertaken on a systematic basis in order to increase the stock

TOP 10 MOST AGREED DEVELOPMENTS

- 1** If there will be more specific networks created around fashion creation, the most likely role of the amateurs will be to share information (0,46) and initiate the networks (0,62)
- 2** The most likely driving force for users to co-create with a fashion company/professional designer rather than buy a ready-to-wear garment is self-expression / creativity (0,48)
- 3** It is between likely and 50/50 chance that the fashion enthusiasm will grow among the amateur creators (0,51) and the ordinary consumers (0,64)
- 4** Fashion professionals are quite likely – but not the most likely - to initiate the creation of more sustainable fashion (0,59)
- 5** If there will be more specific networks created around fashion creation, the most likely role of the fashion designers will be to inspire (0,6)
- 6** It is unlikely that fashion field is going to be totally overthrown by the amateurs and the industry will no longer exist (0,63)
- 7** It is between likely and 50/50 chance that the creation of fashion / fashion design going to be user-centered through user-contribution (0,64)
- 8** The role of fashion supply today is more likely about creating consumers' desires (0,65)
- 9** If there will be more specific networks created around fashion creation, it is between likely and 50/50 chance that the role of the fashion designers will be to share information (0,65) and realize the products (0,66)
- 10** The role of fashion demand today is quite likely about social status (0,68)

of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications" <http://puck.sourceoecd.org/vl=59406278/cl=11/nw=1/rpsv/factbook/070101.htm>), new business opportunities and/or a strong marketing tool. I hope the two former are the one put to practice. Otherwise it become the next "green movement" and what we are saying is so much more, rooted in a shift in fashion culture, new ways of approaching collaboration, and design literacy."

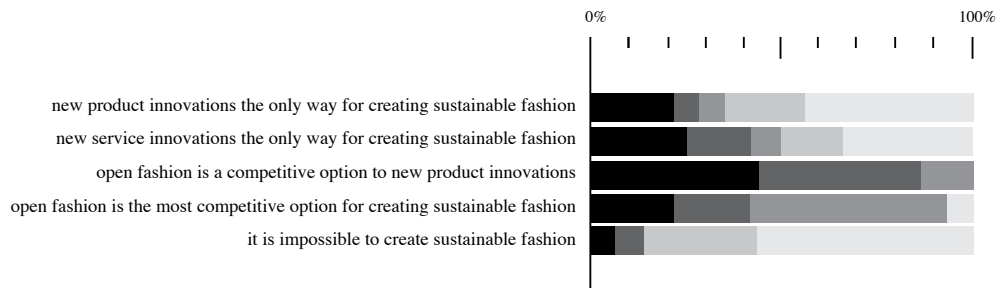
When talking about open fashion, which might be paralleled to post-industrial development: if the main route is going to be a marketing tool, it might become the next greenwashing, superimposed feature. New business opportunities would be fruitful routes for open fashion to enter existing fashion brands. Promoting, for example, small scale local production; bringing manufacturing closer to

the end-users; creating win-win green-tech alternatives and garment libraries; feeding seasonal thinking determined by dynamic user-driven trends; emphasizing creativity coming from inside every individual - not being offered to the crowd from outside. These new business models might have a chance to change attitudes towards consumption and sustainable use of garments, which includes also the maintenance of clothes. Will there even be such a strong concept of "a trend" or is fashion - which means as a term something constantly changing - going to be just something customizable, seasonal only due to the functional aspects?

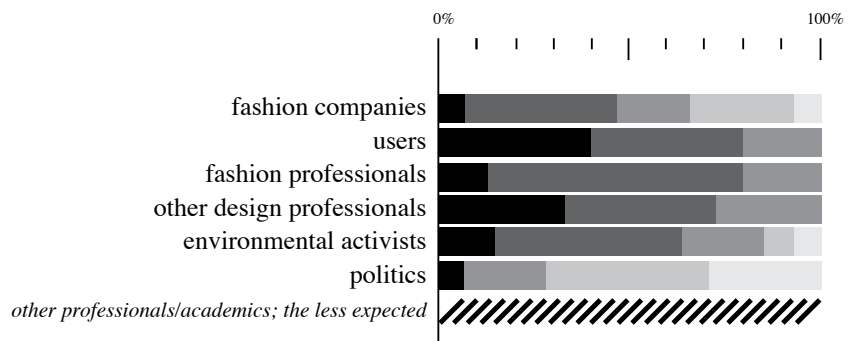
Key issues: *paralleling polarized fast and slow trends - customized seasons; open fashion as a tool inside a big company or base of a start-up business; innovation can come from the less expected because it is open to all; new innovative business models that affect attitudes and behavior of the users.*

1 = almost certain ■
 2 = likely ■
 3 = 50/50 chance ■
 4 = unlikely ■
 5 = almost impossible ■
 = other (most likely for the ones who suggest the option) //

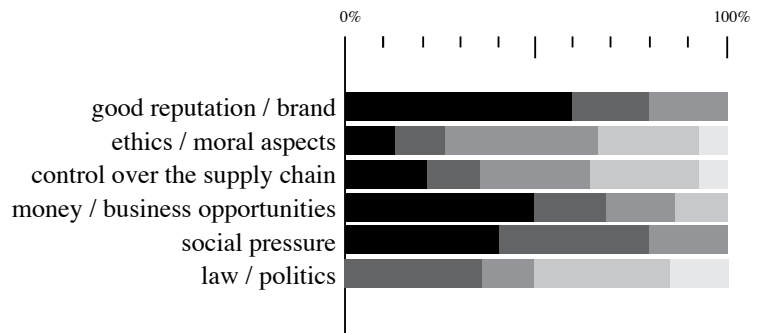
3. Ways to create sustainable fashion:



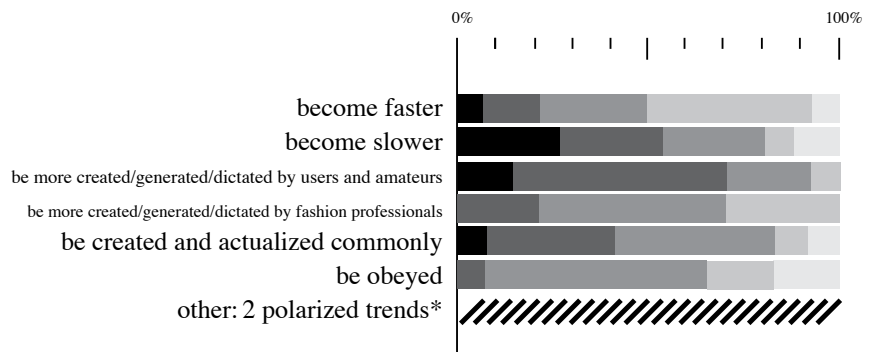
4. Creating more sustainable fashion is going to be initiated most likely by:



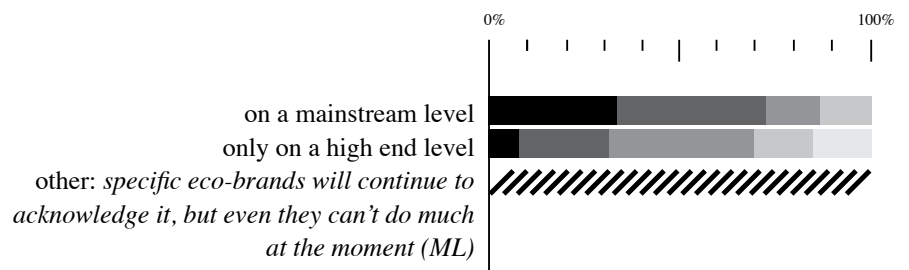
5. The most likely motivation of the companies (brands, manufacturers, design companies)



12. The most likely fashion trend dynamics are going to



19. The production of fashion is going to acknowledge the challenge of environmental and economic issues...



Identity and material values

According to this panel quite unanimously, today, the role of the fashion supply is creating consumers' desires and also almost as strongly - building their identities. So there seems to be more creation of demand rather than satisfaction of it. Fashion demand today is most likely based on insecurity, low self-esteem and social status issues rather than on personal creativity or especially functional needs. The amounts of collections created by fashion companies per year are more likely going to decrease than increase - though it might take some time. But this is actually more complicated and would be better to talk about some kind of change in the total nature of creating fashion collections.

"There's been an oversupply of consumption items ever since the 1950's when post-war society got back on its feet and found the joys of mass production. In that sense, supply has always been greater than demand, but the fashion industry has played a big part in creating additional demand for products, that has in many cases worked against its own logic - leading to price-dumping, outlet sales and seeking unsustainable ways to meet this so-called demand."

Immaterial values like having time and space will get more and more focus. Today the supply is much bigger than the demand. People also buy a lot more than they need, so businesses basically meet the (unhealthy) demand. Will the development head towards production-on-demand-type of systems or continue to produce demand? Most experts think that the volumes will drop and fashion production will start to emphasize quality instead of quantity. The industry might want to look for waste minimizing and customizable on-demand-production because it is also cost-effective due to resource limitations. Why produce goods for landfills? It might also mean fewer seasons, less short-term trend following and more local manufacturing, maybe even back in Europe. The development is not linear though and people can decide what kind of future they want. When someone proves that lower volumes of clothes production is not risky, and the model is ready, larger companies will start initiating the change. It is in everyone's interest to meet the demand.

One of the participants thinks that critical discussion about fashion as a phenomenon should be louder and more democratic. Fashion is seen as fun and shopping for it an acceptable hobby. If fashion would be the actual hobby, immaterial aspects of fashion would also be considered important, like reading and learning about fashion instead of only shopping. Learning to create something yourself could be as valuable form of self-expression as buying the piece. It is a change in attitudes, and this is where open fashion forums can come in and make a big change. Could open fashion affect attitudes and inspire people, for instance, to wash their clothes less? Or could open fashion be utilized inside companies to

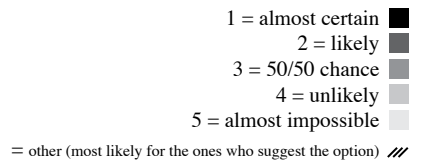
find sustainable product innovations, such as raw material solutions? When forming a sense of identity from non-material forces, people will probably value the interaction relations, the experience of experiencing together instead of identifying with particular units. Traditional segmentation does not apply on new markets, so marketing and new business models need to tackle hobby groups to gain better impact: forming identity will happen in an unexpected way by unpredictable groups. The material values among consumers of western societies seem to move away from heavy consumerism and throwaway culture, which is naturally affecting fashion ("less is more"). Classics and functionality are getting more popular, people buy more expensive garments in smaller amounts. There is also more of a niche market emergence. Westerners are willing to pay more for sustainable clothes and use them for longer periods of time, if they have also other privileges, such as design value, emotional attachment or advanced quality. Transparency becomes more and more relevant, because consumers are becoming more aware of the emerging resource limitations downsides of the fast-fashion system. Politicized material values are used as a statement of the overall values in life: you are what you consume, also when you consume non-material experiences. Sharing seems to define more and more the way we approach material values. We start asking what we can create for ourselves, instead of showing others what we need for ourselves. Due to growing living standards, non-Western consumers will probably follow the consumption habits of the West and mass-production based Western fashion brands will gain benefit from that. However religious and cultural traditions will affect each society's attitude towards material values. Is there a chance to come up with a good example and show the non-Western countries that it is not necessary to go through the throwaway consumption phase before coming back to traditional, more sustainable habits? And in Western societies: could skillful and conscious consumers be valuable for producers?

Key issues: *Production-on-demand-type of systems or production of demand; emphasize quality instead of quantity; critical and democratic discussion about fashion; creating instead of consuming.*

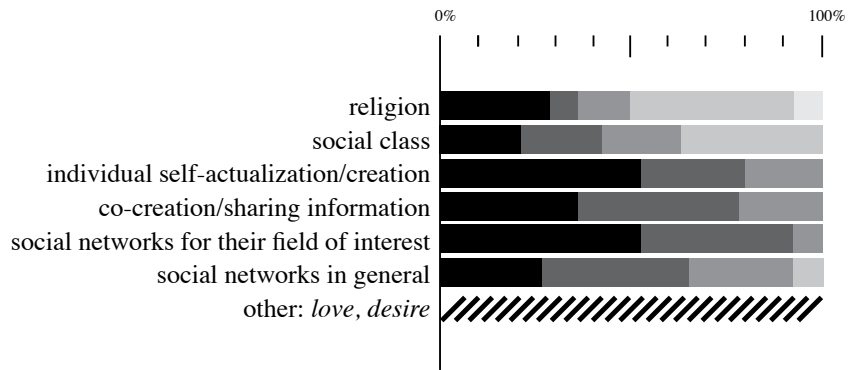
Fashion communities and new business models

Digital fashion co-creation communities will probably concern service design or open design actions, made possible by some kind of social media concepts. Here is a list of suggestions from the panel participants:

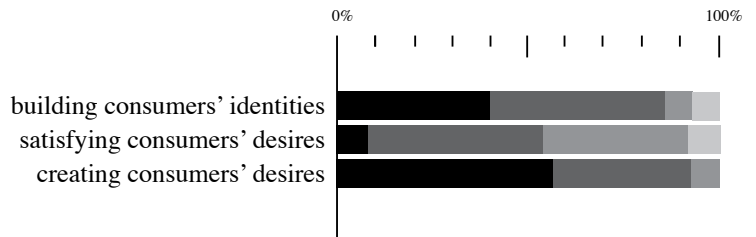
- special interest groups, such as role players
- people who need special measurements, or a home body scanner that allows for exact measures
- forums where, for example, over-sized people discuss fashion and exchange style advice
- virtual fashion showroom



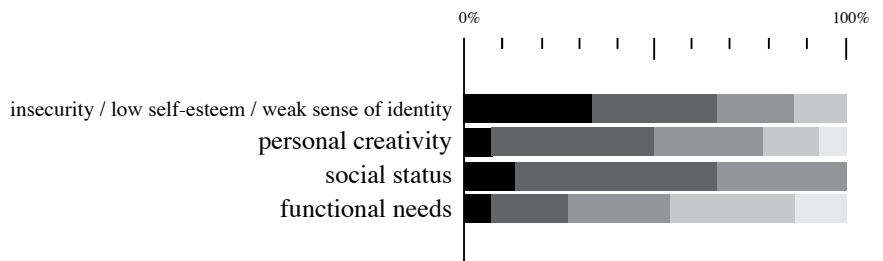
6. The non-material forces that people will form their sense of identity from will most probably be:



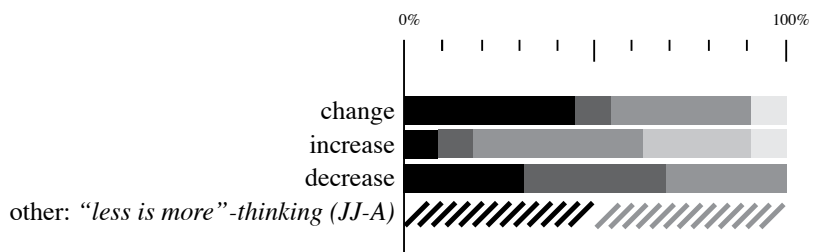
20. The role of fashion supply today is more likely about



21. The role of fashion demand today is more likely about



22. The amounts of collections created by fashion companies per year are going to



- a digital based community having critical discussion about fashion
- communities sharing information about the production chain and the stories behind the clothes, providing transparency
- an organized community for exchanging (amateurs) and developing (professionals) DIY ideas
- 'swedish-paperdoll-thingie' (stardoll.com?), co-operation projects where people have never met in real life
- design recipe sharing, fashion technology information sharing, 'recipe' sharing for rapid manufacturing processes (3D files, CAD patterns, knitting programs, CNC files etc).
- (video) tutorials for creating & modifying existing designs
- a community between factories (manufacturers), designers, and consumers via social media innovations
- a user-created open-source trend website, that shows the actual desires of the fashion consumers, so that trends are not forced upon us
- trend scouting or utilizing long tail of materials/items i.e. crowd shopping
- to store favourite colours in Pantone colour code so you can match a scarf to same colour shoes etc.
- virtual copy systems of high fashion looks made from at-hand materials
- lazer-cut fashion
- zero waste design

Service design seems to also penetrate the non-digital co-creation communities. There are a lot of suggestions concerning fashion exchange or clothes swapping, lending, sharing and renting communities. There are also ideas of tuning, customizing, repairing and styling communities that could become more efficient or work as a service. All these might also be implemented as creative and open-for-all workshops during small or big fashion events. Creative workshops organized as a mean of heightening the overall atmosphere of a fashion event or workshops where tailors share their knowledge and bring consumers to the very core of clothing design. The physical aspects such as shared workspaces or store workshops could also bring fashion enthusiasts together. State supported office buildings or privately paid spaces with studios for manufacturers, fashion designers, bloggers and early adopting consumers where all the participants of the new fashion industry will physically create and work under the same roof. Material and information sharing, production ideas and knowledge sharing or trading, even cross design branch production sharing would become easier.

"If the new business model dares to disregard one-way target group thinking, the design is open and free, the revenue might come from the actual making / manufacturing, so that area has the biggest capitalization potential."

As a business model, there is a call for an easy, dynamic and well-executed new service model/platform, that gathers all

the pieces together: distribution, manufacturing, sharing and creating "fashion brand on-demand" system (like lulu.com) or a microeconomic mass-customization model (spreadshirt.co.uk). Another idea is lending and sharing - material and immaterial goods such as knowledge, inspiration or both professional and non-professional design. These might be smaller sized local businesses or bigger ones based on software innovation and successful logistical concepts. Though copyright would have open access, trademarks might still remain important and will be sustained, valued and guarded. There might be need for human-work-replacing systems that enable unskilled fashion enthusiasts implement their ideas easily in reality. Intelligent technologies that bring the right people together. Sustainability oriented technologies would be: cradle-to-cradle systems (or zero waste - total recyclability), design for long-term use, low water use in production and maintenance and smart logistic solutions.

Key issues: *all the participants of the new fashion industry under the same "roof"; material and information sharing; co-creation communities for special groups; communities for critical discussion about fashion; dynamic and well-executed new service model/platform; revenue might come from the actual making / manufacturing; swapping, lending, sharing and renting.*

Technology

Printing technology, especially 3D printing and easily accessible (through price or usability) software, and new ways to print fabrics will be the most likely technological developments in fashion production. What comes to sustainability aspects, the experts proposed development of cradle-to-cradle production; new materials; low water use in production and maintenance; better recycling planning or even 100% recyclability (esp. yarn finishing & dyeing, seamless knitting, seamless weaving, design for disassembly, zero-waste or closed loop production); designing for long-term use (emotional attachment and quality?); self assembling materials (esp. proteins); logistic solution to make waste/surplus smaller or logistic solutions to make smaller quantities of custom products at bigger companies; tools like open source hardware for weaving and sewing or parametric software for pattern making; at-home body scanner to take exact measures.

Social media developments; a media where a company co-creates with a consumer; or intelligent sharing systems are another direction for technological developments to make open fashion more attainable (as an example, 'works like GPS dating services: my iPhone tells me that someone 450 meters from here has the perfect black dress in my size that they're willing to lend for the night').

Key issues: 3D-printing and easily accessible (through price or usability) softwares; cradle-to-cradle production; low water use in production and maintenance; better recycling planning or even 100% recyclability; self assembling materials (esp. proteins); logistic solution to make waste/surplus smaller or logistic solutions to make smaller quantities of custom products at bigger companies; social media developments or intelligent sharing systems.

Driving forces of co-creation

Compared to other demographic groups, such as people with families or the elderly, the young population seems to be expected to be the most active in forming co-creation communities: probably because they are already accustomed to the open sharing culture and have more time, money, energy or capacity for ideas. Especially the time and money aspects are important. Customizing requires both as long as the making is not performed by the user and is not made easy. On the other hand demographics might be a less important factor than the lifestyle or values emphasizing self-expression or activity. The unfavorable changes in mass production towards higher prices and weaker offering might motivate people to form co-creation communities. To support co-creation there must be developed frameworks, for example with game dynamics, that make participation easy, appealing and accessible to everyone.

Collective creativeness - learning from each other, sharing ideas and information - will probably be the most likely driving forces for fashion professionals and non-professionals to cooperate. Disagreeing with the current fashion system, production systems, consumerism, materialism and planned obsolescence, economic profitability and resource limitations will play some role too. When based on a wish for heightened brand value it means economic benefit for the company and at the same time the customer or fashion enthusiast can express himself and feel a sense belonging and meaning. The most likely barrier to collaboration between professionals and non-professionals might be the protection of professionalism. Economic unprofitability as a barrier splits the opinions a bit but one of the experts points out that once working models are found due to limited natural resources, the system will become profitable. Lack of quality and copyright issues are not considered a big problem (compared to music industry for instance). The quality might vary a lot, but it does not mean that it is a bad thing: it would only highlight the skills of the professionals. But why co-create and share ideas for free with people who did not go through years of education and work experience?

Key issues: demographics not important; young population - accustomed to the open sharing culture, have more time, money, energy or capacity for ideas; game dynamics, that make participation easy; learning from each other, sharing ideas and

information - pros and non-profs co-operating; weak offerings; highlight the skills of the professionals.

The role of the fashion designer

What are going to be the main tasks of a fashion designer in the future? Most probably (from the given options in the survey) expressing the community he/she works in (company, other community) as well as creating frameworks rather than concrete collections/designs. A fashion designer will quite likely continue to express the common trends, create designs based on them and operate as a tool for users to express their needs and desires. The artistic role of the designer is a big question mark. Around half of the Delphi participants think that it is almost certain or likely that the main task will be to express him/herself as an artist, and the other half believes it is unlikely or almost impossible.

Most likely, the fashion field is going to remain popular among amateurs but still be ruled by the professionals. Compared to today it might become more amateur oriented and emphasize the skills gained by enthusiasm and action (DIY) rather than talent or education. It might come closer to the ordinary consumer who was not even a fashion enthusiast per se. To make a quality product, the right kind of execution is important and this is where we need the "professionals" or experts of manufacturing and fashion design. The cooperation between bigger companies and smaller producers is quite likely to become more popular in the future, as well as the cooperation between professionals and both amateurs and ordinary users. Closer cooperation or not, the experts believe that such cooperation will occur also in the future, even though some of the new technologies will be too expensive and complicated for collections to be produced in small units.

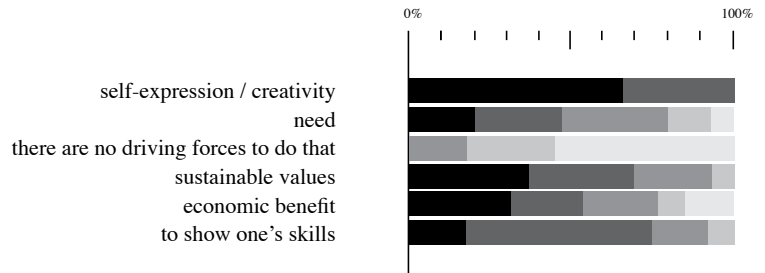
"I think the role of fashion designers will become closer to the role of consultants, being the ones who sense what has real value and what is only a momentarily thing/trend. Also I hope that the visual world, such as fashion, will gain more interest also as a thing of knowledge, not only as a consumer commodity. That people will like to learn and know about fashion in a deeper sense, if that would happen, educated fashion designers are in a position to distinguish themselves from amateurs such as bloggers."

According to few experts, the title of the profession of fashion designer will remain, as long as the business/education of fashion based on the idea of the "genius" and the "artist" can profit from it. Fashion designers will stay as fashion designers, but new types of co-creators / amateur designers / mass customizers etc. practitioners of 'lesser' forms of design might have own new definitions. Names proposed: designer, clothing designer, fashion/clothing artist, fashion/clothing expert, creative director, collector, stylist, style

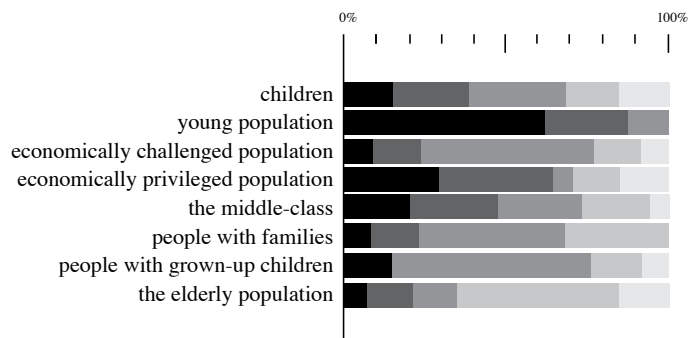
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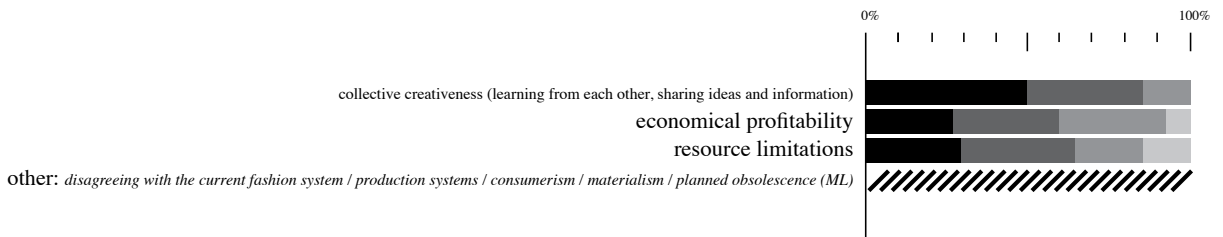
1. The most likely driving forces of users' to co-create with a fashion company/professional designer rather than buy a ready-to-wear garment:



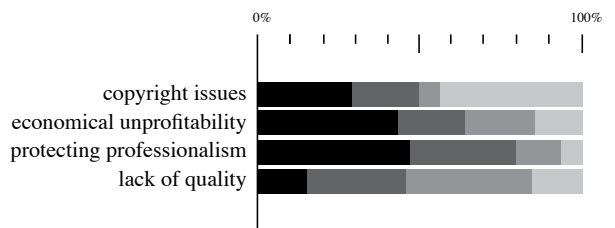
2. Open fashion will be popular most likely among



9. The most likely driving forces behind forming fashion co-creation and co-production networks between the professionals and non-professionals:



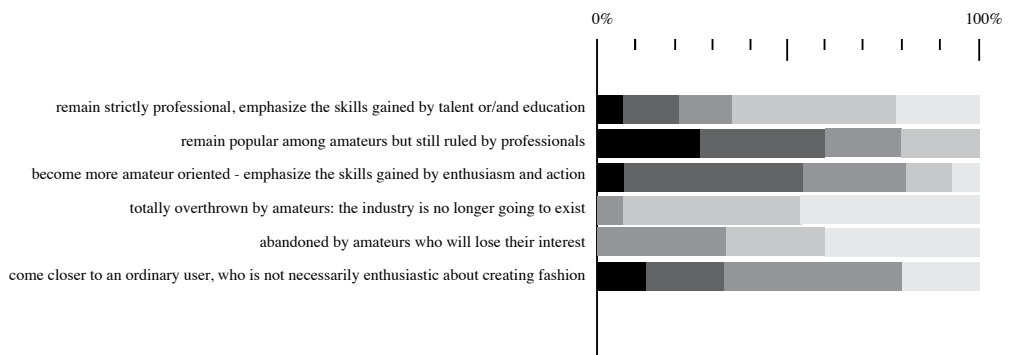
10. The most likely barriers behind forming fashion co-creation and co-production networks between the professionals and non-professionals:



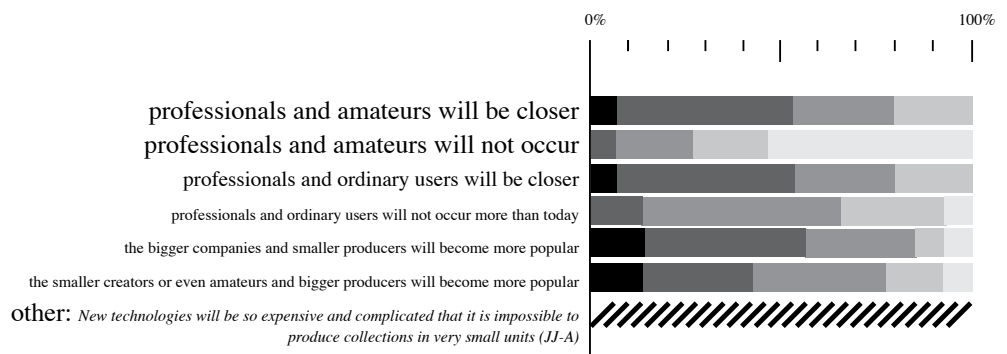
designer, creator, visual person, fashion action planner (a person who spots the interaction between consumer and supplier, amateur and professional, and executes an action plan to move things forward), fashion co-creator, fashion coordinator, fashion collaborator, fashion entrepreneur, social fashion enabler, industrial designer

Key issues: *expressing the community and creating frameworks; artistic role of the designer divides opinions; the importance of education will decrease and enthusiasm (DIY) increase; fashion designers will continue to exist; new definitions for amateurs.*

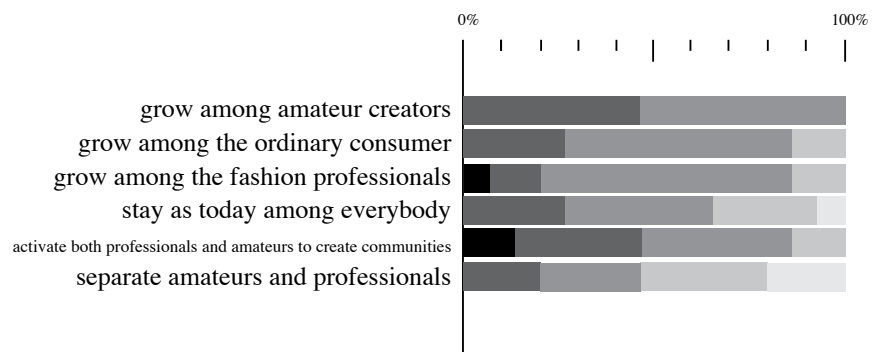
25. Fashion field is going to



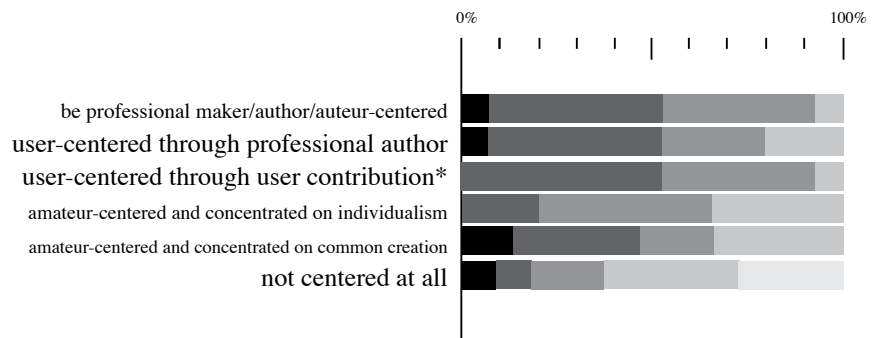
26. The cooperation between



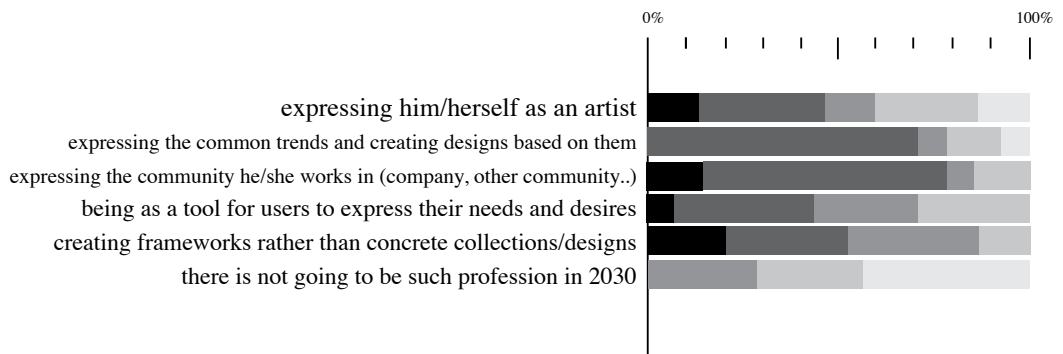
27. Will the fashion enthusiasm



28. The creation of fashion / fashion design is going to



29. What are going to be the main tasks of a fashion designer in, for instance, in 2030?



Co-creation and social networking

All industries are at a breakpoint (music, food, entertainment, fashion, other goods) heading towards two-way dialogue and (cap)ability of any individual in producing things previously accessible only to professionals. All major corporations will need to adapt the needs of amateurs and users by understanding them more and more. Manufacturers will most likely benefit from co-creation and social networking.

It seems quite likely that if the Internet continues to exist, the popularity of social media networking is going to grow in the future on every level, especially in business and among hobbyists or amateurs. Also environmental, cultural and political actors will increasingly utilize social networks. Social media makes it easier for big industries and small companies to function. Maybe too much use of individual social media will lead to desire of hapticality. Fashion blogging is already highly popular activity among fashion lovers and bloggers are also considered powerful fashion agents. If there will be more specific networks created around fashion creation, fashion designer's strongest task will be to provide inspiration. Additionally, designer would probably guide, share information and make, as well as artisans. However, artisans might have the strongest emotional tie to their craft and feel threatened by amateur activity. Amateurs will be most likely responsible for sharing information and initiating/organizing fashion co-creation networks. They would also make, inspire and guide but not as much as the professionals. Ordinary consumers are not likely to participate in the fashion co-creation process as eagerly as the previously mentioned and will mostly stick to sharing information in the co-creation processes - which depends on the consumer: there are early adapters and slower followers. The fashion co-creation and co-production networks/communities are most likely going to change the paradigms of fashion creation.

Key issues: *the popularity of social media networking is going to grow in the future on every level; as a reaction - desire for hapticality; the participants of the fashion creation networks will mostly be the professions and enthusiastic amateurs; the main task of these networks will be sharing information or inspire each other; the fashion co-creation activity will probably change the fashion paradigms.*

5.3 ROUND 2, SUMMARY

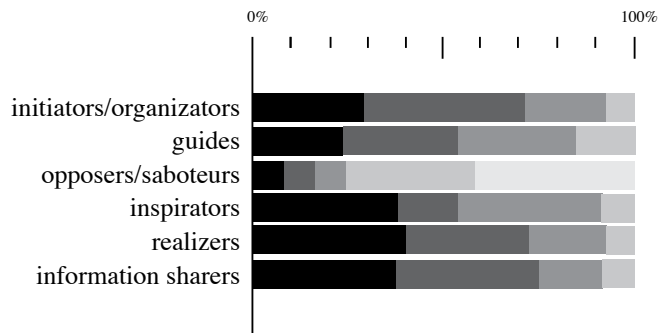
In the qualitative Round 2 I wanted to explore the expert's reflections on the central themes of the outcome of Round 1. Unfortunately the return rate was quite low: only 6 (37,5%) of the first round's 16 participants answered. Nonetheless I argue that the data provided by the 6 experts is valuable because of its qualitative nature. Round 2 can be viewed as six further interviews. This summary also

includes the additional, post-Delphi, short (4 questions) interview of Kate Fletcher, who is a sustainable designer, consultant, writer and key opinion leader in fashion.

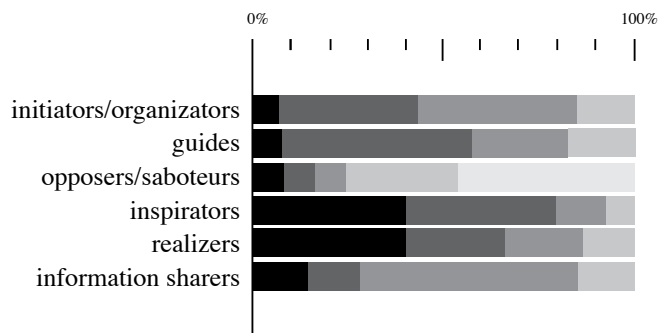
Trends

"Customizable seasons" and "open fashion" as tools are most probably going to find their place within traditional industry-based companies only in a small scale niche market, among streetwear, high street and sportswear companies. Even though it might be important for traditional companies to reform their business strategies, new tools are more easily adapted by new companies that build their models in a new way from day one. "Customizable seasons" or "open fashion" are also likely to find their role within the industrial based companies at least as a trend, gimmick or a marketing strategy, promoting the bigger schemes - as Nike already does. Half of the respondents of Round 2 think that open fashion will be just a passing trend, but it might have opportunity to grow due to the niche group of activists who are spreading the DIY attitude. Beneficial proof might encourage the big companies to create some more open systems. One of the Delphi participants believes that "open fashion" will slowly gain more recognition, finally taking over as a more reasonable and rewarding model. Another half of participants believe that open fashion will stay more permanently among its own market and followers, alongside with the existing, dominant fashion system. Fast mass production is likely to continue the current ways of producing fashion clothes as long as it is possible, desired and allowed. Fletcher says: "As long as the key beneficiaries of the fashion sector's current setup remain dominant, a change to such alternatives is unlikely... though this doesn't mean we must not develop them." The fashion industry functions within a large and complex system, including also fashion schools, fashion magazines, real estate companies and other parts. This system needs the fashion industry to stay as it is today. Overall "open fashion" will exist only if a shift in collective thinking on the global scale, or as Fletcher answers - a change in habits of mind- will take place, and the whole fashion (or any other) system will change. Sustainable lifestyles in general can be developed only as a bottom-up process as long as the fashion system depends on finance and short-term extraction of value. When the deep values of consumers include the active DIY attitude, it gives room for self-actualization, which is linked to happiness. "One should probably find a model that uses fashion as a mean to gain more inner knowledge and strength. If fashion is a mean to mirror oneself with society and surroundings throughout ones life, then there naturally is a need for fashion". On-demand production might lead the way to consume quality instead of quantity. The alternative to bottom-up process is to find ways to both clothing production processes and discarding processes to benefit the ecosystems.

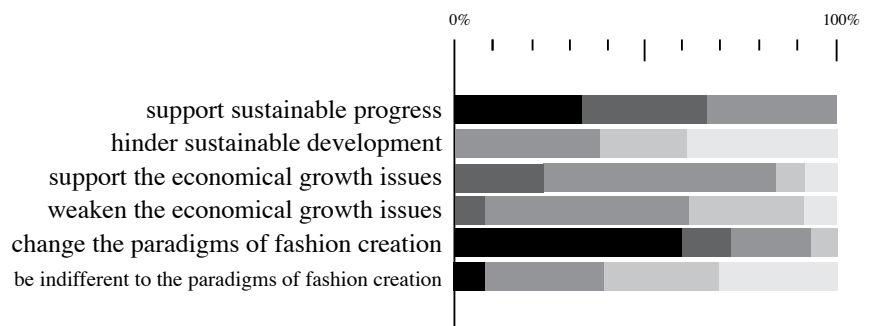
8. If there will be more specific networks created around fashion creation, the role of d) the manufacturers or companies will most likely be:



8. If there will be more specific networks created around fashion creation, the role of e) artisans will most likely be:



11. The fashion co-creation and co-production networks/ communities are going to



"I could be smartly dressed for the whole, autumn, winter early spring season when I found exactly the two jackets and three dresses that I wanted (...) few personal items help people to live in smaller apartments and more sustainable lifestyles. Also you need less time to shop and organize your wardrobe".

Applications

The change can start from the education content in design universities, but the biggest power to diffuse it to the mainstream level is held by the big companies and consumers. The large companies both affect consumption behavior and obey the consumer requirements to some extent. Also public policy makers, government and media have significant power to affect people's thoughts about consumption, as well as bloggers, social media activists and local/global trendsetters. When admired personalities lead the way, the masses follow.

The respondents agree that new business models are needed. We need more local design, local production and local materials for local businesses that co-exist with the global production. New business models must also emphasize services (service design). A service can, for example, connect artisans and the customers. *"We need a system that works as a full circle, involving more makers globally, to get full benefit of resources available, and doers and makers available around the globe"*. If makers connect with other makers, users connect with other users and makers connect with the users, there is a great potential for a sustainable systems and lifestyles. The connections can be formed either through virtual communities or local hubs where the infrastructure and supplies can be shared. There are already studios for remaking, but for the craftsmanship to take a bigger role within the fashion system, the system must go through radical changes, which does not seem probable at the moment, i.e. the work of local artisans will probably 'cater only the niche audience' that is willing to pay appropriate prices to cover both the costs and the required effort. Only one of the six experts actually believed in a bright future of local artisans.

Half of the respondents believe that tools suggested in Round 1, such as open source hardware for weaving and sewing, parametric software for pattern making, and at-home body scanner to take exact measures, will be limited to few experimental companies/users in the near future, but have a chance to create new wider markets and become more economically profitable. One of the respondents is even convinced that they will become popular, profitable and be at the base of new business models of fashion. One of the responders sees only the 3D-printer as a profitable accessories manufacturing device. Another respondent concentrates on the future of innovating: *"When people believe in innovating and remember how to innovate again, then they will realize how much is possible to do without the middle-men."*

The trend for every man developing an innovation for common good actually already exists (Demos Peloton Camp etc.). The rest is up to producing costs and models to get innovations into testing. How risky is this kind of business?"

Kate Fletcher thinks that people are quite used to create and modify their clothes. The motivators could be fit issues or a strong sense of their own style. "Also if people (...) have skills that they are proud of, they often enjoy 'showcasing' them in such pieces. I often wonder how much this influences consumption in the round however... whether it displaces other forms of consumption or is added to it." Referring to Round 1, game-dynamics would be one of the best motivators for people to participate in the fashion creation processes. When the Delphi participants were asked to imagine a workable fashion-game, two of them suggested a solution like Threadless, which filters the best ideas and eliminates the bad ones. It can also be expanded to designing a whole collection. One of the respondents calls the game "create your own mirror", describing the concept as follows: *"In this game one could point out what kind of values their own pieces of clothing reflect and become more aware of consumer choices one makes. The game would then suggest popular brands that fit values or post links to articles that might interest people who own such values, and like such clothing."* Another interesting, socially oriented idea was to create fashion-games regarding the creation of reputation and coolness, depending on the contribution and interaction with the community. One respondent proposed a customizing on-demand game idea, where clothing is designed by the user on a virtual doll, that has the user's measurements, and then the clothing can be ordered online. The company produces it from the assortment they have provided for the service.

All the participants argue that stardom-thinking among designers and non-professional creators will remain to some extent, because publicity sells, but there are always people who prefer anonymity. Stardom will probably take a more democratic and transparent form as social media is one of the main vehicles of communication. Also designers will be more influenced by the 'street' and co-creation groups. One respondent suggests a 'brand' of new ideas that might be sufficient for hundreds of designers to join, co-work under it, and create fashion semi-anonymously. This brand should reflect certain values, such as forward thinking and new attitude in fashion consuming. Two of the participants suggest that the food industry is a good example of big scale businesses moving forward from the industrial era: the trend of natural, organic and local products has forced the bigger players to adapt the views of the masses. As examples of post-industrial businesses, in the study are also presented two clothing companies: Anna Ruohonen and Patagonia. Anna Ruohonen is a high quality, timeless and chic brand with a permanent collection, that is produced on-demand

and to the customer's measures. It excludes extra production and leftovers. Patagonia can be seen as a forerunner that tackles sustainability of the clothing business on a big scale. The respondent who views Patagonia successfully finding its place within the post-industrial society quotes the company's webpage: "We design and sell things made to last and to be useful. But we ask our customers not to buy from us what you don't need or can't really use." (<http://www.patagonia.com/eu/enFI/common-threads>).

5.4 SUMMARY OF FINDINGS

Fashion dynamics are likely to become polarized and trends diversified. Very fast and very slow will co-exist, which requires two-way approach to creation process of fashion items. Sustainable fashion is attainable but needs a lot of further development and innovations. One competitive option is likely to be "open fashion" as a part of the traditional industrial fashion system. Open fashion can concentrate on research and development, new business opportunities and function as a strong marketing tool. The latter option has a risk to become new "greenwashing".

Self-expression, individual creativity and sharing with their peers will be the biggest motivators for people to choose co-creation rather than traditional consuming. Identity is likely to be built from "what I can create" rather than "what do I own" or "need". Sharing will increasingly define the way we approach material values. Volumes will drop and fashion production will start to emphasize quality instead of quantity; services instead of objects. In order to sustain good brand reputation and improve cost-effectiveness, waste minimizing and customizable on-demand-production will attract companies, which might also mean less seasons, less short-term trend following and more local manufacturing as a contrast to today's environmentally unbearable globalized production volumes and planned obsolescence. As a business model, there is a call for an easy, dynamic and well-executed new service model/platform that gathers all the pieces together: distribution, manufacturing, sharing and creating "fashion brand on-demand" system or microeconomic mass-customization system. This model can be supported by technology, such as 3D-printing and easily accessible (through price or usability) software, logistic solutions to make waste/surplus smaller or logistic solutions to make smaller quantities of custom products at bigger companies; social media developments or intelligent sharing systems. The technology is still not as important as shift in attitudes or the general paradigm, which is essential to open fashion to become popular. Today, companies still benefit from the traditional model, and it is easier for new start-ups to apply open source philosophy to fashion design.

The role of the fashion designer will be to express the community he/she works in (company, other community) as

well as to start creating frameworks rather than concrete collections/designs. The industries from food to music are going through radical changes heading towards two-way dialogue and access to produce things previously accessible only to professionals and fashion industry can not avoid this trend. All major corporations will need to adapt the needs of amateurs and users, and find the best way to benefit from co-creation, local (even personal) manufacturing and social networking. The main role of amateurs and other non-professional members of fashion-communities will be to share information and initiate processes, whereas designers and crafters can offer their expertise in both artistic and technical sense. Even though educated designers and crafters might feel threatened, professionalism will not be displaced by "open source fashion", which today seems to emerge mainly as a niche phenomenon and a trend among many others. But openness in general is clearly increasing, which might also blur the boundaries between different design professionals and amateur enthusiasts.

Spread photo: Hilla Kurki





6

CONCLUSIONS

“Nothing is as powerful as an idea whose time has come”
-Victor Hugo

This section presents the conclusions from the literature review and the Delphi panel, containing the definition of the two applications on fashion openness: open fashion and open source fashion; speculation whether fashion openness is a trend or a paradigm; description of the future of the fashion design profession; reflection on the probability of fashion openness to emerge on different levels (niche or mainstream?) and its impact on the fashion paradigm; the SWOT analysis of fashion openness; the capitalization possibilities of the fashion openness; and visions on the central applications of open source philosophy to the fashion paradigm. The final discussion offers an overall review on the subject of this thesis, its implications and future applications and the future areas of research related to the subject.

6.1 BREAKING MYTHS, SHARING FASHION

The Scale of Fashion Openness

As Leadbeater (2009) stretches the different levels of We-Think from Full We-Think (Linux, Wikipedia) through Medium We-Think (MySpace) and Low We-Think (Flickr, Youtube) to No We-Think (Microsoft), fashion can be examined from the point of view of open source. What kind of fashion is the most open source and what is the least? Co-design, crowdsourcing and peer production are different processes but often they are confused with each other (Niessen, 2010, p51), as well as mass customization - which already exists, for example on the Nike website. De Mul says that mass customization (for example Nike ID) is only a part of the project of metadesign: “the aspect related to openness only exists in the output dimension, and even there the openness is rather limited: a customer can choose from a small range of available colors”. In the scale of fashion openness, Nike would be positioned in the medium openness.

Intervening the system

Complex systems theorist Donella Meadows has developed a list of leverage points, from weakest (9) to strongest (1), on places to intervene in a system.

9. Numbers (subsidies, taxes, standards);
8. Material stocks and flows;
7. Regulating negative feedback loops;
6. Driving positive feedback loops;
5. Information flows;
4. The rules of the system (incentives, punishments, constraints);
3. The power of self-organization;
2. The goals of the system;
1. The mindset or paradigm out of which the system, - its goals, power structure, rules, its culture arises.;

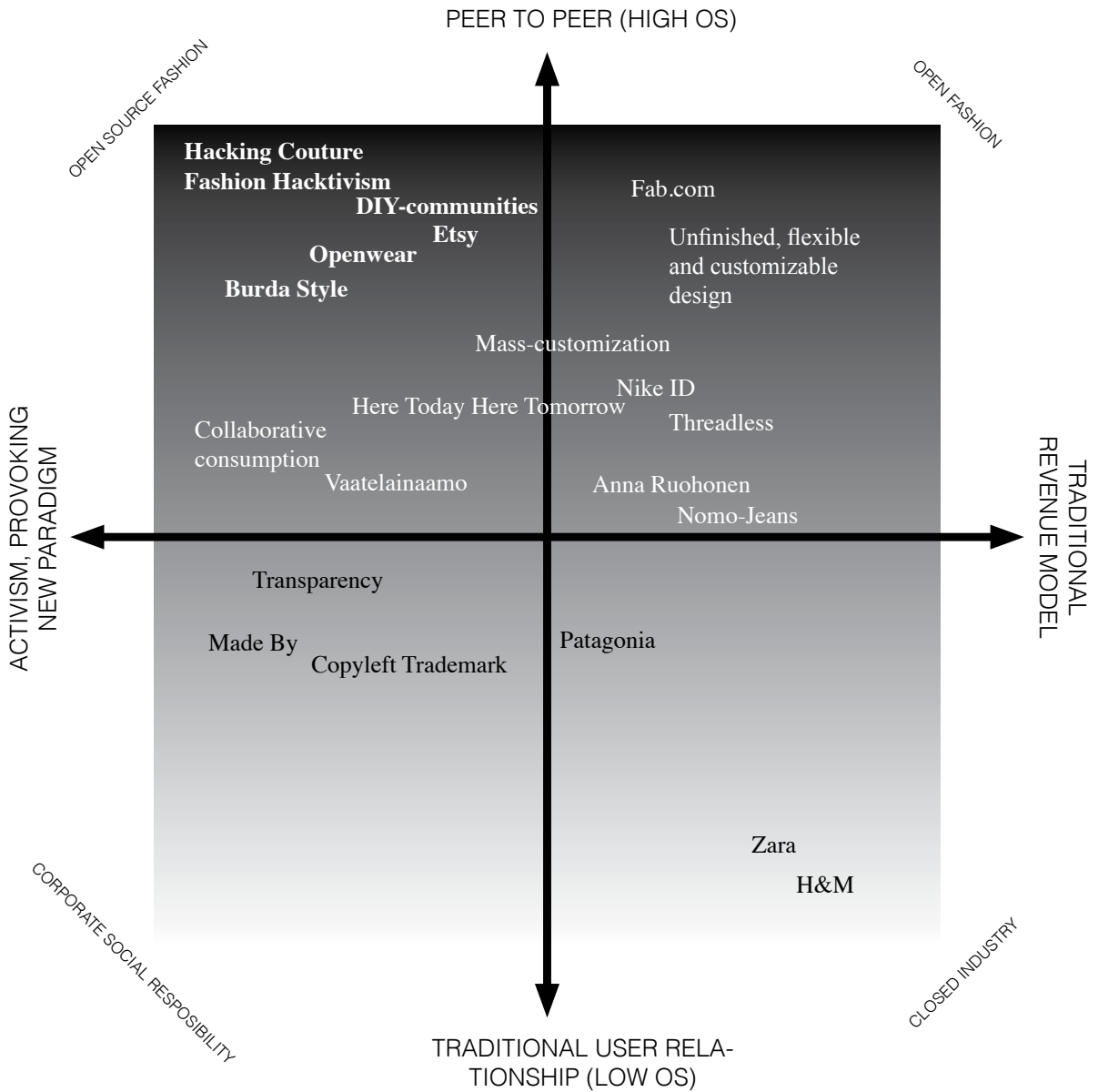
Fashion openness is mainly related to points 5-1. Information flows (Internet, transparency), the rules of the system (Intellectual property, relations), the power of self-organization (empowerment, knowledge, skills), the goals of the system (decentralization, localization) and the mindset or paradigm (openness in everything). Can openness become our culture or a paradigm, the deepest set of beliefs about how world works? If it does so, it is likely to affect our relationship to fashion, i.e. shape the fashion culture.

When talking about design, Paul Atkinson (2011) visions that open design has potential to have a huge impact on several aspects:

- > The relationship between the designer and the objects: designers might never see or even be aware of the results of their endeavors, changed by users to suit their own needs.
- > The relationship between the user and the product: from being passive consumers of designed products to active originators of their own designs
- > Design education: moving closer to the learning style used in craft training – teaching students to create more meaningful, individual pieces rather than huge numbers of identically mass produced products.

Atkinson calls this development post-professional-era when the terms “amateur” and “professional” may disappear. Also Kennedy (2011) wants to see open design as a paradigm: design reveals a lot about society, and the closed societies fail, “like organisms that shut themselves off from their environment, a society that shuns reality will eventually die”. In her opinion closed design is outdated and open source is one way for design to play a real role in building a new, more honest economy. Turning to open design would require

Figure 27. Scale of fashion openness



This matrix places the examples of fashion openness on a scale between high and low openness, as well as a scale between activism and business. The higher the rate of openness and the closer the example is to activism, the more challenging is the implementation, but the more intensive paradigmatic impact it contributes. On the other hand, the lower the openness and the closer it is to traditional revenue models, the more probable it is to become widespread and surpass the boundaries of niche phenomenon.

attitude change among educational facilities, designers and craftspeople, but this could mean less waste, less mass-production and less transportation (ibid). This sounds like an ideal situation also for the fashion system as part of design sector. Consulting futurist Joseph Coates says¹ that no matter how rapidly or slowly fashion moves, it always does so in the context of culture, which moves at a far slower pace. As a part of culture there is the inevitability of social change. Fashion reflects the collective shift of thinking within social structures and influences the thinking. Nowadays, Western societies are going through changes no less significant than two centuries ago and some paradigms will inevitably change. This will not happen fast and industrial structures will remain to some extent, but it seems that fashion will be “opened” further. Radical fashion openness will probably remain marginal but openness on a lower scale seems to be already quite common domain of intervention.

Action spaces

Fashion openness or open source fashion design requires a place to co-operate, a space where creative participation can occur. Hummels (2011) talks about a “hybrid design environment” that would both take advantage of a digital space that is always available all over the world, while utilizing “the intensity of collaborating in a physical workspace”, making goods, exchanging ideas and knowledge, and testing designs with potential users (ibid). The usual tools of our action spaces are defined for specific foreseen tasks but often the users are more creative than innovators, and they apply them to more uses than what was originally intended in the instructions (von Busch, 2009: pp51-54). Expanding an action space could be a creative cooking session following the advice from a cookbook. Von Busch compares the cooking process to IKEA manuals where the user is a continuation of the IKEA factory. Despite the defined aspect of user participation, IKEA brought the user closer to the making process of a piece of furniture and showed the importance of clear and easy manuals. This might be a significant contribution towards more open and empowered attitude of users. If we get used to assemble our furniture, why would we not want to assemble our clothes, if it would mean a lower price for a designer-garment (and the money would still go to the designer)?

Slavoj Zizek² & Robert Pfaller³ talk about “interpassivity” (as an opposite to interactivity) when we tend to be passive through others (TV and canned laugh) or through devices (VCR “sees” and Tibetan prayer wheel “prays” for us). We then loose “action spaces” on purpose by delegating work to services, maybe losing something simultaneously: heating up a ready-made soup makes us have time for other things, but we also lose the possibility of learning to cook it. In von Busch’s (2009: pp55-56) view through interpassivity we give up our field of activity to pre-packaged one. The form

of manual is “executable”, when the most important is the result - not the process - whereas “instructable” is a “pedagogic tool for distributed DIY advice where the journey is most important”. Manuals, how-to books and patterns are maybe controlled action spaces, but they can still be seen as instructables. Von Busch talks about the sandwiched action space dilemma⁴. Zizek also says: “Even in much of today’s progressive politics, the danger is not passivity, but pseudo-activity, the urge to be active and to participate. People intervene all the time, attempting to “do something,” academics participate in meaningless debates; the truly difficult thing is to step back and to withdraw from it. Those in power often prefer even a critical participation to silence - just to engage us in a dialogue, to make it sure that our ominous passivity is broken. Against such an interpassive mode in which we are active all the time to make sure that nothing will really change, the first truly critical step is to withdraw into passivity and to refuse to participate. This first step clears the ground for a true activity, for an act that will effectively change the coordinates of the constellation”.

Next steps

Criticizing the old system is first but very small step in changing paradigms. Proactive work in the form of creating new business, production and consumption models is called for as well as general distribution of knowledge. Fashion openness today is already initiated by influential projects such as Openwear, but what other steps could be taken to intervene the fashion system? How could designers increase openness in fashion? Fashion openness needs visibility through media and social networks. Against its own principles it needs leaders or admirable characters to initiate it. Either it is a famous designer, a popular blogger (not too popular in order to become “cool”) or a well-known global company. Openness also becomes influential when it intervenes educational institutions and big companies or is encouraged on a governmental level.

Openness is challenging the creativity of designers who have to figure out which parameters of the product can vary, while still earning a profit. As Renny Ramakers, a co-founder and director of Droog⁵, as well as an influential⁶ curator, lecturer and advisor in the Netherlands, notes (in Klaassen’s interview, 2011) that a product where the consumer chooses a color or a pattern has already been done. The intentions of their project, Downloadable Design, were to challenge the designers to be creative and think of different ways for consumers to interact with the design; to consider how they would make money on their design; to be creative in defining what would be offered for free and what would be charged for (for example could a product be more expensive if it would bear the designer’s signature?). Ramakers points out that “the business model requires creativity and it is the most challenging part.”The Downloadable Design-

project was inspired by laser cutting and digital technology, but the focus was not limited to digital technology; they also wanted to revitalize craftsmanship. They plan to set up a whole network of small studios for highly skilled crafts.

6.2 OPEN FASHION / OPEN SOURCE FASHION

There is a difference between open fashion and open source fashion. Open fashion is a transparent fashion system with a trackable supply chain: the consumer knows where and how the garment is designed, manufactured, distributed and re-tailed. Consumers would be aware of the shares and targets of the money they are spending on the product (transparent price label with the percentages reported) and aware of the lifecycle of the garment, starting with the material and re-

sources it is made of, and ending with the disposal methods. Transparent open fashion both educates users and offers them the possibility to choose a preferable way to consume fashion. Open fashion encourages people to participate more actively in the fashion system by making choices based on facts and through that influencing on the desirable facts.

Maison Martin Margiela is known for making fashion transparent on another level: by deconstructing and reconstructing garments in a new manner, from second-hand into “upcycled” and “authentic” haute couture (von Busch, 2009: p114). Although Margiela is the artist and creator, anonymity is an important feature of his brand. Since the 1990’s deconstruction appeared as a popular tendency among fashion designers - both purely fashion and eco-fashion oriented.

Figure 28. Next steps. Based on Ramakers’ (in Klaassen, 2011) thoughts and with some additional remarks, the next steps to take in order to increase fashion openness would be to:

- ➔ use the creativity of designers to find the ways for consumer interact with design
- ➔ find business models and ways to make money: what for free and what for fee?
- ➔ use craftsmanship and local sourcing
- ➔ enable connection and communities among small, skillful actors
- ➔ find and developing appropriate technology.
- ➔ find ways to activate and motivate the users to engage
- ➔ promote openness in fashion education
- ➔ find ideal ways to implement openness when modifying the legislation concerning fashion industry and intellectual property

In 2001 there was another project going beyond the basic fashion boundaries and “breaking the code”: A-Poc (a piece of cloth) by Issey Miyake and Dai Fujiwara. The industrial knitting or weaving machine makes continuous tubes of fabric that contains botshape and pattern. Customer buys the piece of tube, a module, and determines the final shape of the garment by cutting it. A-Poc is a product that is created to be interactive and “hackable”.

Open source fashion could be described as deconstructive and interactive. It is not only transparent in the way open fashion is, but also promotes self-sufficiency and DIY culture. It is not divided into producers and consumers but provides the tools to anyone who wants to participate into the fashion design and production processes. Sharing and networks is a crucial element of the system where licenses are open. In DIY sharing is not mandatory but open source system is based on giving to each other, co-creating and in ideal case achieving better results than any maker is able to do alone.

Open source fashion design has numerous reasons to be called both environmentally and socially sustainable. It

is assumedly local, eliminates the piles of obsolete garments and prolongs the life of garments either because of the emotional attachment or customization possibilities. Economic sustainability is not self-evident. How could open source fashion design support the profit aspect of the sustainability problem? Economic profitability is based on centralized processes at the moment and requires huge volumes as well as affordable labor and raw materials. For open source fashion to be economically sustainable local production and distribution possibilities must be easily accessible. Deborah Lucchetti, an author of the book “The Consumer’s New Clothes” says (in Romano’s interview, 2010, p99) thinks that new directions require new logic: small scales necessitate working in network – in isolated state it is hard to solve all the issues. In Lucchetti’s view, it is essential to understand what kind of networks and skills do we need. When the workable tools are found, open (source) fashion can form an alternative fashion system, or, as von Busch emphasizes, collaboration should be brought into the system - open source fashion should not operate opposing the system.

Figure 29. Examples of how, where and by whom fashion openness could be practiced.



6.3 A TREND OR A PARADIGM?

Leaning on the collected data I argue that fashion openness on a low and medium level is a trend turning into a paradigm. Open source fashion i.e. full fashion openness could be considered as a niche phenomenon that has a chance to grow its popularity among fashion enthusiasts if easy approachable and accessible platforms or tools, such as games, are created. This depends on the start-ups, research projects and other activity initiated by designers, fashion enthusiasts, open-design-enthusiasts, digital technology experts, business professionals or other, maybe even surprising actors. As pointed out in the Delphi panel – innovation might come from the less expected because open source fashion is open to all.

Castells (Bello, 2009: p12) forecasts that in a network society architecture and design will be redefined in their form, function, process and value; new design will incorporate multiplicity of paradigms and “practices that accommodate to the particular requirements of the setting in which it exists”. Instead of being static the modes are constantly changing structure, functions and dynamics. “The demands for a new organizational, and consequently, a new spatial arrangement of the informational or post-industrial society have been the driver of inquiry and arguments concerning the needs for a new type of design”. The suggestion of many scholars and this thesis is to develop the paradigm of design – in this case fashion design – toward openness or open source. In this sense, openness can not be approached as a trend but as a rather purposeful endeavor to restructure the current paradigm. As Niessen and Romano (2010: p106) ponder: “In the fields of material production positive aspects are still a bit ambiguous (especially in the less “geeky” ones, like fashion) because personal work is still tangled with the myth of individual creativity and the aura of authorship. How could we accelerate the steps toward a more clear vision of the benefits of p2p production?”. As well, von Busch (2009: p329) asks a question with idealistic flavor: “How can fashion be turned from a phenomenon of dictations and anxiety to a collective experience of empowerment?”. In other words, if fashion openness is proven to serve desirable goals, such as sustainability, it is not enough to rely on its trendiness or passion among particular small groups. “Opening” the paradigm of fashion requires a lot of work and shift in people’s thinking in general.

One shift already supports the development of “open” action which appears quite natural to the younger population and growing generations. In Bauwens’s (in Niessen & Romano, 2010: p106) view the clear vision of the benefits of p2p-production is mostly a generational issue. “Established designers from previous generations have been habituated to a mode of gaining success and recognition that is based on this myth of individual creativity. But the new genera-

tions are not only steeped in the new culture, but, as yet unproven individuals have everything to gain by sharpening their experience in creative and collaborative communities. So I think that this cultural shift will take time, but it will take place”. Collective peer production and strictly professional authoritarian systems will both exist in the future. Bauwens believes that the core of value creation is in knowledge, code and design. will be produced in commons-driven environments, but this core will not be a new totality. Fletcher (2008: p185-186) sees that passive relationship with clothes and “lack of choice erodes our individuality and dulls our imagination, limiting our confidence about what clothes can be”. Participatory (p2p, open etc.) design is maybe unable to challenge consumerist or elitist fashion, but as a required new model of individual and social action in order to tackle the problems of sustainability, it should be developed. One way of approaching fashion openness is “design activism” or “fashion hacktivism”, that both pursue to promote social change instead of creating objects. So, according to mentioned writers, p2p production or participatory design – or open (source) fashion in this case – are more than a system to produce goods. It is a larger cultural, psychological, maybe even spiritual matter. The biggest challenge is to distribute trust in “openness” to designers, fashion companies, manufacturers and the public. This philosophy already exists to some extent, and I believe that there are foundations to be built on.

6.4 THE FUTURE OF THE FASHION DESIGNER

“The subject matter of design is potentially universal in scope, because design thinking may be applied to any area of human experience. But in the process of application, the designer must discover or invent a particular subject out of the problems and issues of specific circumstances” (Buchanan, 1996: p15 cited in Bello 2009: p16)

The fashion designer is not going to disappear but the role and the content of his/her work will definitely be diversified. Some designers will continue within traditional industries whereas others are going to search for other ways to utilize their skills. The ways can vary from emphasizing the deeper side of knowledge in fashion to building virtual fashion games or practicing political activism, or at least, doing social work. The use of the word “design” is already quite vague, which might feel unfair to designers, but at the same time it gives designers a wider range of possibilities.

In low and medium level fashion openness, designers have a bigger role. Their task would be then to orchestrate the processes and, for example in case of mass-customization, to “pre-design” the goods and leave them open to development. In this case the designer’s work would be quite similar to the traditional paradigm, including design work with slightly different (open-ended) perspective. Instead,

service designers, metadesigners or coordinators of collective creation/consumption would go further away from the paradigm of fashion. Also amateurs or users who participate in design processes might have new definitions in the future.

6.5 PROBABILITY & IMPACT

“The importance of a craftsman’s intrinsic motivation, commitment to doing good work for its own sake, and an ongoing pursuit of mastery in his or her craft. This attitude is the basis for the success of open communities like Linux, where the reward system is based on the quality of the outcome, social appraisal

within the group (peer review) and the personal development of the contributors. The success of open communities like Linux depends on a set of attitudes, skills and activities that foster learning from experience, developing skills through doing, curiosity, ambiguity, imagination, opening up, questioning, collaborating, open-ended conversation, experimentation, and intimacy. It is these attitudes, skills and activities that will also determine the success of open design” (Hummels 2011).

Radical changes within the design field are inevitable due to ecological, economic and societal sustainability requirements. Design and industries play a big role in these

Figure 30. List of names for future designer. This list is based on the Delphi panel’s outcome and on some literature sources, such as Fuad-Luke (2009: p50).

LIST OF NAMES FOR FUTURE DESIGNER

agent of design
catalyzers of change
clothing designer
collector
connector
consultant (the one who senses what has real value and what is only a momentarily thing/trend)
creative director
creator
designer
facilitator
fashion action planner (a person who spots the interaction between consumer and supplier, amateur and professional, and executes an action plan to move things forward)
fashion/clothing artist
fashion/clothing expert
fashion co-creator
fashion collaborator
fashion coordinator
fashion designer
fashion entrepreneur
future builder
metadesigner
quality producer
promoter of new business models
social fashion enabler
stylist
the one who makes order from disorder
visionary
visual person
visualizer

issues. Design is partly responsible for the unsustainable systems and could not solve current problems with the same mechanics. In this sense, open (source) design has a great probability to strengthen its position. Massimo Menichinelli (Niessen, 2010: p88) points out that the successful collaborative activities are going to be the best ones to handle their material, economic and knowledge resources. He also thinks that open source fashion design has better chances to succeed because the theoretical and technological skills needed for such design and production are cheaper, easier to access and are already popular. Contributing something that is easy to understand and does not oblige to big investments, is more probable than in the case of an expensive object.

It is impossible to predict the exact impact and diffusion of open fashion. The Delphi panel demonstrated that the probability of open fashion to rule the fashion system is quite small, but the possibility of its further development is considerably strong. This development would mostly attract small and local entrepreneurs, amateur-enthusiasts, crafters, new experimental companies and design activists. If successful solutions will be created they can be diffused on a bigger scale activity. New business models are needed to create more sustainable production systems and attitude. There is also a growing desire for customized products (every-man's creativity), which reinforces the probability of recognition of open (source) fashion and is a sign of a shift in collective thinking toward higher sensation of empowerment.

6.6 SWOT OF FASHION OPENNESS

Figure 31. The SWOT of fashion openness

STRENGTHS

- eliminates steps between design and production -> compressing the process and costs
- local production reduces the need for transport -> monetary and ecological benefit
- production-on-demand -> no need for stock -> economic advantage & full satisfaction of consumers needs and desires
- responds the inner logics of the local scenes: local logics -> local requirements, local problems -> local solutions
- take advantage of the possibilities of sharing and collaborating -> fosters innovation
- combines the traditions of the local and the novelty of the global (original forms of operations and know-how, development of products appropriate to the local context in which they will be used)
- activates and opens space for new opportunities -> action spaces for the consumer and designers
- mobilizes and energizes the industry, opens up new positions for ideas and consulting
- facilitates research for future development of the industry
- supports small-scale entrepreneurship -> collaboration strengthens the entrepreneurs

WEAKNESSES

- increases the risk of poor quality content and production
- content overdose and excessive connectedness
- requires capital for machinery and materials to make the objects
- collaborative platforms are yet immature: either not available or at early stages of construction
- innovative, exact and guaranteed ways to earn a profit are immature too
- requires entrepreneurship which might be challenging
- geeky reputation
- requires motivation and time
- transparency, vulnerability to critique and public appearance awakes anxiety in some
- hard to communicate the whole amount of knowledge that is embedded into certain crafting skills
- the risk of exploitation for the brands, designers and other contributors

THREATS

- stays niche on the open source level
- generates materialism
- risk of dangerous products (in fashion maybe not as relevant as in other other fields – guns can be 3D-printed)
- immense volume of unattractive and awkward design
- uncontrollable (this is also a strength and an opportunity)
- rapid and digital manufacturing might turn environmentally unsustainable, if masses start to produce too many products for themselves using non-renewable and toxic materials
- sharing culture requires trust: exploiters might gain benefit on the false ground using designers'/other contributors' open blueprints for free
- common property becomes no-ones-land and abused
- the loss of authority of fashion designers
- possible future restrictions concerning the Internet and intellectual property legislation
- might be difficult for older generations to adapt -> fewer work opportunities
- anyone can get bullied, which might lead to fear to contribute
- may foster cultural homogenization and banalize the market

OPPORTUNITIES

- new opportunities for designers' work
- educational for consumers -> nurtures creativity based on local conditions and global connectedness
- revival of craftsmanship
- balance between the market and non-market.
- sartorial and textile innovations that are economically, socially and environmentally sustainable
- the most successful concepts will find a way to earn revenue
- psychological well-being through sharing, creating together and lacking the competitiveness -> easy to get recognition
- knowledge organization and communication is informal -> encourages also not well educated users to learn
- community continuously develops the implementation of the discussions around certain "how to"
- encourages the cross-fertilization among different practices and knowledge
- minimizes waste
- revolutionizes the idea of branding

6.7 REVENUE POSSIBILITIES

In order to profit financially from open design, new, profitable and economically-suitable business models are needed. In this thesis, it is impossible to present a ready model that can be proven to be economically profitable without case studies. No real life testing was performed and there are no big scale, independently profit-gaining existing examples yet. According to Bauwens et al., there is evidence that open business models are able to create viable business strategies and sectors and can even displace their proprietary competitors (Bauwens et al., 2012: p254). US 2010 report about "Fair Use Economy" is presented as a piece of evidence, which shows that the economy based on open content is calculated to have a size equal to one-sixth of U.S. GDP, employing more than 17 million workers (p255). Naturally, the examples presented in the report concern mainly software developers, educational institutions and other informational disciplines. As for open source hardware, Bauwens et al. propose business models that are:

- 1) Centered around the design itself
- 2) Centered around consulting and services
- 3) Centered around the manufacturing of the physical product

Extracting economic profit from the open source fashion practice is a challenge, where designer's creativity is useful. As argued previously in this thesis, the fashion system can be originally viewed as an open system, therefore the development of further open business models is related to the level of open source features. According to Leadbeater "We-Think" will gradually change the way we work, consume, innovate, lead and own:

"Innovation: open mass innovation cuts the costs. Creative conversation. More companies will create open-innovation models that draw the ideas of communities outside the company and share intellectual property that was once guarded. Suck ideas into company and then spread and multiply.

Consumers: products and services can be build by the people who consume them, demand generates it own supply. User-driven innovation - the consumers can design exactly what they want.

Work: open-source communities motivate a mass of contributors by providing interesting work, posing interesting questions and attracting interesting people to work with. The work is coordinated because the products clip together with modular architectures, performance is judged by your peers, and the community shares an overarching goal. Sense of recognition and belonging. Creative conversation hap-

pens in between the work: in cafes and on the lunch breaks. Is 'job' going to exist in the future? Is our only option to become entrepreneur? Entrepreneur cannot operate without peers and suitable community.

Leadership: open and accountable, creating the norms and rules rather than decisions giving people small responsibilities, coming from identities they lead. The more innovation is needed, the more creative conversations must be orchestrated. Leadership is about creating an atmosphere in which people get a check from working with one another.

Ownership: open innovation blossoms with shared ownership of intellectual property"

6.8 PLACES TO INTERVENE

"With a commitment to consciousness, responsibility, authenticity and transparency, together, we can make a real difference, where the 'alternative' can become the new 'norm.'" (Marci Zaroff, 2012)⁷

The suggestions for interventions of open or open source fashion must include the main features of the open source philosophy: Empowerment, Sharing and Collaborating: transparent (honest), undefined/unfinished (hackable), unlicensed or open-licensed (educative). The purpose of the following visions is to picture options from global big-scale actions within the existing systems to start-ups and local neo-crafting communities.

Big-Scale: Intervening the Fast Fashion Enterprises *Second Life Chain-Stores*

For this thesis, the easiest example-company to include open source processes in it, is Zara. This gigantic company can be argued to be the fastest fast-fashion company that has probably the most studied system due to its fast reactions to customer's desires and sales. Having efficient technological systems both in informational and logistical sense, Zara has great potential in developing its business towards higher user-participation, advanced localization and good-circulation. As H&M recently announced to globally collect and recycle second-hand clothing (Ecouterre, 7 Dec, 2012), the company can work as a encouraging example for other companies to follow. Zara could take the recycling action further by establishing a "Second Life Zara" in every major city (that already has an ordinary Zara-store). This store could accept, customize, remake/redesign or repair a) the defective garments from the stores b) the defective used Zara-garments from the customers c) the garment from previous seasons that can not be sold anymore. The staff would consist from a) designers who will communicate with both the customers and the headquarters, and decide what kind of second-hand collections will be created meeting the local demand; b) crafters who will be responsible for

the sewing etc.; c) management and sales personnel, which would probably be considerably smaller than in the ordinary stores. The Second Life Zara would therefore have the store part and a workshop part, that could both be visible for customers. The designers can also function as the visual coordinators of the stores. The second-hand garments (in this case the raw material) could be centralized depending on the local demands and requirements related to cultural taste, trends (there are always local trends), and climate (in Finland warm clothing is more needed than in Brazil). These Second Life Zaras can provide customization service where the customers can wish for the changes they want to be made. This service could decrease the amount of reclamations and offer goods that are wanted (it is quite common for a customer to ask: “do you have the same kind of garment in different color/length/material?”). The company would benefit through gaining a reputation of a forerunner and responsible fast-fashion company (a competition advantage) and utilizing old, obsolete and even damaged stock.

Collective Two-Way Creation of Garments

Another option to intervene the fast fashion enterprise like Zara – if there is no possibility for a physical action space – would be to develop an online community where customers could directly influence the designs of the garments. This service would either offer easy software to present the wishes visually, or at least a conversation possibility where the existing examples could be voted for or commented on. This approach will support sustainability only through maximizing the users’ satisfaction with supply and socially might feel more meaningful. Though it is utopia to turn a fast-fashion company into sustainable, this is one option to include some processes that support ecological, social and even economic sustainability. This action might inspire other industrial fashion companies to act in a more open/sustainable manner too.

Mid-Scale: Fashion Tutorials, Games, Communities and Global Open Source Fashion Brands

The Common Pool of Fashion (Doing-It-Together)

Designers, small producers, crafters and the users could form an online community that would connect them with each other. This community would enable close collaboration and sharing of knowledge, maybe even lead to fruitful professional or personal relationships. Collaborative consumption, social shopping and online hubs could happen there too. The community would be like a one big (global) roof for everyone to work under.

Fashion Tutorials (From Pros to Ams)

Mushon Zer-Aviv started his “Open Source Design” class in Parsons School for Design by giving the students an assignment to create a non-digital tutorial to make something they already know how to do (Zer-Aviv, 2011). The topic

the students’ tutorials varied from “A Recipe for Banana Bread” to “Finding an Apartment in NY (Without Paying a Broker)”. The next step of Zer-Aviv’s classes is to involve the linguistics of interaction design: “We will start drafting characters, then words and then sentences; some might call it building a structured visual language. We will try to define a syntax, then rearrange it and try again; some might call it designing modular systems. We will try to set standards, then extend them, then break them; some might call it developing a design guide. We will try to evaluate the legibility and readability of our messages; some might call it usability testing. We will try to discover a new collaborative paradigm for the design process; some might call it “Open Source Design.”

It would be an interesting challenge to fashion designers to think what kind of tutorials they could create, to go beyond the sewing tutorials we are accustomed to. Designers can create interaction modules and code libraries (as Giana Gonzales’s fashion code libraries) for other designers or amateurs. And, following Zer-Aviv’s example, fashion designers could collaboratively explore the linguistics of interactive fashion design in order to find new paradigm for the design (and production) process. This can happen in educational institutions or during workshops, arranged in professional or amateur contexts.

Fashion Games (User Empowerment)

Games can be an effective way to learn, gain skills, escape the reality, experience the pleasure of success, find the players hidden identity and many other advantages (Omaheimo, 2012). People have always played games. There is also a term, appearing in the world of current marketing: gamification. The term stands for game-thinking or game mechanics in a non-game context, in order to engage users or solve problems⁸. What kind of games could be developed to improve fashion design literacy? Fashion games would have to connect the virtual and the material, but only the favorite pieces will be produced.

Different skill levels:

1. Open source fashion: design and produce yourself; exhibiting in a “fashion show”. No limitations.
2. Designing and building on/modifying the shapes of the modular garment, adding a wide range of details if wanted. The features of the garment (styles, details, buttons, materials, colors) can either be chosen from others’ or own style libraries. Same with design: anyone’s design can be taken for modification.
3. Customizing, designing prints, choosing materials from a wider range of alternatives and modular garment construction.
4. Customizing by choosing color/material/length/measurements from a particular amount of options. Choosing from existing designs.
5. Social shopping/create your virtual wardrobe.

This is just a raw suggestion, but its purpose to picture what kind of games there could be. In this game, in order to get to the next level, the previous one must be passed. The skill evaluation could be more detailed. The whole game will be a fashion community and designs can be liked or ordered. This requires, of course, suitable and affordable manufacturers – maybe sponsored by fashion brands that offer products for virtual wardrobes and modification. Or then this game could be entirely virtual and concentrate in innovation development within fashion. This game would be intended for professionals and skillful amateurs. The purpose of games is to offer ultimate platform for self-expression and nurture skills, sense of empowerment and meaning. The challenge is to develop such game to foster collaboration and sharing – not competition. Games could be arranged also in physical environments. Important matter would be also here to avoid competitiveness and encourage to help each other, share knowledge, and identify every participant's personal strengths. Self-expression through design and craft could be even practiced as sessions of therapy.

Open for Development

On a company level, openness could be applied through leaving designs deliberately open for development. The designs would give room for imaginative innovation, that could find solutions for sustainable and desirable fashion system. Or at least it could give the users opportunity to show what they really want and what is not worth doing. In ideal situation every design in the world would not be ready-made and include the option for modification to personal measurements, taste, style and physical needs.

Small-scale: Local Hubs and Ateliers Utilizing Technological Innovations

Commissioning clothing from local tailors and dressmakers, and on top of it including the design work, is too expensive for ordinary consumer. There must be a possibility to develop concept and technology that would allow local manufacturing, just like 3D-printing is likely to revolutionize the production of hard objects. The clothing-printer does not exist yet, so what kind of solution there would be to offer “rapid prototyping” of clothing? Maybe fashion-fab labs will be developed and established in big spaces that could be open to any fashion enthusiasts wanting to make garments. These labs would be encouraging and educative platforms for fashion to happen. It is only up to the members and especially the staff, instructors and active experts, what kind of activity there would be arranged.

6.9 DISCUSSION

The fashion system today can be considered as an open system: the main essence of fashion is change and transformation; everyone participates in some way and has the

possibility to have impact in fashion due to the developed information technology; borrowing and imitating is not clearly restricted by law (even though copying is condemned among peers and public); there are long traditions of sharing, collaborating and doing-it-yourself, because clothing, in addition to cooking, is probably the most accessible good to produce by amateur means. But there are different levels of openness: open source thinking can be applied to the fashion system more profoundly, extending it to the actual design and production processes as well as the consumption behavior - blurring further the frontier between the maker and the user.

There are a lot of signals of openness and open source in many fields. We are increasingly accustomed to two-way communication, personal contribution and sharing through Web 2.0, so openness can be seen as a paradigm (or a megatrend) affecting every area of human life. Open source philosophy is proved to be efficient in innovating - and innovating sustainable clothing production processes is (or should be) of one the top goals in today's fashion system. User participation supports sustainability also because it creates emotional attachment and enables on-demand production. Still there are many flaws and questions related to open source fashion. How to sustain aesthetic and manufacturing quality? Why would it be more than a niche phenomenon i.e. how to motivate everyone else to participate? How could it be profitable for the designers, producers and users? Open source fashion does not mean that people have to make or even design their clothes. Most probably, open source fashion will never be a dominant fashion system, but it could offer maximum possibilities to the ones who are motivated and new aspects to the ones who want to stay passive - maybe even encourage to start a fashion hobby. The ones who have skills could gain them more, and the ones who do not – become “fashion-able”. Empowerment will be *available* but not compulsory. If the fashion designers increase their collaboration with other fashion designers or any designers, as well as with other professionals and amateurs who want to participate the processes, open source fashion can be highly beneficial and create fruitful, co-creational synergy. For this purpose it is important to develop platforms and methods to practice open source fashion easily and efficiently. The “Openwear” project is a promising example of that. More widely, the open design movement is another example of applying openness to design. Open source fashion design could be seen as one branch of open design movement.

Open source fashion would intervene the fashion system and be a coexistence of fast and slow, industrial and non-industrial, material and immaterial, individual and collective. If we will find efficient ways for local crafters, the users and the designers to network with each other, it could be a win-win-win-situation: the crafters can do what they love, the designers can easily produce locally and with people they can actually meet (on top of this local handicraft

traditions are preserved and nurtured), the clients (ordinary users in this case, not the companies) can communicate with both designers and the crafters, the clothes are made on-demand and exactly like the client wants so there are no obsolete storages, no transportation around the globe, no exploitation, no poor quality, no short-term clothing, and the environment is happy. When the manufacturing techniques are developed using the technology such as 3D-scanners to make fast patterns, software to make easy design, maybe even printers to print the clothes - or at least machines and materials that would reduce the time of sewing - "open source fashion" is much closer to us than we could now imagine. For now, this sounds like utopia which needs a lot of effort from designers, engineers, programmers and many other experts as well as the amateurs. To develop these systems, open source methods might be helpful, even though the processes would not directly be fashion, but the results would.

For Henri Bergson⁹, after a long period of rationality there is again some place for intuition, as he says: "for swimming to be possible, man must throw himself in water, and only then can thought consider swimming as possible". Open source fashion might be impossible for the thought to be rationally processed but due to its open-ended feature it could apply unpredictable proportions into our lives and

culture. This work does not give precise answers how "open source fashion" can be practiced due to the lack of proof as exact working examples in the real world. Instead this thesis pursues to understand the open source philosophy, the fashion system and their possible interrelation. My goal in the future is to search further for the possibilities of open source philosophy, for example dealing with co-creation and user empowerment in the context of fashion, and bring the found solutions to practice. I also hope that this work finds other design students or designers and inspires them to reflect on these themes. As a future fashion designer or researcher, I want to gain some hands-on experience of running workshops, creating learning, collaborating and sharing environments to become easy, multidimensional design spaces. I want to learn more about the collaborative economy and deepen my knowledge about the existing fashion system(s). In order to develop radically the fashion system towards more sustainable nature, I believe that it is essential for both designers and users to become remarkably more aware and diversify their fashion skills. My biggest motivation for this is to explore how the fashion system can adapt and contribute to the new world. This thesis can function as a notebook and a guidebook to myself and other designers for possible future fashion openness projects.

1 http://www.josephcoates.com/pdf_files/279_Future_of_Clothing.pdf

2 <http://www.lacan.com/zizprayer.html>

3 <http://www.psychomedia.it/jep/number16/pfaller.htm>

4 'on one hand we have the de-skilling uniformity of industrialism, mass-production, and the depersonalized managerial strata (...) On the other hand we have the 'liquid' modernity of distributed consumerism, of the 'creative society' with a ubiquitous creative imperative. From this perspective rebellion is the new uniformity that is boosted by the profit generating 'creative class'. Through this every person is forced to be an inventive entrepreneur to survive in the attention market, through self-discipline, motivation and intuitive social competence' (von Busch, 2009: p59)

5 <http://www.droog.com/>

6 Renny Ramakers has been named one of the '150 Women Who Shake the World' by Newsweek

7 <http://listengirlfriends.wordpress.com/2012/12/18/ethical-fashion-how-to-navigate-the-industry/>

8 <http://en.wikipedia.org/wiki/Gamification>

9 <http://plato.stanford.edu/entries/bergson/>

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APPENDIX 1. THE DELPHI PANEL, ROUND 1 QUESTIONS

This study is exploring the open-source aspects as a part of the future fashion system. I use a term 'open fashion' when talking about the subject of my research. The study is aiming to find the things making 'open fashion' possible, reasons for 'open fashion' to exist and who are the people creating the 'open fashion'. What is happening in the next 20 years and how likely it is? I also want to investigate the opportunities and threats of 'open fashion' in relation to sustainability.

Central terms:

OPEN FASHION = fashion practice based on open-source philosophy: a product or system whose origins, formula, design, etc., are freely accessible to the public (<http://dictionary.reference.com/browse/open-source>) or "the sharing of intellectual property and allowing the public to adapt it to their specific needs" as Burda Style explains their copyright-free patterns, believing them to inspire creativity. (<http://www.burdastyle.com/discussions/getting-started/topics/what-is-open-source-sewing>)

CO-CREATION = The participation and involvement of consumers in the creation process formerly dominated by businesses. (<http://p2pfoundation.net/Co-Creation>)

SOCIAL MEDIA / NETWORK = Tools that allow the sharing of information and creation of communities through online networks of people. (<http://www.constantcontact.com/learning-center/glossary/social-media/index.jsp>)

Participant information

Multiple choice question. Please, mark an X in front of the right option and specify your occupation:

Your field of expertise is best described as

Researcher / academic:

Fashion practitioner / Fashion professional from the industry:

Fashion enthusiast / blogger:

Other:

Do you wish to remain anonymous to other participants?

_yes

_no

Do you wish to remain anonymous in the whole research?

_yes

_no

Future societal, economical, technological and paradigmatic developments that might have an impact on fashion

Likelihood questions: 1 = almost certain, 2 = likely, 3 = even or 50/50 chance, 4 = unlikely, 5 = almost impossible.

Please, mark the likelihood number in front of every option and specify if some other option comes to your mind. Include comments on the subjects if you have some.

1. What are the most likely driving forces of users' to co-create with a fashion company/professional designer rather than buy a ready-to-wear garment?

_self-expression / creativity

_need

_there are no driving forces to do that

_sustainable values

_economic benefit

_to show one's skills

_other:

Comments:

2. Who are going to be the ones to participate? How likely that it's going to be popular among

_children

_young population

_economically challenged population

_economically privileged population

_the middle-class

_people with families

- people with grown-up children
- the elderly population
- other:

Comments:

This study is exploring the open-source aspects as a part of the future fashion system. I use a term 'open fashion' when talking about the subject of my research. The study is aiming to find the things making 'open fashion' possible, reasons for 'open fashion' to exist and who are the people creating the 'open fashion'. What is happening in the next 20 years and how likely it is? I also want to investigate the opportunities and threats of 'open fashion' in relation to sustainability.

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Participant information

Multiple choice question. Please, mark an X in front of the right option and specify your occupation:

Your field of expertise is best described as

- Researcher / academic:
- Fashion practitioner / Fashion professional from the industry:
- Fashion enthusiast / blogger:
- Other:

Do you wish to remain anonymous to other participants?

- yes
- no

Do you wish to remain anonymous in the whole research?

- yes
- no

Future societal, economical, technological and paradigmatic developments that might have an impact on fashion

Likelihood questions: 1 = almost certain, 2 = likely, 3 = even or 50/50 chance, 4 = unlikely, 5 = almost impossible.

Please, mark the likelihood number in front of every option and specify if some other option comes to your mind. Include comments on the subjects if you have some.

1. What are the most likely driving forces of users' to co-create with a fashion company/professional designer rather than buy a ready-to-wear garment?

- self-expression / creativity
- need
- there are no driving forces to do that
- sustainable values
- economic benefit
- to show one's skills
- other:

Comments:

2. Who are going to be the ones to participate? How likely that it's going to be popular among

- children
- young population
- economically challenged population
- economically privileged population
- the middle-class
- people with families
- people with grown-up children

- _ the elderly population
- _ other:

Comments:

3. How likely the “open fashion” will be a competitive option to new product innovations inside companies for creating sustainable fashion/garments?

- _ new product innovations the only way for creating sustainable fashion
- _ new service innovations the only way for creating sustainable fashion
- _ open fashion is a competitive option to new product innovations
- _ open fashion is the most competitive option for creating sustainable fashion
- _ it is impossible to create sustainable fashion
- _ other:

Comments:

4. How likely it is that creating more sustainable fashion is going to be initiated by

- _ fashion companies
- _ users
- _ fashion professionals
- _ other design professionals
- _ environmental activists
- _ politics
- _ other:

Comments:

5. What in your view is or going to be the motivation of the companies (brands, manufacturers, design companies)?

- _ good reputation / brand
- _ ethics / moral aspects
- _ control over the supply chain
- _ money / business opportunities
- _ social pressure
- _ law / politics
- _ other:

Comments:

6. How likely is it that people will form a sense of identity from non-material forces such as

- _ religion
- _ social class
- _ individual self-actualization/creation
- _ co-creation/sharing information
- _ social networks for their field of interest
- _ social networks in general
- _ other:

Comments:

7. How likely the popularity of social media networking is going to grow in the future

- _ on company/business level
- _ on individual level
- _ on hobby/amateur level
- _ on political level
- _ on cultural level
- _ on environmental level
- _ other:

Comments:

8. Fashion blogging is already highly popular activity among fashion lovers. If there will be more specific networks created around fashion creation, what kind of role will

a. the fashion designers have in such networks? Most likely

- _ initiators/organizers
- _ guides
- _ opposers/saboteurs
- _ inspirators
- _ realizers
- _ information sharers
- _ other:

Comments:

b. the amateurs?

- _ initiators/organizers
- _ guides
- _ opposers/saboteurs
- _ inspirators
- _ realizers
- _ information sharers
- _ other:

Comments:

c. the ordinary consumers?

- _ initiators/organizers
- _ guides
- _ opposers/saboteurs
- _ inspirators
- _ realizers
- _ information sharers
- _ other:

Comments:

d. manufacturers or companies?

- _ initiators/organizers
- _ guides
- _ opposers/saboteurs
- _ inspirators
- _ realizers
- _ information sharers
- _ other:

Comments:

e. artisans?

- _ initiators/organizers
- _ guides
- _ opposers/saboteurs
- _ inspirators
- _ realizers
- _ information sharers
- _ other:

Comments:

9. What are the most likely driving forces behind forming fashion co-creation and co-production networks between the professionals and non-professionals?

- _ collective creativeness (learning from each other, sharing ideas and information)
- _ economical profitability
- _ resource limitations
- _ other:

Comments:

10. What are the most likely barriers behind forming fashion co-creation and co-production networks between the professionals and non-professionals?

- _ copyright issues
- _ economical unprofitability
- _ protecting professionalism
- _ lack of quality
- _ other:

Comments:

11. How likely the fashion co-creation and co-production networks/communities are going to

- _ support sustainable progress
- _ hinder sustainable development
- _ support the economical growth issues
- _ weaken the economical growth issues
- _ change the paradigms of fashion creation
- _ be indifferent to the paradigms of fashion creation
- _ other:

Comments:

12. At the moment, one can identify fast dynamics and voluminous amounts of trends. How likely the fashion trend dynamics are going to
- become faster
 - become slower
 - be more created/generated/dictated by users and amateurs
 - be more created/generated/dictated by fashion professionals (designers, manufacturers, trend specialists, fashion journalists etc.)
 - be created and actualized commonly
 - be obeyed
 - other:

Comments:

Open questions.

Please write your answer under the question in the reply mail:

13. What kind of digital based co-creation communities there might be formed concerning fashion? Give 2-3 examples.
14. What kind of non-digital based co-creation communities there might be formed concerning fashion? Give 2-3 examples.
15. Which novel economic/business model has the greatest potential to capitalize on the revenue potential of open fashion design?
16. In which direction the material values among consumers of western societies are developing? How is it affecting fashion?
17. In which direction the material values among consumers of non-western societies are developing? How is it affecting fashion?
18. What kind of technological development is probable to occur concerning fashion creation and production? Give 2-3 examples.

Visionary, maybe controversial predictions about future developments in fashion and how fashion is produced

Likelihood questions: 1 = almost certain, 2 = likely, 3 = even or 50/50 chance, 4 = unlikely, 5 = almost impossible.

Please, mark the likelihood number in front of every option and specify if some other option comes to your mind. Include comments on the subjects if you have some.

19. The production of fashion is going to acknowledge the challenge of environmental and economic issues
- on a mainstream level
 - only on a high end level
 - other:

Comments:

20. The role of fashion supply today is more likely about
- building consumers' identities
 - satisfying consumers' desires
 - creating consumers' desires
 - other:

Comments:

21. The role of fashion demand today is more likely about
- insecurity / low self-esteem / weak sense of identity
 - personal creativity
 - social status
 - functional needs
 - other:

Comments:

22. How likely the amounts of collections created by fashion companies per year are going to
- change (in what way?)
 - increase
 - decrease
 - other:

Comments:

Open questions.

Please write your answer under the question in the reply mail:

23. Is there a balance between the supply and the demand (referring to questions 2 and 3) in fashion production? If not, why? And how could it be corrected?

24. Are the volumes of fashion production going to change? If so, in what way?

Personal opinions and visions with regard to fashion and its future

Likelihood questions: 1 = almost certain, 2 = likely, 3 = even or 50/50 chance, 4 = unlikely, 5 = almost impossible.

Please, mark the likelihood number in front of every option and specify if some other option comes to your mind. Include comments on the subjects if you have some.

25. Fashion field is going to

- remain strictly professional, emphasize the skills gained by talent or/and education
- remain popular among amateurs, but still ruled by professionals
- become more amateur oriented - emphasize the skills gained by enthusiasm and action
- be totally overthrown by amateurs: the industry is no longer going to exist
- be abandoned by amateurs, who will lose their interest
- come closer to an ordinary user, who is not necessarily enthusiastic about creating fashion
- other:

Comments:

26. The cooperation between

- professionals and amateurs will be closer
- professionals and amateurs will not occur
- professionals and ordinary users will be closer
- professionals and ordinary users will not occur more than today
- the bigger companies and smaller producers will become more popular
- the smaller creators or even amateurs and bigger producers will become more popular
- other:

Comments:

27. Will the fashion enthusiasm

- grow among amateur creators
- grow among the ordinary consumer
- grow among the fashion professionals
- stay as today among everybody
- activate both professionals and amateurs to create communities
- separate amateurs and professionals
- other:

Comments:

28. The creation of fashion / fashion design is going to be

- professional maker/author/auteur-centered
- user-centered through professional author
- user-centered through user contribution
- amateur-centered and concentrated on individualism
- amateur-centered and concentrated on common creation
- not centered at all
- other:

Comments:

29. What are going to be the main tasks of a fashion designer in, for instance, in 2030?

- expressing him/herself as an artist
- expressing the common trends and creating designs based on them
- expressing the community he/she works in (company, other community..)
- being as a tool for users to express their needs and desires
- creating frameworks rather than concrete collections/designs
- there is not going to be such profession in 2030
- other:

Comments:

Open question.

Please write your answer under the question in the reply mail:

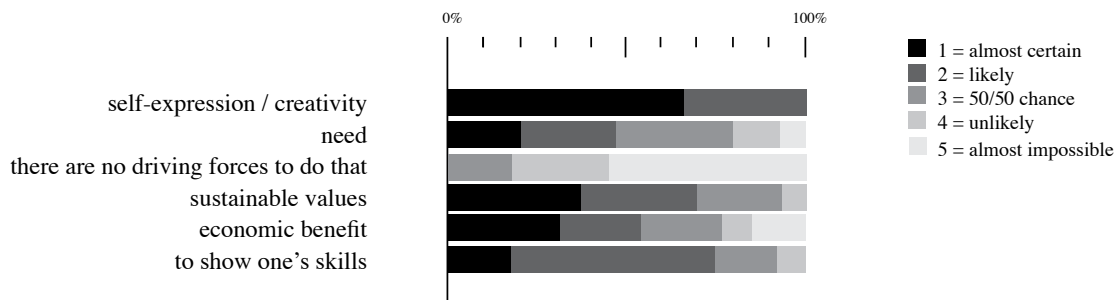
30. Is the name of the profession of fashion designer going to change or remain the same? Name three optional titles for a person, who is going to create fashion in the future.

APPENDIX 2. THE DELPHI PANEL, ROUND 1 QUANTITATIVE & QUALITATIVE OUTCOME

1. What are the most likely driving forces of users' to co-create with a fashion company/professional designer rather than buy a ready-to-wear garment?																								
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)															AVERAGE	DEVIATION	1	2	3	4	5		
self-expression / creativity	1	2	1	1	1	2	2	1	1	2	-	1	2	1	1	1	1.33333	0.48795	67%	33%	-	-	-	
need	-	3	2	1	4	5	2	2	3	3	1	1	4	3	2	3	2.6	1.18322	20%	27%	33%	13%	7%	
there are no driving forces to do that	-	4	5	-	5	5	-	5	3	3	-	-	4	5	5	4	4.36364	0.80904	-	-	18%	27%	55%	
sustainable values	-	3	1	4	3	1	2	1	1	2	1	1	2	1	2	2	1.8	0.94112	47%	33%	13%	7%	-	
economic benefit	-	5	2	4	2	1	3	3	5	1	-	-	2	1	3	1	2.53846	1.45002	31%	23%	23%	8%	15%	
to show one's skills	-	1	3	2	2	2	-	2	4	3	-	-	2	1	2	2	2.16667	0.83485	17%	58%	17%	8%	-	
other:																								
comments:	- I think the main reason is the frustration with the current offerings on the market (ecology, style, price, availability, selection etc.) and that initial spark can span different driving forces when co-creation gets more serious. (ML) - Another driving force can be technology and social media, because users can. (MS) - It depends a lot on the type of company/designer and the community around it (ZR)																							

1. What are the most likely driving forces of users' to co-create with a fashion company/professional designer rather than buy a ready-to-wear garment?	
1-2: ALMOST CERTAIN - LIKELY	Self-expression / creativity (av. 1.3, dev. 0.9), sustainable values (av. 1.8, dev. 0.9)
2-3: LIKELY - 50/50 CHANCE	To show ones skills (av. 2.2, dev. 0.8), economic benefit (av. 2.5, dev. 1.5), need (av. 2.6, dev. 1.2)
3-4: 50/50 CHANCE - UNLIKELY	-
4-5: UNLIKELY - ALMOST IMPOSSIBLE	There are no driven forces to do that (av. 4.3, dev. 0.8)

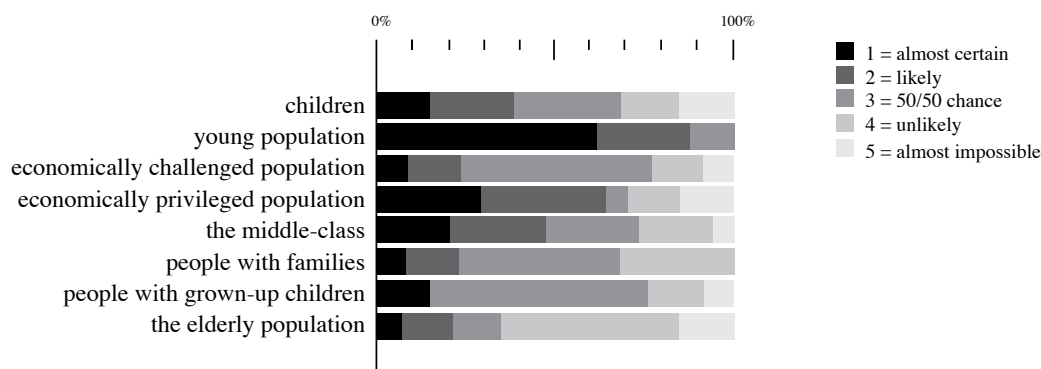
1. The most likely driving forces of users' to co-create with a fashion company/professional designer rather than buy a ready-to-wear garment:



2. Who are going to be the ones to participate? How likely that it's going to be popular among																								
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)															AVERAGE	DEVIATION	1	2	3	4	5		
children	_	_	4	3	5	4	3	2	5	2	_	1	3	1	3	2	2.92308	1.32045	15%	23%	31%	15%	15%	
young population	1	1	2	1	3	1	3	1	1	1	1	1	2	1	2	2	1.5	0.7303	63%	25%	13%	-	-	
economically challenged population	_	_	3	4	3	4	2	3	3	3	_	1	5	3	3	2	3	1	8%	15%	54%	15%	8%	
economically privileged population	1	_	2	4	3	1	2	2	5	2	_	1	5	2	1	4	2.5	1.45444	29%	36%	7%	14%	14%	
the middle-class	1	2	3	1	3	2	4	3	5	2	_	1	3	2	4	4	2.66667	1.23443	20%	27%	27%	20%	6%	
people with families	1	_	3	3	3	4	4	4	3	2	_	_	3	2	3	4	3	0.91287	8%	15%	46%	31%	-	
people with grown-up children	1	_	4	3	3	1	4	5	3	3	_	_	3	3	3	3	3	1.08012	15%	-	62%	15%	8%	
the elderly population	_	5	4	4	4	5	4	4	3	4	1	_	4	2	3	2	3.5	1.16024	7%	14%	50%	14%	14%	
other:																								
comments:	<p>- I'd imagine the amount of free time is a big factor. (PK)</p> <p>- If game dynamics are applied in contextual to audience the number of makers is most likely to increase (GG)</p> <p>- It depends on the type of co-operation. At this stage I feel that it is more something like customization, which means it is not possible for economically challenged population because of its high price. But this could change if the whole mass production with really low prices comes to an end. (AN)</p> <p>- I think every private person, regardless of social status could be interested and benefit from open fashion. Some groups of people will only find open fashion more easily than others, by this I mean people who are accustomed to open source sharing already, ie. younger people. (CH)</p> <p>- I don't think that specific demography is more likely to participate, it's more about how content one is with the current offering on the market. (ML)</p> <p>- Early adapters will be young population with money, time and ideas to spend. (MS)</p> <p>- I think that the meaningful background in this context is not basic demographic variables, but to values/lifestyle – people who value self expression and are active creators online are more prone to be participants, regardless of the age or socio-economic status. (MR)</p> <p>- It is a big challenge to take open fashion from the privileged to the needy (SV)</p> <p>- the elderly are familiar with having custom-made garments; economically privileged seek for individuality; economically challenged tend to repair (JS)</p>																							

2. Who are going to be the ones to participate? How likely that it's going to be popular among	
1-2: ALMOST CERTAIN - LIKELY	Young population (av. 1.5, dev. 0.7)
2-3: LIKELY - 50/50 CHANCE	Economically privileged population (av. 2.5, dev. 1.5), the middle-class (av. 2.7, dev. 1.2), children (av. 2.9, dev. 1.3)
3-4: 50/50 CHANCE - UNLIKELY	Economically challenged population (av. 3, dev. 1), people with families (av. 3, dev. 0.9), people with grown up children (av. 3, dev. 1.1), the elderly population (av. 3.5, dev. 1.2)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	

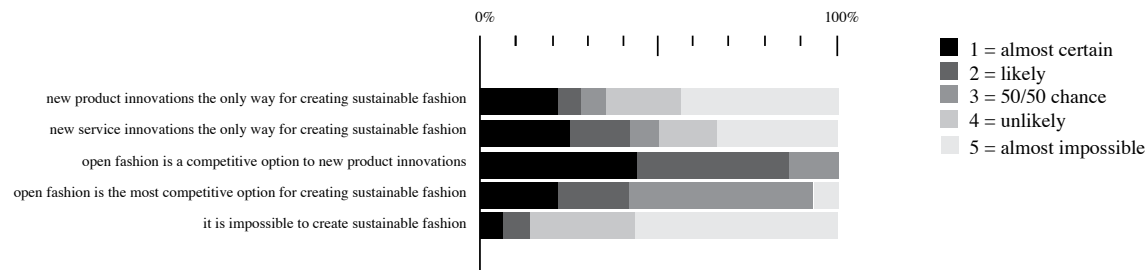
2. Open fashion will be popular most likely among



3. How likely the "open fashion" will be a competitive option to new product innovations inside companies for creating sustainable fashion/garments?																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5		
new product innovations the only way for creating sustainable fashion	—	5	4	4	1	5	5	1	5	4	—	3	1	2	5	5	3.57143	1.65084	21%	7%	7%	21%	43%
new service innovations the only way for creating sustainable fashion	—	5	2	4	1	—	5	1	3	4	—	2	1	—	5	5	3.16667	1.69673	25%	17%	8%	17%	33%
open fashion is a competitive option to new product innovations	1	2	1	1	3	1	2	2	3	2	1	2	1	1	2	2	1.6875	0.70415	44%	44%	13%	—	—
open fashion is the most competitive option for creating sustainable fashion	—	1	2	3	3	1	5	3	3	3	—	2	3	2	3	1	2.5	1.09193	21%	21%	50%	—	7%
it is impossible to create sustainable fashion	—	4	5	4	5	5	5	5	5	4	—	2	1	4	5	5	4.21429	1.25137	7%	7%	—	29%	57%
other:																							
comments:	<p>- Making fashion sustainable is foremost a question of changing attitudes towards consumption. As long as buying new is the number one option for expressing and renewing oneself, fashion cannot be sustainable. I believe that new fashion related services such as "garment libraries" is a way of changing prevailing attitudes in the direction of thoughtfulness when it comes to decisions of purchasing new vs. working with what already exists. Valuing mental, invisible change/self expression higher than "surface/visual" change/self expression is the key in terms of making fashion sustainable. (CH)</p> <p>- Open fashion won't probably replace current system completely (at least not very soon), but it can be used as a tool inside companies or in separate departments in big companies. Smaller start up companies / organizations might work solely on open fashion and abandon current paradigms. (ML)</p> <p>- Open fashion will work in an ideal way when it breaks the seasonal thinking, and the new season is determined by the popular trends, several times a day. (MS)</p> <p>- Whether fashion is sustainable or not, is a question of whole production process of items plus it covers the whole life cycle of individual items – for instance, washing and drying clothes is a huge part of the environmental footprint of each piece of clothing we wear. I'm not really sure how much of an impact open innovation or crowd sourcing ideas can have to raw material production or how to make people wash their clothes less. (MR)</p>																						

3. How likely the "open fashion" will be a competitive option to new product innovations inside companies for creating sustainable fashion/garments?	
1-2: ALMOST CERTAIN - LIKELY	1-2: open fashion is a competitive option to new product innovations (av. 1.7, dev. 0.7)
2-3: LIKELY - 50/50 CHANCE	2-3: open fashion is the most competitive option for creating sustainable fashion (av. 2.5, dev. 1.1)
3-4: 50/50 CHANCE - UNLIKELY	3-4: new service innovations the only way for creating sustainable fashion (av. 3.2, dev. 1.7) new product innovations the only way for creating sustainable fashion (av. 3.6, dev. 1.7)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	4-5: it is impossible to create sustainable fashion (av. 4.2, dev. 1.3)

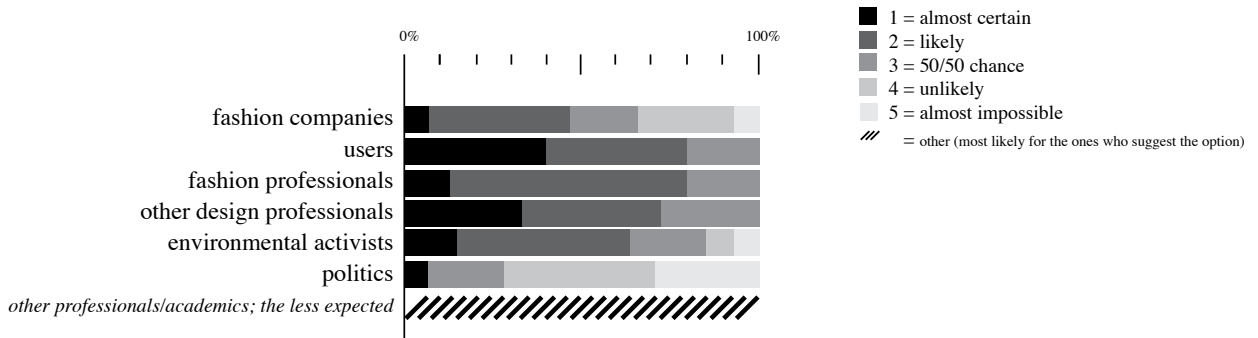
3. Ways to create sustainable fashion:



4. How likely it is that creating more sustainable fashion is going to be initiated by																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)															AVERAGE	DEVIATION	1	2	3	4	5	
fashion companies	1	2	2	4	3	4	2	3	2	3	2	5	2	4	2	4	2.86667	1.12546	7%	40%	20%	27%	7%
users	1	3	1	2	3	1	3	1	2	2	2	2	2	1	2	1	1.8	0.7746	40%	40%	20%	-	-
fashion professionals	-	2	2	2	2	2	1	2	1	3	3	2	2	2	2	3	2.06667	0.59362	13%	67%	20%	-	-
other design professionals	-	1	2	2	3	3	2	2	3	1	1	2	1	1	2	3	1.93333	0.79881	33%	40%	27%	-	-
environmental activists	-	3	2	4	1	5	3	1	3	2	-	2	2	2	2	2	2.42857	1.08941	14%	50%	21%	7%	7%
politics	-	4	5	1	4	5	4	3	3	4	-	5	4	3	4	5	3.85714	1.09945	7%	-	21%	43%	29%
<i>other professionals/academics; the less expected</i>	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	1	0	100%	-	-	-	-
comments:	<p>- The beauty of OSF is that it is open to all. It is most likely that innovation will come from the less expected. (GG)</p> <p>- I'd like to believe that there are lots of different kinds of breakthroughs waiting to happen that can make new kind of sustainable fashion possible. They can be new manufacturing methods, new materials, new business ideas, new services, etc. that can be first initiated by an expert of that particular field, and then adapted by people who understand the problems of current systems.(ML)</p> <p>- Users because they are creative, because they can. Has to be made easy first, companies will adapt (MS)</p> <p>- There are already signs among the designers that sustainable fashion is going to be "fashionable" --with the companies and users/consumers, it a chicken-egg deal: the companies will fill the stores if they are sure that the stuff will sell, but the stuff won't sell if there isn't anything to buy (MR)</p>																						

4. How likely it is that creating more sustainable fashion is going to be initiated by	
1-2: ALMOST CERTAIN - LIKELY	(other professionals / academics, the less expected), users (av. 1.8, dev. 0.8), other design professionals (av. 1.9, dev. 0.8)
2-3: LIKELY - 50/50 CHANCE	fashion professionals (av. 2.1, dev. 0.6), environmental activists (av. 2.4, dev. 1.1), fashion companies (av. 2.9, dev. 1.1)
3-4: 50/50 CHANCE - UNLIKELY	politics (av. 3.9, dev. 1.1)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	

4. Creating more sustainable fashion is going to be initiated most likely by:

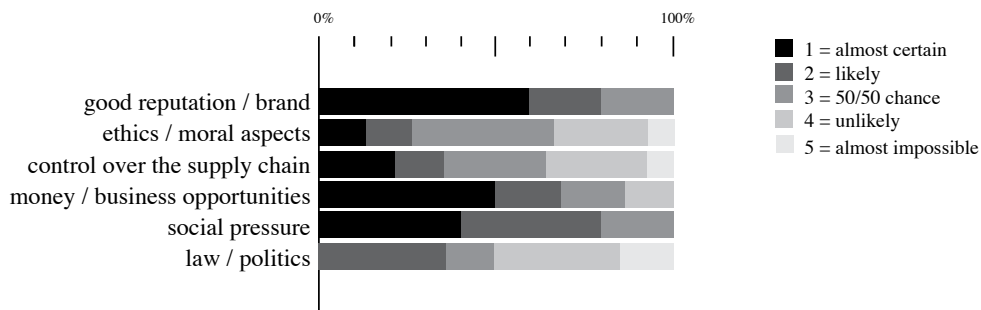


5. What in your view is or going to be the motivation of the companies (brands, manufacturers, design companies)?																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)															AVERAGE	DEVIATION	1	2	3	4	5	
good reputation / brand	-	2	1	1	3	1	3	1	3	2	1	1	1	1	2	1	1,6	0.82808	60%	20%	20%	-	-
ethics / moral aspects	1	1	4	3	4	5	3	2	3	3	-	3	4	4	2	3	3	1.13389	13%	13%	40%	27%	7%
control over the supply chain	-	4	4	3	3	2	1	1	3	4	-	5	3	1	2	4	2.85714	1.29241	21%	14%	29%	29%	7%
money / business opportunities	1	3	1	2	1	1	1	3	3	2	1	4	1	1	2	4	1.9375	1.12361	50%	19%	19%	13%	-
social pressure	-	3	1	1	3	1	2	2	2	2	1	2	1	3	2	1	1,8	0.7746	40%	40%	20%	-	-
law / politics	-	4	3	2	4	2	4	4	2	4	-	5	2	3	2	5	3.28571	1.13873	-	36%	14%	36%	14%
other:																							
comments:	<p>- OSF potentially has a couple of routes for existing fashion brands: R&D (research and development: "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications" http://puck.sourceoecd.org/vl=59406278/cl=11/nw=1/rpsv/factbook/070101.htm), new business opportunities and/or a strong marketing tool. I hope the two former are the one put to practice. Otherwise it become the next "green movement" and what we are saying is so much more, rooted in a shift in fashion culture, new ways of approaching collaboration, and design literacy. (GG)</p> <p>- I would like to answer that in the future most of the companies are doing this because of moral aspects and just because it is the right thing to do., but unfortunately the companies thinking this way are still a minority. (AN)</p> <p>- I think that next step toward sustainable fashion is some kind of 'post industrial revolution' that will bring manufacturing closer to the end users. Being able to control the whole supply chain will be a major motivation towards this transformation and it can create totally new business models that are based on small scale local production. (ML)</p> <p>- In the future we will be restricted to more narrow resources, green-tech motivated necessary models will evolve (MS)</p> <p>- I don't think fashion is an issue that politicians will take on - they have more pressing issues on the table - so it's a deal between consumers and producers - if consumers are putting pressure, companies will be motivated, if not, companies are not gonna change. (MR)</p> <p>- The driving force behind sustainable innovation has rarely been a purely moral or ethical one (on the larger scale) - new business opportunities are called for. (SV)</p>																						

5. What in your view is or going to be the motivation of the companies (brands, manufacturers, design companies)?	
1-2: ALMOST CERTAIN - LIKELY	good reputation / brand (av. 1.6, dev. 0.8), social pressure (av. 1.8, dev. 0.8), money / business opportunities (av. 1.9, dev. 1.1)
2-3: LIKELY - 50/50 CHANCE	control over the supply chain (av. 2.9, dev. 1.3)
3-4: 50/50 CHANCE - UNLIKELY	ethics / moral aspects (av. 3, dev. 1.1), law / politics (av. 3.3, dev. 1.1)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	

“OSF potentially has a couple of routes for existing fashion brands: R&D (research and development: “creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications” <http://puck.sourceoecd.org/vl=59406278/cl=11/nw=1/rpsv/factbook/070101.htm>), new business opportunities and/or a strong marketing tool. I hope the two former are the one put to practice. Otherwise it become the next “green movement” and what we are saying is so much more, rooted in a shift in fashion culture, new ways of approaching collaboration, and design literacy.” (GG)

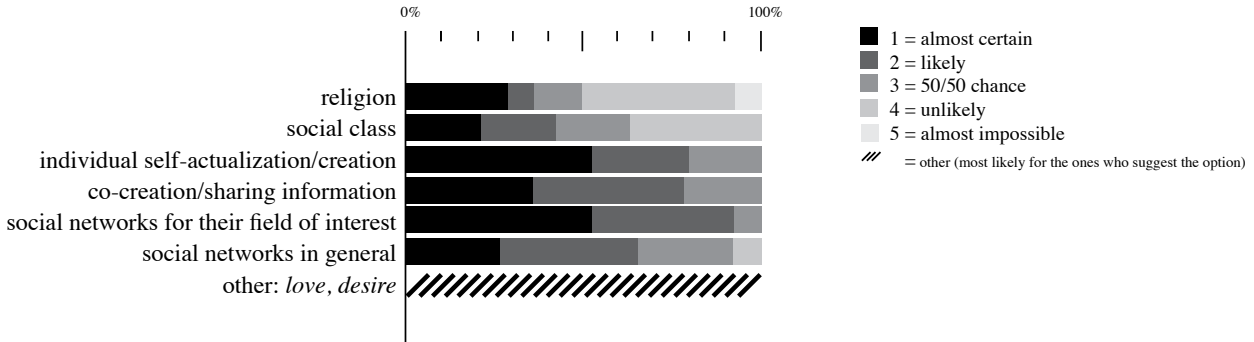
5. The most likely motivation of the companies (brands, manufacturers, design companies)



6. How likely is it that people will form a sense of identity from non-material forces such as																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)															AVERAGE	DEVIATION	1	2	3	4	5	
religion	-	4	4	4	1	3	1	3	5	2	-	4	4	1	1	4	2.92857	1.43925	29%	7%	14%	43%	7%
social class	-	4	4	2	1	2	1	3	3	4	-	4	3	1	2	4	2.71429	1.20439	21%	21%	21%	36%	-
individual self-actualization/creation	1	3	1	3	1	2	1	1	2	1	-	2	2	1	1	3	1.66667	0.8165	53%	27%	20%	-	-
co-creation/sharing information	-	1	2	2	1	1	3	3	2	3	-	2	2	1	1	2	1.85714	0.77033	36%	43%	21%	-	-
social networks for their field of interest	1	2	1	2	1	2	4	1	2	1	-	1	2	1	1	2	1.6	0.82808	53%	40%	7%	-	-
social networks in general	-	3	2	3	1	2	4	2	3	1	1	1	2	2	2	3	2.13333	0.91548	27%	40%	27%	7%	-
other: <i>love, desire</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	0	100%				
comments:	<ul style="list-style-type: none"> - All the areas listed, involve interaction and social perception, so how engaged we are with all these will determine how much our personality borrows from them. (GG) - I hope that people form their sense of identity from non-material forces already? (ML) - Instead of unity, a christian, a buddhist, people will value the interaction/transaction relations, and the experience of experiencing some religious action together. (MS) - I think that people form their sense of identity mainly - if not only - based on non-material forces - the identity is then expressed with material things (MR) - Marketing and building new business models needs to tackle hobby groups to gain better impact. Traditional segmentation doesn't apply on new markets. For example: how could bike enthusiasts or urban gardeners act as drivers for sustainable fashion? (SV) 																						

6. How likely is it that people will form a sense of identity from non-material forces such as	
1-2: ALMOST CERTAIN - LIKELY	love/desire (one answer: av. 1, dev. 0), social networks for their field of interest (av. 1.6, dev. 0.8), individual self-actualization/creation (av. 1.7, dev. 0.8), co-creation/sharing information (av. 1.9, dev. 0.8)
2-3: LIKELY - 50/50 CHANCE	social networks in general (av. 2.1, dev. 0.9), social class (av. 2.7, dev. 1.2), religion (biggest deviation; av. 2.9, dev. 1.4)

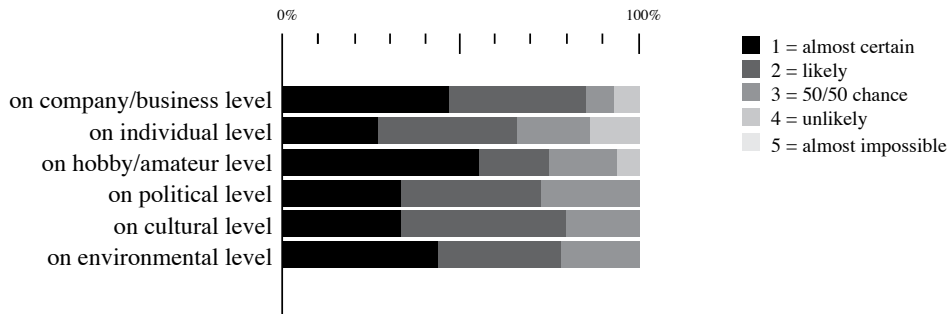
6. The non-material forces that people will form their sense of identity from will most probably be:



7. How likely the popularity of social media networking is going to grow in the future																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5		
on company/business level	1	1	1	2	2	1	4	1	2	2	—	3	1	1	2	2	1.73333	0.88372	47%	40%	7%	7%	-
on individual level	1	2	1	2	2	2	4	2	1	3	—	2	3	1	4	3	2.2	1.01419	27%	40%	20%	13%	-
on hobby/amateur level	1	1	1	1	2	3	4	1	2	3	1	1	1	1	2	3	1.75	1	56%	19%	19%	6%	-
on political level	1	2	1	3	2	1	3	1	2	2	—	3	2	1	2	3	1.93333	0.79881	33%	40%	27%	-	-
on cultural level	1	2	1	3	2	1	3	1	2	2	—	3	2	1	2	2	1.86667	0.74322	33%	47%	20%	-	-
on environmental level	—	2	1	3	2	1	3	1	1	2	—	3	2	1	1	2	1.78571	0.80178	43%	36%	21%	-	-
other:																							
comments:	<ul style="list-style-type: none"> - on environmental level: I'm thinking here about, for example, energy networks (JS) - People in need of special measurements might form one. Special interest groups, such as role players, might form another one. (JS) - Right now we are pretty much there in societies that shared similar socio-economic values. The could be a variant in other societies and geographies in which popularity and status are defined differently and access to technology are limited. (GG) - Tricky question, not sure I understand what is meant for example by "on cultural level" (CH) - Social media is currently over used (people spend too much time) only on amateur / hobby level, and people will look for more hapticity. On any other field the increase of social media will only benefit and make it easier for big industries to function (MS) - It will grow, unless the Internet seize to exist. (MR) 																						

7. How likely the popularity of social media networking is going to grow in the future	
1-2: ALMOST CERTAIN - LIKELY	on company/business level (av. 1.7, dev. 0.9), on hobby/amateur level (av. 1.8, dev. 1), on environmental level (av. 1.8, dev. 0.8), on cultural level (av. 1.9, dev. 0.7), on political level (av. 1.9, dev. 0.8)
2-3: LIKELY - 50/50 CHANCE	on individual level (av. 2.2, dev. 1)

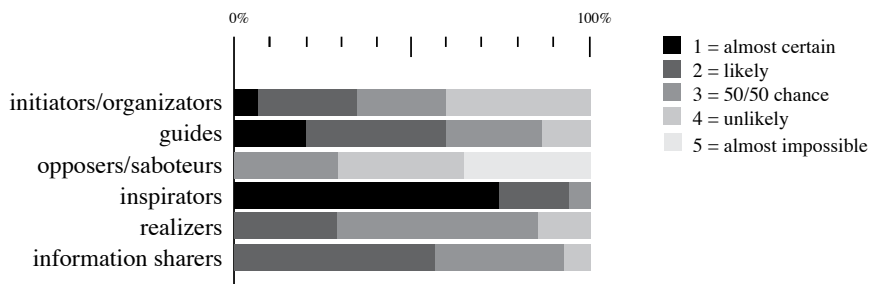
7. The popularity of social media networking is going to grow in the future...



8. Fashion blogging is already highly popular activity among fashion lovers. If there will be more specific networks created around fashion creation, what kind of role will a) the fashion designers have in such networks? Most likely																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)															AVERAGE	DEVIATION	1	2	3	4	5	
initiators/organizers	1	4	2	4	3	3	4	2	2	4	—	4	3	2	3	4	3	1	7%	27%	27%	40%	-
guides	—	4	3	3	2	1	4	2	2	3	1	2	2	2	3	1	2.33333	0.9759	20%	40%	27%	13%	-
opposers/saboteurs	—	4	4	4	3	5	3	5	5	5	—	4	4	3	3	5	4.07143	0.82874	-	-	29%	36%	36%
inspirators	1	3	2	2	1	1	1	1	2	1	1	1	1	1	1	1	1.3125	0.60208	75%	19%	6%	-	-
realizers	—	3	3	3	3	2	4	3	2	2	—	4	3	2	3	3	2.85714	0.66299	-	29%	57%	14%	-
information sharers	—	2	3	3	3	2	4	3	2	2	—	2	2	3	2	2	2.5	0.65044	-	57%	36%	7%	-
other:																							
comments:	<p>- can you explain what you mean by guides? What do you exactly mean by inspirator: the ones who create beautiful items, or activists that engage others into actions? Realizers? (GG)</p> <p>- This is actually a very good question. Which leads to question of what will be the role of the future fashion designer? Nowadays a fashion designer is secondary than the blogger, because the blogger works as a digital stylist married with a fashion editor which is extremely powerful in distributing "Fashion Dreams".</p> <p>This recipe is even stronger when the blogger is able to shoot great content too. Fashion bloggers, at a smaller scale are taking fashion publishing into their hands. (GG)</p> <p>- Fashion designers will most likely not be able to oppose this kind of development. They will adapt, and make the most of it. However some traditional craftsmen might see new developments as a threat, especially if the change happens too fast. (MS)</p>																						

8. Fashion blogging is already highly popular activity among fashion lovers. If there will be more specific networks created around fashion creation, what kind of role will a) the fashion designers have in such networks? Most likely	
1-2: ALMOST CERTAIN - LIKELY	inspirators (av. 1.3, dev. 0.6)
2-3: LIKELY - 50/50 CHANCE	guides (av. 2.3, dev. 1), information sharers (av. 2.5, dev. 0.7), realizers (av. 2.9, dev. 0.7)
3-4: 50/50 CHANCE - UNLIKELY	initiators/organizers (av. 3, dev. 1)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	opposers/saboteurs (av. 4.1, dev. 0.8)

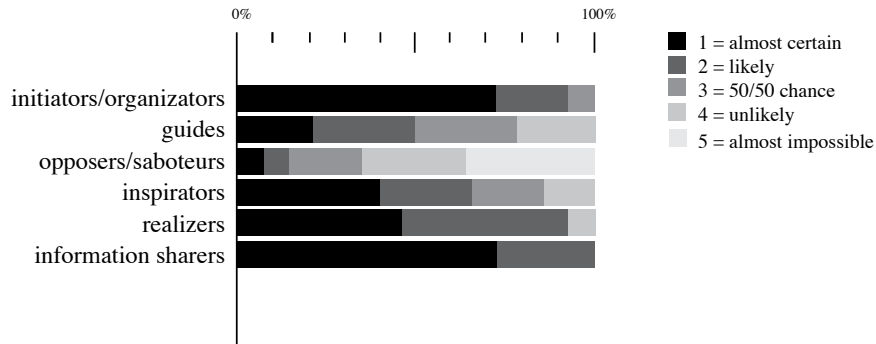
8. If there will be more specific networks created around fashion creation, the role of a) the fashion designers will most likely be:



8. Fashion blogging is already highly popular activity among fashion lovers. If there will be more specific networks created around fashion creation, what kind of role will b) the amateurs? Most likely																								
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)															AVERAGE	DEVIATION	1	2	3	4	5		
initiators/organizers	1	2	1	1	2	1	1	3	1	1	1	1	2	1	1	1	1.33333	0.61721	73%	20%	7%	-	-	
guides	-	3	2	2	4	1	2	3	1	2	-	3	4	1	3	4	2.5	1.09193	21%	29%	29%	21%	-	
opposers/saboteurs	-	2	4	5	3	1	3	5	5	3	-	5	4	5	4	4	3.78571	1.25137	7%	7%	21%	29%	36%	
inspirators	1	3	2	2	2	1	4	1	2	4	-	3	1	1	1	3	2.06667	1.09978	40%	27%	20%	13%	-	
realizers	-	1	1	2	2	1	2	1	2	2	1	1	4	1	2	2	1.66667	0.8165	47%	47%	-	7%	-	
information sharers	1	1	1	1	2	1	1	1	2	1	-	1	2	1	1	2	1.26667	0.45774	73%	27%	-	-	-	
other:																								
comments:	- The role of the amateur is the big question mark. Due to evolution of DIY-media, everyone can become a professional in everything. All major corporations will need to read the amateurs, and adapt to their needs more and more. (MS)																							

8. Fashion blogging is already highly popular activity among fashion lovers. If there will be more specific networks created around fashion creation, what kind of role will b) the amateurs? Most likely	
1-2: ALMOST CERTAIN - LIKELY	information sharers (av. 1.3, dev. 0.5), initiators/organizers (av. 1.3, dev. 0.6), realizers (av. 1.7, dev. 0.8)
2-3: LIKELY - 50/50 CHANCE	inspirators (av. 2.1, dev. 1.1), guides (av. 2.5, dev. 1.1)
3-4: 50/50 CHANCE - UNLIKELY	opposers/saboteurs (av. 3.8, dev. 1.3)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	

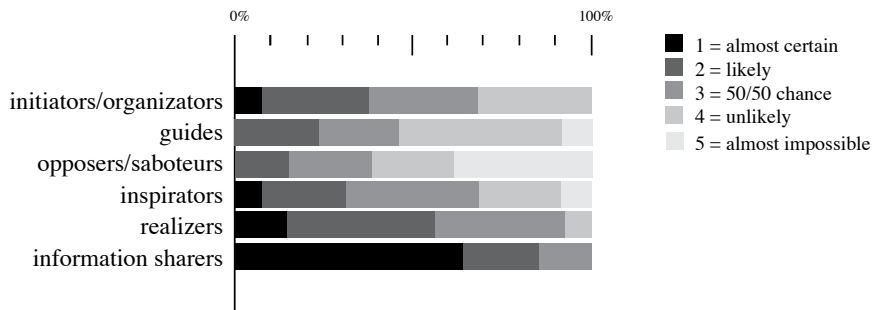
8. If there will be more specific networks created around fashion creation, the role of b) the amateurs will most likely be:



8. Fashion blogging is already highly popular activity among fashion lovers. If there will be more specific networks created around fashion creation, what kind of role will c) the ordinary consumers? Most likely																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)															AVERAGE	DEVIATION	1	2	3	4	5	
initiators/organizers	-	-	3	4	4	4	2	3	2	3	-	2	2	1	3	4	2.84615	0.9871	8%	31%	31%	31%	-
guides	-	-	3	4	2	4	5	3	2	4	-	4	4	2	3	4	3.38462	0.96077	-	23%	23%	46%	8%
opposers/saboteurs	-	-	4	5	2	3	5	5	5	2	-	5	3	4	3	4	3.84615	1.14354	-	15%	23%	23%	38%
inspirators	-	-	3	3	4	3	5	2	2	4	-	3	2	1	3	4	3	1.08012	8%	23%	38%	23%	8%
realizers	-	-	3	2	4	2	3	1	2	2	1	2	2	3	3	3	2.35714	0.8419	14%	43%	36%	7%	-
information sharers	1	-	1	1	2	1	1	1	1	2	-	1	2	1	3	3	1.5	0.75955	64%	21%	14%	-	-
other:																							
comments:	It is hard to make a difference between "amateur" and "ordinary consumer", but amateurs who choose to be early adapters in new forms of fashion design communication, will become information sharers, guiders and initiators. Rest of the ordinary consumers will follow behind. (MS)																						

8. Fashion blogging is already highly popular activity among fashion lovers. If there will be more specific networks created around fashion creation, what kind of role will c) the ordinary consumers? Most likely	
1-2: ALMOST CERTAIN - LIKELY	information sharers (av. 1.5, dev. 0.8)
2-3: LIKELY - 50/50 CHANCE	realizers (av. 2.4, dev. 0.8), initiators/organizers (av. 2.8, dev. 1)
3-4: 50/50 CHANCE - UNLIKELY	inspirators (av. 3, dev. 1.1), guides (av. 3.4, dev. 1), opposers/saboteurs (av. 3.8, dev. 1.1)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	

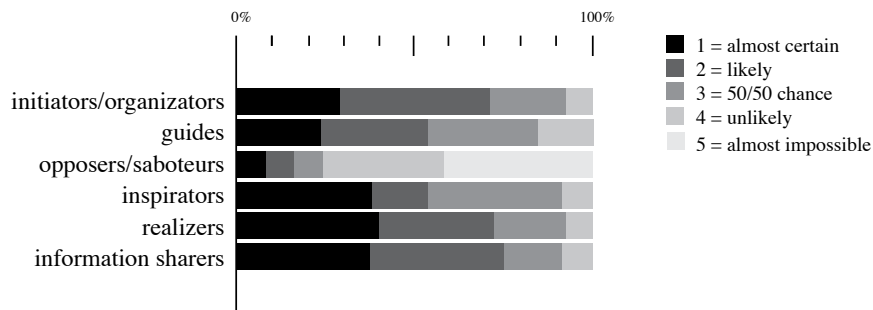
8. If there will be more specific networks created around fashion creation, the role of c) the ordinary consumers will most likely be:



8. Fashion blogging is already highly popular activity among fashion lovers. If there will be more specific networks created around fashion creation, what kind of role will d) manufacturers or companies? Most likely																						
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5	
initiators/organizers	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	2.07143	0.91687	29%	43%	21%	7%	-
guides	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	2.38462	1.04391	23%	31%	31%	15%	-
opposers/saboteurs	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	4	1.29099	8%	8%	8%	31%	46%
inspirators	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	2.15385	1.06819	38%	15%	38%	8%	-
realizers	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1.93333	0.96115	40%	33%	20%	7%	-
information sharers	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1.92308	0.95407	38%	38%	15%	8%	-
other:																						
comments:	- Manufacturers will most likely benefit from win-win solutions co-created with the consumer. They will probably aim for lower LOSS, which will become a bigger trend in the future. (MS)																					

8. Fashion blogging is already highly popular activity among fashion lovers. If there will be more specific networks created around fashion creation, what kind of role will d) manufacturers or companies? Most likely	
1-2: ALMOST CERTAIN - LIKELY	information sharers (av. 1.9, dev. 1), realizers (av. 1.9, dev. 1)
2-3: LIKELY - 50/50 CHANCE	initiators/organizers (av. 2.1, dev. 0.9), inspirators (av. 2.2, dev. 1.1), guides (av. 2.4, dev. 1)
3-4: 50/50 CHANCE - UNLIKELY	-
4-5: UNLIKELY - ALMOST IMPOSSIBLE	opposers/saboteurs (av. 4, dev. 1.3)

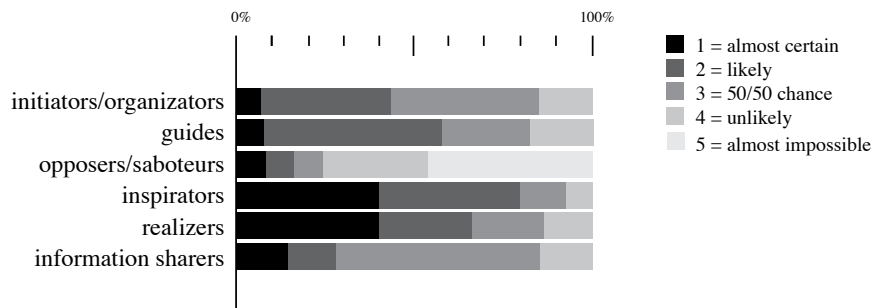
8. If there will be more specific networks created around fashion creation, the role of d) the manufacturers or companies will most likely be:



8. Fashion blogging is already highly popular activity among fashion lovers. If there will be more specific networks created around fashion creation, what kind of role will e) artisans? Most likely																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5		
initiators/organizers	-	2	4	1	3	2	2	3	3	2	-	2	3	3	3	4	2.64286	0.8419	7%	36%	43%	14%	-
guides	-	-	2	2	3	1	2	2	3	2	-	2	4	-	3	4	2.5	0.90453	8%	50%	25%	17%	-
opposers/saboteurs	-	-	4	5	3	1	4	5	3	4	-	5	4	4	2	5	3.76923	1.23517	8%	8%	8%	31%	46%
inspirators	1	-	2	2	3	2	2	1	3	1	1	2	4	1	2	1	1.86667	0.91548	40%	40%	13%	7%	-
realizers	1	2	3	1	3	1	2	1	2	1	-	2	3	1	4	4	2.06667	1.09978	40%	27%	20%	13%	-
information sharers	-	3	3	1	3	4	2	1	3	2	-	3	3	4	3	3	2.71429	0.91387	14%	14%	57%	14%	-
other:																							
comments:	Artisans will probably have the highest emotional tie to their craft and this can also create opposition towards new developments. However Artisans are currently the most marketable and as consumerism strives for products that are "family owned" or "naturally created". (MS)																						

8. Fashion blogging is already highly popular activity among fashion lovers. If there will be more specific networks created around fashion creation, what kind of role will e) artisans? Most likely	
1-2: ALMOST CERTAIN - LIKELY	inspirators (av. 1.9, dev. 0.9)
2-3: LIKELY - 50/50 CHANCE	realizers (av. 2.1, dev. 1.1), guides (av. 2.5, dev. 0.9), initiators/organizers (av. 2.6, dev. 0.8), information sharers (av. 2.7, dev. 0.9)
3-4: 50/50 CHANCE - UNLIKELY	opposers/saboteurs (av. 3.8, dev. 1.2)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	

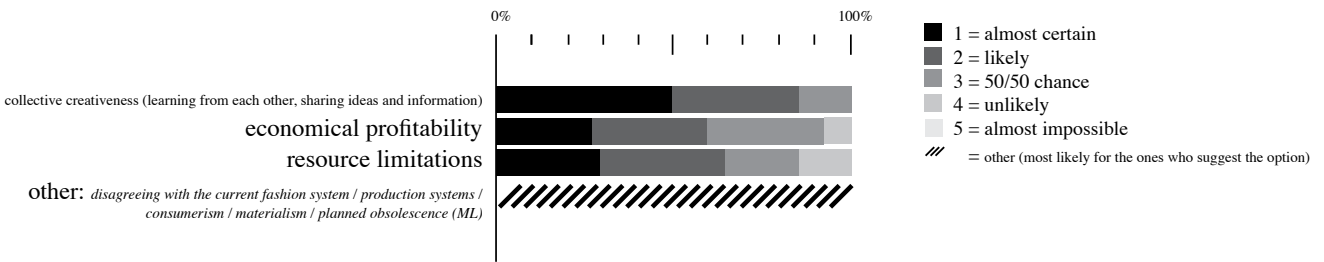
8. If there will be more specific networks created around fashion creation, the role of e) artisans will most likely be:



9. What are the most likely driving forces behind forming fashion co-creation and co-production networks between the professionals and non-professionals?																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)											AVERAGE	DEVIATION	1	2	3	4	5					
collective creativeness (learning from each other, sharing ideas and information)	-	1	2	2	2	1	1	1	3	2	-	1	1	1	3	2	1.64286	0.74495	50%	36%	14%	-	-
economical profitability	1	3	3	2	3	2	2	3	3	4	-	1	1	2	2	1	2.2	0.94112	27%	33%	33%	7%	-
resource limitations	-	2	3	4	4	1	1	2	3	2	1	-	1	2	2	3	2.21429	1.0509	29%	36%	21%	14%	-
other: <i>disagreeing with the current fashion system / production systems / consumerism / materialism / planned obsolescence (ML)</i>	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	0	100%				
comments:	<p>- Collective creativity based on a wish for heightened brand value (also meaning economical value) for the company. A form of self expression and feeling belonging for the individual. In my opinion a win win situation based on heightened interest in fashion meaning more potential fashion enthusiasts/customers for the company and a source for belonging and self expression for the private person. (CH)</p> <p>- Green-tech will be the way of the future so resource limitations is a driving factor. However collective creativeness is shown by studies to be the most driving motivator in an office environment. This will benefit everyone mutually and almost naturally generate change, that starts from changing the way we work (make the change). (MS)</p> <p>- if the resources are going to be limited, that can be a big force, but so far it doesn't look like that. (MR)</p>																						

9. What are the most likely driving forces behind forming fashion co-creation and co-production networks between the professionals and non-professionals?	
1-2: ALMOST CERTAIN - LIKELY	<i>disagreeing with the current fashion system / production systems / consumerism / materialism / planned obsolescence (one answer, av. 1, dev. 0)</i> collective creativeness (learning from each other, sharing ideas and information) (av. 1.6, dev. 0.7)
2-3: LIKELY - 50/50 CHANCE	economical profitability (av. 2.2, dev. 0.9), resource limitations (av. 2.2, dev. 1.1)

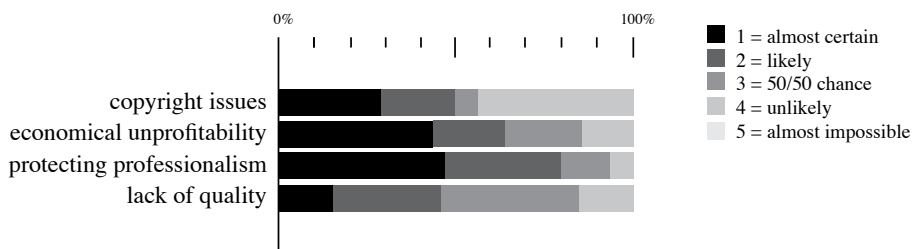
9. The most likely driving forces behind forming fashion co-creation and co-production networks between the professionals and non-professionals:



10. What are the most likely barriers behind forming fashion co-creation and co-production networks between the professionals and non-professionals?																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)											AVERAGE	DEVIATION	1	2	3	4	5					
copyright issues	-	-	4	4	2	4	4	2	1	2	1	3	4	1	4	1	2.64286	1.33631	29%	21%	7%	43%	-
economical unprofitability	1	-	3	2	1	3	4	1	1	4	-	1	3	2	2	1	2.07143	1.14114	43%	21%	21%	14%	-
protecting professionalism	-	1	1	2	2	2	1	3	1	4	1	1	1	2	2	3	1.8	0.94112	47%	33%	13%	7%	-
lack of quality	-	-	1	3	3	4	1	2	3	2	-	4	2	2	3	3	2.53846	0.96742	15%	31%	38%	15%	-
other:																							
comments:	<p>- It's likely that even if co-creation can produce good quality things, most of the stuff will mediocre or bad quality. But I don't know if it's really that big of a problem? Professionals can still continue to produce professional stuff and try influence other groups toward better design. (ML)</p> <p>- Quality will be higher, copyright issues are non-existent in the fashion industry and economically, once working models are found due to limited natural resources the system will become profitable. The problems lie in attitudes that still fancy the old, and the slow behavioral change that needs time among consumers. Artisans and craftsmen might also oppose the anarchy of tailoring and design, and feel uncomfortable when everyone is able to "make shoes" like shoemakers. (MS)</p> <p>- Copyright issues are not an issue unless you make them into one. (SV)</p> <p>- In the sense that those who consider themselves "professionals" are afraid of losing their role (ZR)</p>																						

10. What are the most likely barriers behind forming fashion co-creation and co-production networks between the professionals and non-professionals?	
1-2: ALMOST CERTAIN - LIKELY	protecting professionalism (av. 1.8, dev. 0.9)
2-3: LIKELY - 50/50 CHANCE	economical unprofitability (av. 2.1, dev. 1.1), lack of quality (av. 2.5, dev. 1), copyright issues (2.6, dev. 1.3)

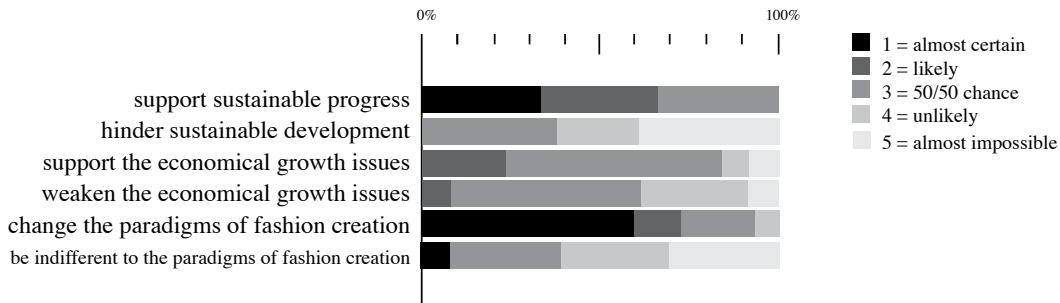
10. The most likely barriers behind forming fashion co-creation and co-production networks between the professionals and non-professionals:



11. How likely the fashion co-creation and co-production networks/communities are going to																								
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)															AVERAGE	DEVIATION	1	2	3	4	5		
support sustainable progress	-	2	2	2	3	1	3	1	3	1	1	3	1	2	2	3	2	0.84515	33%	33%	33%	-	-	
hinder sustainable development	-	-	5	5	5	4	3	5	3	3	-	3	4	5	3	4	4	0.91287	-	-	38%	23%	38%	
support the economical growth issues	-	-	3	3	3	3	3	3	5	2	-	4	2	2	3	3	3	0.8165	-	23%	62%	8%	8%	
weaken the economical growth issues	-	-	3	5	3	4	3	4	3	4	-	3	4	2	3	3	3.38462	0.76795	-	8%	54%	31%	8%	
change the paradigms of fashion creation	1	1	1	3	2	1	3	1	1	3	-	1	1	1	4	2	1.73333	1.0328	60%	13%	20%	7%	-	
be indifferent to the paradigms of fashion creation	-	-	5	4	4	5	3	5	3	1	-	4	4	5	3	3	3.76923	1.16575	8%	-	31%	31%	31%	
other:																								
comments:	<p>- Heightened interest and easy access means more enthusiasts, which for the companies mean potential customers. I don't know if this is sustainable but it will certainly change the paradigms of fashion in terms of private people being a herd of sheep to be fooled by the industry and of the role of the designer being a master who dictates the norms and trends. (CH)</p> <p>- I don't think that co-creation itself will guide the direction of these things. Co-creation can either produce fashion that is exactly the same as current stuff or change the paradigms completely. I think it's up to each individual company / community to set their goals, economical, ecological and design standards. (ML)</p> <p>- The industry is at a breakpoint as any other major industry (music, food, entertainment). New dialogue through social media innovations is the starting point for a new 2-way industry. (MS)</p> <p>- Co-creation in itself doesn't yet change lifestyles if the deeper questions of consumption are not addressed. An interesting question is: how could self-actualization through fashion be transformed into building sustainable lifestyles. (This is a bit unclear: economical growth – in terms of which aims?) (SV)</p>																							

11. How likely the fashion co-creation and co-production networks/communities are going to	
1-2: ALMOST CERTAIN - LIKELY	change the paradigms of fashion creation (av. 1.7, dev. 1)
2-3: LIKELY - 50/50 CHANCE	support sustainable progress (av. 2, dev. 0.8)
3-4: 50/50 CHANCE - UNLIKELY	support the economical growth issues (av. 3, dev. 0.8), weaken the economical growth issues (av. 3.4, dev. 0.8), be indifferent to the paradigms of fashion creation (av. 3.8, dev. 1.2)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	hinder sustainable development (av. 4, dev. 0.9)

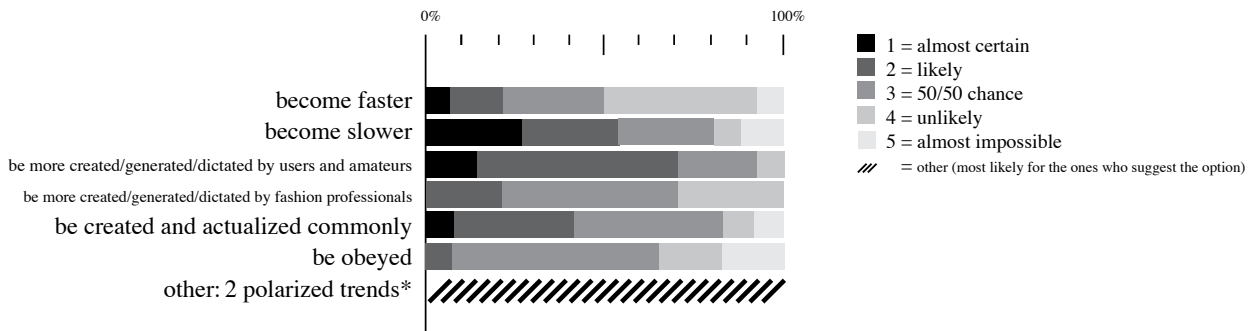
11. The fashion co-creation and co-production networks/communities are going to



12. At the moment, one can identify fast dynamics and voluminous amounts of trends. How likely the fashion trend dynamics are going to																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5		
become faster	—	2	3	4	2	4	3	4	5	4	—	3	4	1	3	4	3.28571	1.06904	7%	14%	29%	43%	7%
become slower	—	2	2	4	5	1	3	1	3	2	1	3	2	1	3	4	2.46667	1.24595	27%	27%	27%	13%	7%
be more created/generated/dictated by users and amateurs	—	2	2	2	2	2	4	2	3	2	—	2	1	1	3	3	2.21429	0.80178	14%	57%	21%	7%	—
be more created/generated/dictated by fashion professionals	—	4	4	3	3	2	3	2	3	3	—	4	4	3	3	2	3.07143	0.73005	—	21%	50%	29%	—
be created and actualized commonly	—	—	—	3	3	4	3	1	3	2	—	2	2	3	5	2	2.75	1.05529	8%	33%	42%	8%	8%
be obeyed	—	—	4	2	5	3	3	5	3	3	—	3	4	3	3	—	3.41667	0.90034	—	8%	58%	17%	17%
other: 2 polarized trends*	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—							
comments:	<p>*other: there will be 2 polarized trends, one that become faster and ruled by fashion professionals and the other becoming slower ruled by users and amateurs (ZR)</p> <p>- Fashion trends are created in parallel in the mainstream and within grassroots, traditionally each having their own separate methods (mass publication vs. "stickiness" amongst trend-setters). Now that we are mainstreaming the distribution process of the bottom through technologies that allow easies/faster reach (blogs). We will have more trends but they will last less, because everyone is distributing very fast. In conclusion, they will be more trends, that will die more quickly. The idea of the "classic" is in jeopardy in the short term, but we will notice what patterns keep emerging. (GG)</p> <p>- As with many fields of creativity, fashion is likely to be more and more dominated by amateurs if companies do not catch on to the trend in time. (CH)</p> <p>- Is it even possible for it to become faster or have we reached the peak? (LM)</p> <p>- I think that trends are moving with different paces in different demographics. Some trends might last for years among other people and only for a short period among others. And the same thing with the other questions. Some people value professional opinions more and some follow their peers. (ML)</p> <p>- The cycles cannot get faster with a one-way approach where the consumer gets an offering of pre-selected products each season. Slow-trend is a good starting point for actually creating a fast, rapid, more elastic seasonal thinking, where the consumer gets what he needs faster than before. Probably trend reports will not be decided 2 years before the clothes hit the shops. Instead the consumer will most likely be able to participate already when the designers are thinking of the next trends. (MS)</p> <p>- Trends are likely to become more customizable and splintered and therefore faster in that sense – but perhaps not reaching the masses at once. Certain guidelines (that can be seen as trends) might simultaneously become more stable. (SV)</p> <p>- I don't have an opinion on trends (MRE)</p>																						

12. At the moment, one can identify fast dynamics and voluminous amounts of trends. How likely the fashion trend dynamics are going to	
2-3: LIKELY - 50/50 CHANCE	be more created/generated/dictated by users and amateurs (av. 2.2, dev. 0.8), become slower (av. 2.5, dev. 1.2), be created and actualized commonly (av. 2.8, dev. 1.1)
3-4: 50/50 CHANCE - UNLIKELY	be more created/generated/dictated by fashion professionals (av. 3.1, dev. 0.7), become faster (av. 3.3, dev. 1.1), be obeyed (av. 3.4, dev. 0.9)

12.The most likely fashion trend dynamics are going to



13. What kind of digital based co-creation communities there might be formed concerning fashion? Give 2-3 examples.

- an organized community for exchanging(amateurs) /developing(professionals) diy ideas (PK)
- People in need of special measurements might form one. Special interest groups, such as role players, might form another one. (JS)
- My guess is that there will be communities more focused on mixing fashion with service design. (GG)
- Digital based communities are great for sharing information about the production chain and the stories behind the clothes. Also, they are great for sharing information (production places, suppliers etc) among professionals. (AN)
- critical discussion about fashion not found in commercial media
- strong trends being created outside the world of professional fashion. As an example I am thinking about forums, cant remember the name for the phenomenon right now, where over sized people discuss fashion and exchange style advices, without a trace of low self esteem traditionally associated with being over sized and interested in fashion. (CH)
- that-swedish-paperdoll-thingie, co-operation projects where people have never met irl, (KH)
- different kind of open-design actions (KN)
- design recipe sharing
- fashion technology information sharing (LM)
- 'recipe' sharing for rapid manufacturing processes (3D files, CAD patterns, knitting programs, CNC files etc).
- (video) tutorials for creating & modifying existing designs (ML)
- A community between factory (manufcaturers), designer, and consumers via social media innovations
- A user created open-source trend website, that shows the actual desires of the fashion consumers, so that trends are not forced upon us. (MS)
- Actually I think all of these exisits already:
Trend scouting
Utililising long tail of materials/items -> ie. Crowd shopping
Groups focused on very specific niche area of fashion (ie. Japanese street fashion; make-up styles, EMO shoes, recycled fashion...) (MR)
- A home body scanner that allows for exact measures -> easier to customize and purchase online, maybe with a virtual fashion showroom.
Virtual copy systems of high fashion looks made from at-hand materials. (SV)
- fashion for people with disabilities
- lasercut fashion
- zero waste design (ZR)
- To store favourite colours in Pantone colour code so you can match a scarf to same colour shoes etc. (MRE)

14. What kind of non-digital based co-creation communities there might be formed concerning fashion? Give 2-3 examples.

- I don't have an answer. (PK)
- Different repair communities, perhaps. Fashion exchange? (JS)
- Same response as previous answer: My guess is that there will be communities more focused on mixing fashion with service design. (GG)
- Clothes swapping, sharing, renting.. (AN)
- creative workshops being a part of other bigger events. ex. baltic circle recycle garments for sell. Creative workshops as a mean of heightening the overall atmosphere of an event.
- swapping and tuning groups as an alternative to shopping sprees (CH)
- shared workspaces, store workshops (KH)
- open workshops for all, fashion events (e.g. sharing, exchange, upgrading or updating your clothes) (KN)
- production ideas and information sharing
- production location and material sharing
- cross design branch production sharing? (LM)
- workshops
- knowledge sharing / trading. i.e. collaboration based mostly on the required expertise. (ML)
- Workshops where tailors share their knowledge and bring consumers to the very core of clothes design
- State supported office buildings with studios for manufacturers, fashion designers, bloggers and early adapting consumers. All the participants of the new fashion industry will physically create and work in the same building to make the process richer and more vivid (MS)
- DIY workshops /clubs
- DIY fashion shows /happenings (MR)
- Lending / sharing systems like Nopsa Vaatelainaamo.
- The rise of efficient repairing / customizing / styling services. (SV)
- what do you mean? (ZR)
- Consumers might like to get their favourite clothes in colours and sizes chosen by them. (MRE)

15. Which novel economic/business model has the greatest potential to capitalize on the revenue potential of open fashion design?

- I don't have an answer. (PK)
- Software developers and postal services will likely benefit the most. (JS)
- Service Design (GG)
- Perhaps the one who is able to make a dynamic & well-executed platform for sharing information, inspiration etc. (both non-professionals and professionals) and make it commercial. (AN)
- smaller sized, possibly local, businesses can gain recognition more easy through this development / -"businesses" based on the exchange of immaterial goods, such as knowledge (CH)
- Shop in shop-model (JJ-A)
- somebody gathers the manufacturing and distribution processes, and creates lulu.com -style "fashion brand on-demand" service (KH)
- If the design is open and free, then the revenue comes from the actual making / manufacturing, so that area has the biggest capitalization potential. (ML)
- Some kind of a new business model that dares to disregard one-way target group thinking. (MS)
- Microeconomy / mass customization – ie. Spreadshirt.co.uk (MR)
- Lending / sharing systems like Nopsa Vaatelainaamo. (SV)

16. In which direction the material values among consumers of western societies are developing? How is it affecting fashion?

- Westerners are willing to pay more for sustainable fashion if the design value is high. (PK)
- I can only speak from my own experience when I say that less is more. (JS)
- Regarding the un-material there is an emphasis on sharing and that is huge shift towards a paradigm change in fashion. Regarding the material, consumers are more focused on learning about materials and how-to instructions which is great value for a potential "maker" (GG)
- I hope the direction is going away from materialism. I hope that in the future people value their clothes more and they are wise enough to realize that the era of cheap fast fashion is over. (AN)
- if feel like material values are being politicized, used as a statement of your overall values in life . By this I mean that i find that people who are ethically aware use material values to demonstrate their overall point, ie, biking, ecological food, less consumption etc. And those who believe that being privileged in material matters is the right of any hard working taxpaying person, flaunt this belief in even more elaborate ways. Almost like it would be possible to display that you work hard by consuming hard. (CH)
- More functional fabrics and collections will exist. (JJ-A)
- classics get more popular, people buy more expensive but less (KH)
- People are getting more aware of how the fast-fashion system works and it's downsides. It becomes trendy to know where products come from and that they are of high quality and made with ethical and ecological values in mind. (LM)
- Transparency becomes more and more relevant. So consumers want to know where the materials are from, and where the items have been manufactured. This will hopefully drive fashion towards more ecological & ethical production. (ML)
- The material values are still at the core of our consuming needs: you are what you consume. Even when you consume non-material experiences, we package yoga lessons and such into a material "experience sheet", a sort of social CV for our facebook page. However the way we approach material values is probably changing, and the attitude shift can affect the fashion industry. We start asking what we can create for ourselves, instead of showing others what we need for ourself. (MS)
- We will hit several peaks in natural resources in near future incl. oil, steel, phosphor, zinc, sweet water and fertile land, which will guide the consuming towards recycling in all areas of production. Also in fashion. (MR)
- Sharing will become a stronger ideal. (SV)
- niche market (ZR)
- Consumers like as little material as possible, few clothes of good quality to be used for a time, maybe a season and then replaced. Material that is possible to carry with you in a nomad lifestyle. (MRE)

17. In which direction the material values among consumers of non-western societies are developing? How is it affecting fashion?

- towards western values due to economical growth (China). This means consuming more over all. (PK)
- More is more? (JS)
- Which society are you specifically referring to Japan vs. African societies? Will be helpful to have a more specific sub-group since non-western is too broad. Far-East vs. African countries may have radical socio-economic references that affect their view and experience of fashion. (GG)
- As the living standard of non-western societies is rising, also the consumption of fashion rises. I hope that the non-western societies would not follow the same path of fast fashion as we have done. But we can pretty much blame ourselves if (and when) this happens. (AN)
- in the latter mentioned way, sadly, excessive consumption is a human right and status symbol. The traditional fashion world based on big brand dictating the trends can look there for new costumers instead of being pressured to participate in fashion whose rules are increasingly dictated by people who are aware of alternative ways and are in a position to demand them. (CH)
- Nano technology will take place. (JJ-A)
- flamboyant and show-offish (KH)
- They want what western societies have had/has. (LM)
- Transparency becomes more and more relevant. So consumers want to know where the materials are from, and where the items have been manufactured. This will hopefully drive fashion towards more ecological & ethical production. (ML)
- Non-western societies are still adapting the capitalistic values we have set during the past decades. However, the religious and cultural traditions will affect each societies attitude towards material values. This is however very hard to predict. (MS)
- I hope the non-western countries will skip the "crazy consumer phase" that's been going on in western societies for past 70 years completely, but I'm afraid it won't happen. The production of fashion is happening now in non-western countries, and I think that China in the front is doing all they can to keep the wheels of cheap and environmentally destructive production going on as long as they can. (MR)
- Also in fashion, a leap-frog phenomenon would be needed – to set example in non-western countries that it is not necessary to go through "the H&M phase" of throwaway consumption before coming back to traditional, more sustainable habits. (SV)
- western societies are getting poorer, more mature and losing attraction for consumerism. Most fashion brands are losing reputation and money as well. That's why a different type of fashion more based on making and sharing is slowly spreading. (ZR)
- Pride in the ethnic heritage of each region for example China or Africa is affecting the fashion in that region and these trends have global appeal for example Shanghai Tang. A luxury product may not come from Paris, it might come from Shanghai. (MRE)

18. What kind of technological development is probable to occur concerning fashion creation and production? Give 2-3 examples.

- growing use of 3D printing (PK)
- cheap(free?) and user-friendly softwares for 3D printing (PK)
- Printing technology, perhaps. (JS)
- Digital 3D printing will make a large impact. (GG)
- Cradle-to-cradle production, new sustainable materials etc. (AN)
- ways to print fabrics etc (KH)
- more ecological
- low water use in production and maintenance
- better recycle planning
- designing for long-term use (LM)
- Closed loop / zero waste production / 100% recyclability (esp. yarn finishing & dyeing, seamless knitting, seamless weaving, design for disassembly)
- Self assembling materials (esp. proteins) (ML)
- We will find a logistic solution to make loss/waste smaller
- Logistic solutions to make more smaller quantities of custom products at bigger companies
- Social media developments to co-create with the consumer. (MS)
- Non-western societies are enjoying consumerism, and they will be a better market for western brands. (ZR)

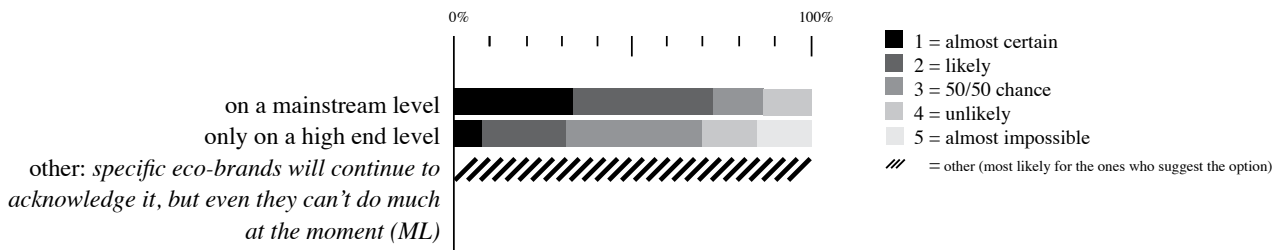
Other comments:

- Lack of water is main reason to use new technologies and man-made fabrics. It is not necessary to use so much water in production process or to wash garments after every use (JJ-A)
 - Social media developments to co-create with the consumer. -> it is probably important to involve the voice of the amateur fashion enthusiasts early-on to really make open-source exist in the fashion world. Let's not build a brand with a strong front, invisible to criticism, but a brand where every critical opinion participates in making it better (MS)
 - At-home body scanner to take exact measures.
 - Intelligent sharing systems that work like GPS dating services: my iPhone tells me that someone 450 meters from has the perfect black dress in my size that they're willing to lend for the night... (SV)
 - open source hardware weaving and sewing
 - open source parametric software for pattern making (ZR)
 - trademarks are important and will be sustained. In other open access fields only Copyright is open access, trademarks and brands based on registered trademarks are valued and guarded. (MRE)
- The key question is discovering the needs of the future. For what need we will create? I believe the individual need to create for the self, will eventually be changed, after the near-future where we co-create and participate in creating for the self. At some point we will evolve into needing fashion, for completely new purposes (MS)

19. The production of fashion is going to acknowledge the challenge of environmental and economic issues																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5		
on a mainstream level	-	2	1	2	2	1	4	2	1	2	1	1	2	3	3	4	2.06667	1.0328	33%	40%	13%	13%	-
only on a high end level	-	1	5	4	4	5	3	2	2	3	-	-	2	3	3	3	3.07692	1.18754	8%	23%	38%	15%	15%
other: <i>specific eco-brands will continue to acknowledge it, but even they can't do much at the moment (ML)</i>	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	0	100%				
comments:	<ul style="list-style-type: none"> - It should have already happened so I don't have very high hopes for the future regarding fashion acknowledging environmental and economic issues (ML) - Green-tech, win-win, natural resources, necessity. (MS) - It's only a question of time (ZR) 																						

19. The production of fashion is going to acknowledge the challenge of environmental and economic issues	
1-2: ALMOST CERTAIN - LIKELY	<i>specific eco-brands will continue to acknowledge it, but even they can't do much at the moment</i> (one answer: av. 1, dev. 0)
2-3: LIKELY - 50/50 CHANCE	on a mainstream level (av. 2.1, dev. 1)
3-4: 50/50 CHANCE - UNLIKELY	only on a high end level (av. 3.1, dev. 1.2)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	-

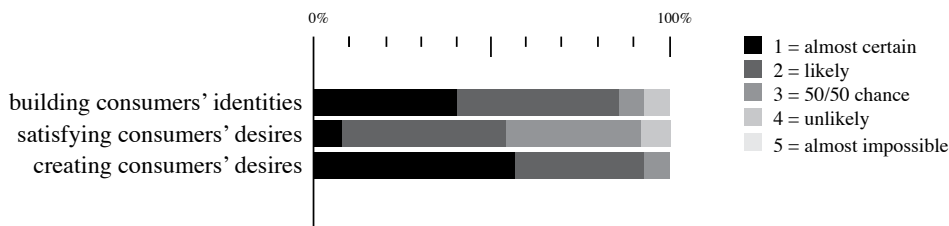
19. The production of fashion is going to acknowledge the challenge of environmental and economic issues...



20. The role of fashion supply today is more likely about																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5		
building consumers' identities	-	1	2	2	2	2	1	1	1	2	1	1	3	2	2	4	1,8	0.86189	40%	47%	7%	7%	-
satisfying consumers' desires	-	3	2	3	2	2	1	2	4	3	-	-	3	2	3	2	2.46154	0.77625	8%	46%	38%	8%	-
creating consumers' desires	-	2	1	2	1	1	1	2	1	2	-	1	1	1	3	2	1,5	0.65044	57%	36%	7%	-	-
other:																							
comments:																							

20. The role of fashion supply today is more likely about	
1-2: ALMOST CERTAIN - LIKELY	creating consumers' desires (av. 1.5, dev. 0.7), building consumers' identities (av. 1.8, dev. 0.9)
2-3: LIKELY - 50/50 CHANCE	satisfying consumers' desires (av. 2.3, dev. 0.8)

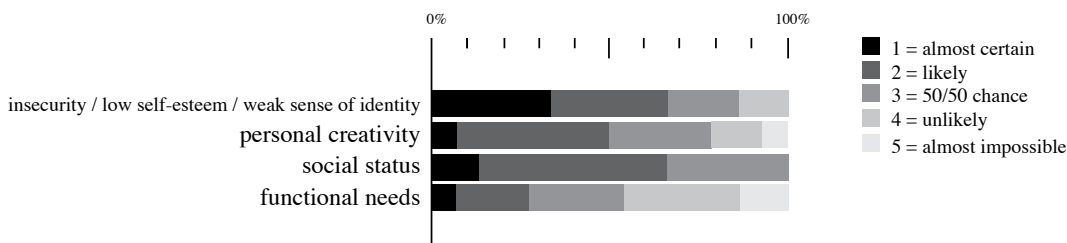
20. The role of fashion supply today is more likely about



21. The role of fashion demand today is more likely about																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5		
insecurity / low self-esteem / weak sense of identity	-	1	2	4	2	1	4	3	2	2	1	1	1	2	3	3	2.13333	1.0601	33%	33%	20%	13%	-
personal creativity	-	2	3	4	2	1	3	2	5	3	-	3	4	2	2	2	2.71429	1.06904	7%	43%	29%	14%	7%
social status	-	2	3	3	2	3	2	3	2	2	1	1	2	2	2	3	2,2	0.67612	13%	53%	33%	-	-
functional needs	-	4	5	3	3	4	2	2	3	3	1	5	4	2	4	4	3.26667	1.16292	7%	20%	27%	33%	13%
other:																							
comments:																							

21. The role of fashion demand today is more likely about	
2-3: LIKELY - 50/50 CHANCE	insecurity / low self-esteem / weak sense of identity (av. 2.1, dev. 1.1), social status (av. 2.2, dev. 0.7), personal creativity (av. 2.7, dev. 1.1)
3-4: 50/50 CHANCE - UNLIKELY	functional needs (av. 3.3, dev. 1.2)

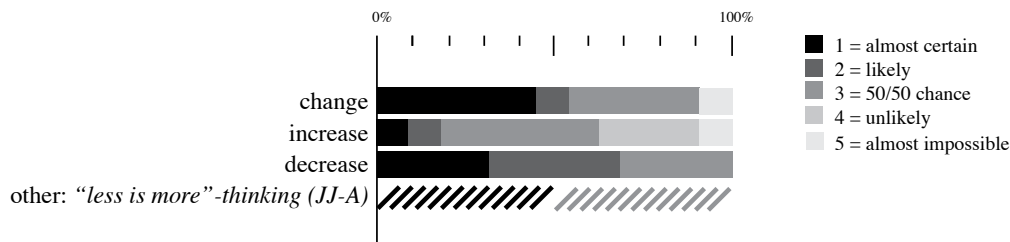
21. The role of fashion demand today is more likely about



22. How likely the amounts of collections created by fashion companies per year are going to																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5		
change (in what way?)*	-	1	1	3	3	1	5	1	-	-	-	-	2	1	3	3	2.18182	1.32802	45%	9%	36%	-	9%
increase	-	4	5	3	3	1	2	-	-	3	-	-	4	4	3	3	3.18182	1.07872	9%	9%	45%	27%	9%
decrease	-	2	1	3	3	2	2	-	1	2	1	-	2	1	3	3	2	0.8165	31%	38%	31%	-	-
other: "less is more"-thinking (JJ-A)	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	3	2	1.41421	50%	-	50%	-	-
comments:	<p>* change, in what way?</p> <ul style="list-style-type: none"> - the sizes and structures of the collections changes. It will hopefully be more about demand and reacting to need. More spread out! (LM) - get rid of the concept of seasonal collection (ZR) - It will take some time for this to happen, but I do believe that in the long run the amount of collections has to decrease. (AN) - In short term I feel there is still room for more exaggeration,there can be a pre-pre- fall/winter collection, or a collection for every month or even week, like in the case of H&M. The business thinking model is that big range (assortment) creates demand. But in a long term view, i think things definitely have to calm down. Not necessary that the fashion houses take the initiative, but just as being thin is trendy where it is easy to be fat and vise versa, consuming will not be in the demand ones it becomes too easy. I hope and sense that immaterial values like having time and space will get more and more focus, which they are, but at the moment in the same way as any passing trend. (CH) - Some fast fashion companies increase the amount of collections, some more artisanal companies will slow their pace. (ML) - Fast and slow will co-exist in a new way. Killing the old exhausting trend cycle is the first step and slow is the new starting point. But eventually the customized solutions will make the cycles even faster and ready to use. (MS) - Maybe a whole new system is introduced: removing the twice a year cycle could break down into smaller cycles to coincide even better with weather, holidays etc... But it doesn't have to mean that there's a whole new collection for it. But more customization and variety for combinations and digging up older looks in new combinations.(SV) 																						

22. How likely the amounts of collections created by fashion companies per year are going to	
2-3: LIKELY - 50/50 CHANCE	decrease (av. 2, dev. 0.8), other/"less is more"-thinking (only two answers, av. 2, dev. 1.4), change (av. 2.2, dev. 1.3)
3-4: 50/50 CHANCE - UNLIKELY	increase (av. 3.2, dev. 1.1)

22. The amounts of collections created by fashion companies per year are going to



23. Is there a balance between the supply and the demand (referring to questions 2 and 3) in fashion production? If not, why? And how could it be corrected?

- I believe people buy a lot more than what's needed so basically the business is only meeting the demand. I don't think the demand is healthy however I don't know how to correct it. (PK)

- The supply is probably larger than the demand. I think correcting it will happen through production on demand type of systems. (JS)

- Certainly not. The proof of this is the "outlet & discount" culture we live in. We need to find ways to re-adjust/hack the system and in parallel experiment with a new ones (GG)

- No, there's no balance at the moment. The production of clothes is a lot bigger than the demand. The fast fashion has to come to an end because it is totally unbearable for the environment. (AN)

- As with most things the demand is often created by the suppliers. That way there are phenomena like advertising etc, which are relatively new and only were born after the invention of mass production. When living in Oslo, in the capital of the richest country in the world, one summer, I saw fashion sales where garments were sold for something equivalent to 1 euro. I ask what happens to the clothes when that stock of "old" garments get off the racks and got no answer. Of course they become trash, no brand wanting to let garments with their brand tag end up in hands that can dirty their image. I think critical discussion about fashion as a phenomenon should be louder. The commerce press rules the discussion. Fashion is seen as fun and shopping for it an accepted hobby. If fashion would be the actual hobby, not shopping for new clothes, immaterial aspects of fashion would also be considered important. I mean things like reading and learning about vintage fashion instead of only shopping for it. Or that learning to create something yourself could be as valuable a form of self-expression as buying the piece in question. It is a change in attitudes that I'm talking about. And now when I think about it, this is where open fashion forums can come in and make a big change. (CH)

- Buyers are in a very BIG role in fashion business as well as seasons. (JJ-A)

- oversupply is compensated by making it a thing to want, bad quality things are forced through trending (KH)

- No (see my Doctoral dissertation) Offerings do not meet consumers' real wishes (for example through quality)

The system of Fast fashion irritates consumers and produces only bad quality as well as extremely short use time of clothing (KN)

- The fashion industry needs to listen more to the users (don't want to use the word consumer because it feels more flat) (LM)

- There is an over-saturation of supply and big loss/waste in the fashion industry. At the same time people's attitudes have generated a high demand for ever-changing rapid trends. The interaction between this need (demand) and supply (manufacturers, marketing people) should be the key to correct excessive production and customize and tailor straight to serve the needs of the customers. (MS)

- Balance according to whom? There's been an oversupply of consumption items ever since the 1950's when post-war society got back on its feet and found the joys of mass production. In that sense, supply has always been greater than demand, but the fashion industry has played a big part in creating additional demand for products, that has in many cases worked against its own logic – leading to price-dumping, outlet sales and seeking unsustainable ways to meet this so-called demand. (SV)

- sorry i don't understand the question! (ZR)

24. Are the volumes of fashion production going to change? If so, in what way?

-The rapidly growing market of East will most likely only make the demand bigger. (PK)

- Hopefully to meet the demand, nothing more. (JS)

- Certainly we are not consuming everything that is produced. It is not a sustainable model. (GG)

- I think we're going towards customization and on-demand-production. This is also cost-effective, because the resources are limited. (AN)

- As I said previously, I think it can still increase for a while but then I absolutely think it will cool down, and this because of uninterested consumers, not because the businesses suddenly become ethically aware.

After the culmination of consumerism, that i sadly still think will take some time to be reached, I hope for more local production and a mental tag on every piece of object ever made saying: "will you have and hold this t-shirt in sickness and in health til death do you apart?" (CH)

- I believe that we have less fashion seasons in near future. Fashion trends are not any more in big role. Less waist design will become more popular. Quality is VERY important. Production is coming back to Europe. Not so many fashion seasons anymore. Customizing will become popular. (JJ-A)

- the volumes will drop, less and better > will last longer (KH)

- It has to change Fast manufacturing systems causes over consumption and the manufacturing systems are so effectively currently that there is a huge amount of over production which do not even fit to the market anymore and ends up in landfills. Volumes have to be decreased in the future. (KN)

- Hopefully more designing with target. Among young designers there seems to be negotiations about designing without a very specific target in mind. The clothes needs to be high quality and for example a collection with 12 different ensembles (asukokonaisuutta) per year, one for every month. Less production of fast-fashion!! (LM)

- The volumes will initially and first be change by the change in demand. The change can also occur through an initiative of a larger company, but this would be considered a marketing risk. When the market (people) find a way to prove that lower, more focused volumes of clothes production is not risky, and when the model is ready, it is going to change. (MS)

- Hopefully down. I don't see this as following linear logic – the future demand-supply chain must also be actively created by pinpointing the gatekeepers that can influence lifestyles of the masses. I don't see it as a guessing game – if we look at this on a graph, the obvious linear direction is upwards (the same as with e.g. energy use and natural resources) – but this doesn't have to be the only future. (SV)

- In the western countries there will be a decrease and in the non-western countries there will be an increase (ZR)

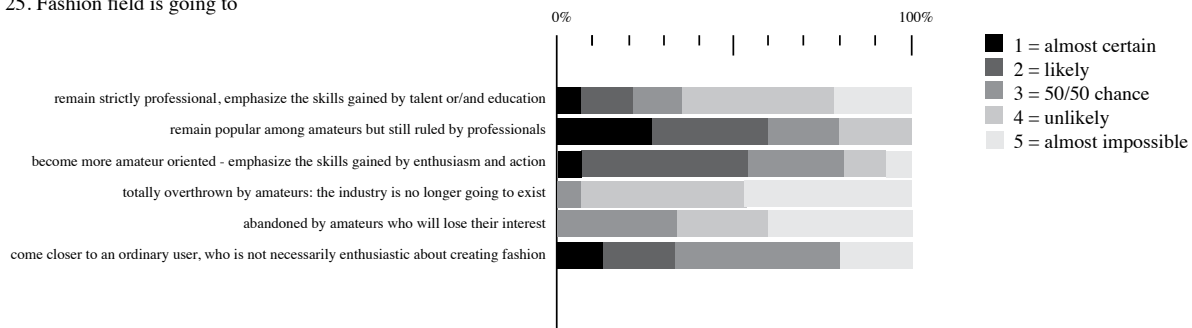
Other comments:

I believe fashion will be important, and that fashion is not vain, we need a more daring aspect to look at it. A new way to treat fashion as a result of something our inner beauty has created into the world. (MS)

25. Fashion field is going to																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5		
remain strictly professional, emphasize the skills gained by talent or/and education	_	_	4	2	4	4	2	4	5	3	3	5	4	5	1	4	3.57143	1.2225	7%	14%	14%	43%	21%
remain popular among amateurs but still ruled by professionals	_	3	2	1	4	2	1	2	4	2	4	3	2	3	1	1	2.33333	1.1127	27%	33%	20%	20%	-
become more amateur oriented - emphasize the skills gained by enthusiasm and action	_	1	2	3	2	2	4	3	2	2	5	2	3	3	4	2	2.66667	1.04654	7%	47%	27%	13%	7%
totally overthrown by amateurs: the industry is no longer going to exist	_	4	4	5	5	3	4	5	5	4	5	4	4	4	5	5	4.4	0.63246	-	-	7%	47%	47%
abandoned by amateurs who will lose their interest	_	5	5	5	3	4	4	4	3	3	5	5	4	3	3	5	4.06667	0.88372	-	-	33%	27%	40%
come closer to an ordinary user, who is not necessarily enthusiastic about creating fashion	_	4	3	3	3	2	4	1	3	2	3	3	1	2	4	3	2.73333	0.96115	13%	20%	47%	20%	-
other:																							
comments:	- The role of the amateur is the question mark, as i described before. The entire concept of amateur is changing due to DIY-media, DIY-RAVINTOLAPÄIVÄT, and DIY-everything. Nothing can be created without passion and interest, and amateurs are often driving engines behind passion and interest. However to make a quality product, the right kind of execution is the key. And this is where we need the "professionals" or experts of manufacturing and fashion design. (MS)																						

25. Fashion field is going to	
1-2: ALMOST CERTAIN - LIKELY	-
2-3: LIKELY - 50/50 CHANCE	remain popular among amateurs but still ruled by professionals (av. 2.3, dev. 1.1), become more amateur oriented - emphasize the skills gained by enthusiasm and action (av. 2.7, dev. 1), come closer to an ordinary user, who is not necessarily enthusiastic about creating fashion (av. 2.7, dev. 1)
3-4: 50/50 CHANCE - UNLIKELY	remain strictly professional, emphasize the skills gained by talent or/and education (av. 3.6, dev. 1.2)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	abandoned by amateurs who will lose their interest (av. 4.1, dev. 0.9), totally overthrown by amateurs: the industry is no longer going to exist (av. 4.4, dev. 0.6)

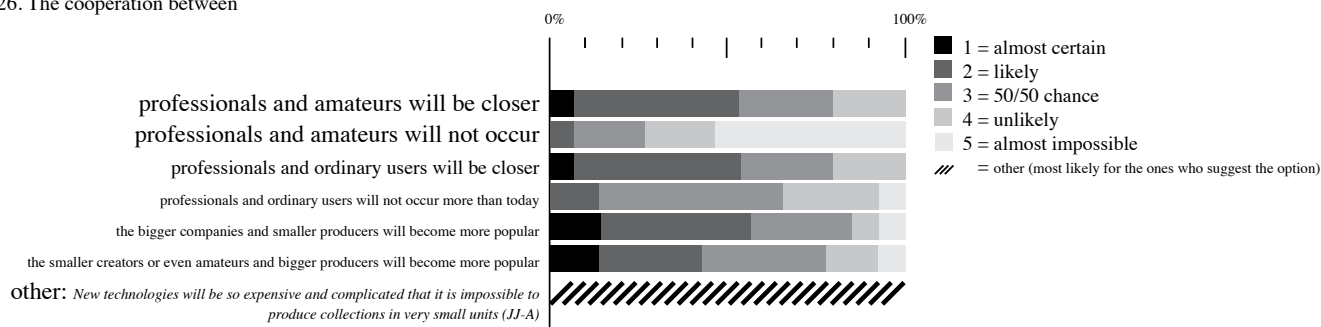
25. Fashion field is going to



26. The cooperation between																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)															AVERAGE	DEVIATION	1	2	3	4	5	
professionals and amateurs will be closer	-	2	2	4	2	2	4	3	3	2	3	2	4	1	3	2	2,6	0.91026	7%	47%	27%	20%	-
professionals and amateurs will not occur	-	5	5	5	4	5	3	5	3	3	2	5	4	5	5	4	4,2	1.01419	-	7%	20%	20%	53%
professionals and ordinary users will be closer	-	3	3	3	3	2	4	2	4	2	2	4	2	1	2	2	2,6	0.91026	7%	47%	27%	20%	-
professionals and ordinary users will not occur more than today	-	4	3	3	3	4	3	2	3	3	2	3	4	5	3	4	3.26667	0.79881	-	13%	53%	27%	7%
the bigger companies and smaller producers will become more popular	-	1	2	2	2	5	3	2	3	2	1	4	2	-	3	3	2,5	1.09193	14%	43%	29%	7%	7%
the smaller creators or even amateurs and bigger producers will become more popular	-	2	3	3	2	1	3	2	3	1	5	2	4	-	4	3	2.71429	1.1387	14%	29%	36%	14%	7%
<i>other: New technologies will be so expensive and complicated that it is impossible to produce collections in very small units (JJ-A)</i>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
comments:	Co-operation is the key to brilliant new ideas. The companies and creators most capable for thorough quality constant execution will be popular (MS)																						

26. The cooperation between	
1-2: ALMOST CERTAIN - LIKELY	-
2-3: LIKELY - 50/50 CHANCE	the bigger companies and smaller producers will become more popular (av. 2.5, dev. 1.1), professionals and amateurs will be closer (av. 2.6, dev. 0.9), professionals and ordinary users will be closer (av. 2.6, dev. 1.1), the smaller creators or even amateurs and bigger producers will become more popular (av. 2.7, dev. 1.1)
3-4: 50/50 CHANCE - UNLIKELY	professionals and ordinary users will not occur more than today (av. 3.3, dev. 0.8)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	professionals and amateurs will not occur (av. 4.2, dev. 1)

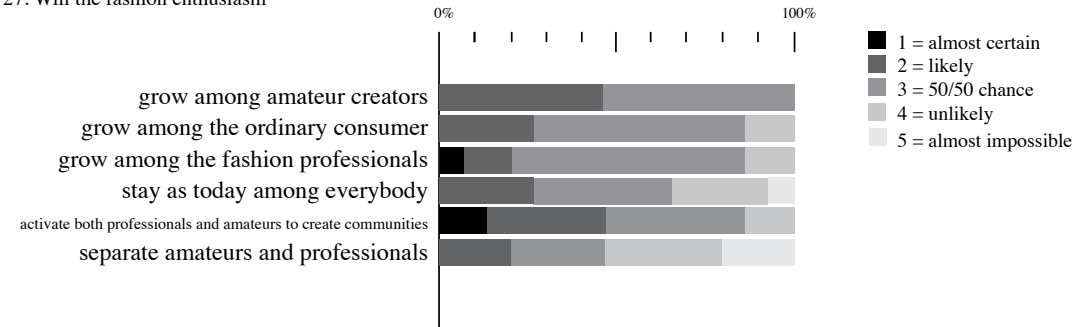
26. The cooperation between



27. Will the fashion enthusiasm																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5		
grow among amateur creators	-	2	2	2	3	3	3	3	3	2	3	2	2	2	3	3	2.53333	0.5164	-	47%	53%	-	-
grow among the ordinary consumer	-	3	3	2	3	3	4	3	3	2	3	2	4	2	3	3	2.86667	0.63994	-	27%	60%	13%	-
grow among the fashion professionals	-	2	3	3	3	1	4	3	3	3	2	4	3	3	3	3	2.86667	0.74322	7%	13%	67%	13%	-
stay as today among everybody	-	4	3	3	3	4	3	2	4	3	2	5	4	2	3	2	3.13333	0.91548	-	27%	40%	27%	7%
activate both professionals and amateurs to create communities	-	2	2	2	3	1	4	1	3	3	4	3	2	2	3	3	2.53333	0.91548	13%	33%	40%	13%	-
separate amateurs and professionals	-	4	4	4	3	5	3	3	4	2	2	5	4	5	2	3	3.53333	1.0601	-	20%	27%	33%	20%
other:																							
comments:	- When the industry changes in a radical way, the pioneers will always bring an extra amount of enthusiasm into the mix. (MS)																						

27. The fashion enthusiasm	
1-2: ALMOST CERTAIN - LIKELY	-
2-3: LIKELY - 50/50 CHANCE	grow among amateur creators (av. 2.5, dev. 0.5), activate both professionals and amateurs to create communities (av. 2.5, dev. 0.9), grow among the ordinary consumer (av. 2.9, dev. 0.6), grow among the fashion professionals (av. 2.9, dev. 0.7)
3-4: 50/50 CHANCE - UNLIKELY	stay as today among everybody (av. 3.1, dev. 0.9), separate amateurs and professionals (av. 3.5, dev. 1)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	-

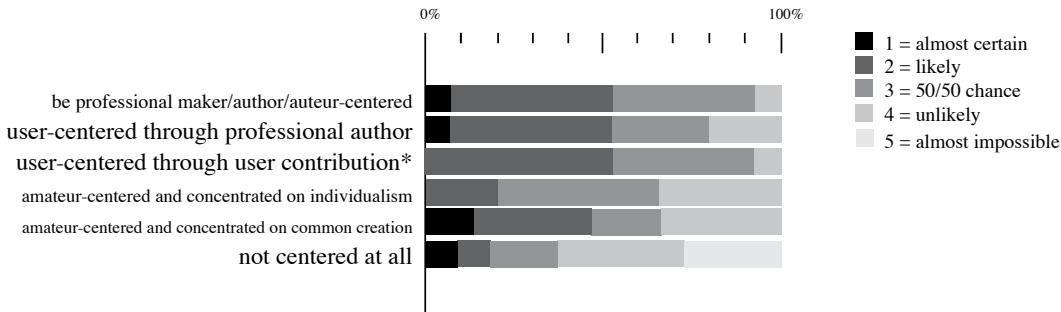
27. Will the fashion enthusiasm



28. The creation of fashion / fashion design is going to																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5		
be professional maker/author/auteur-centered	-	3	3	2	3	2	1	3	3	2	2	4	3	2	2	2.46667	0.74322	7%	47%	40%	7%	-	
user-centered through professional author	-	4	3	2	2	2	3	2	3	3	2	4	1	2	2	2.6	0.91026	7%	47%	27%	20%	-	
user-centered through user contribution*	-	3	3	2	2	2	4	2	3	2	3	3	2	2	3	2.53333	0.63994	-	53%	40%	7%	-	
amateur-centered and concentrated on individualism	-	3	2	4	3	4	4	2	3	3	4	3	3	2	3	3.13333	0.74322	-	20%	47%	33%	-	
amateur-centered and concentrated on common creation	-	1	2	4	3	1	4	2	3	2	4	2	3	2	4	2.73333	1.09978	13%	33%	20%	33%	-	
not centered at all	-	3	4	5	-	5	-	4	5	4	4	2	-	1	3	3.63636	1.28629	9%	9%	18%	36%	27%	
other:																							
comments:	*(mass-customization)																						

28. The creation of fashion / fashion design is going to	
1-2: ALMOST CERTAIN - LIKELY	-
2-3: LIKELY - 50/50 CHANCE	be professional maker/author/auteur-centered (av. 2.5, dev. 0.7), user-centered through user contribution (av. 2.5, dev. 0.6), user-centered through professional author (av. 2.6, dev. 0.9), amateur centered and concentrated on common creation (av. 2.7, dev. 1.1)
3-4: 50/50 CHANCE - UNLIKELY	amateur-centered and concentrated on individualism (av. 3.1, dev. 0.7), not centered at all (av. 3.6, dev. 1.3)
4-5: UNLIKELY - ALMOST IMPOSSIBLE	

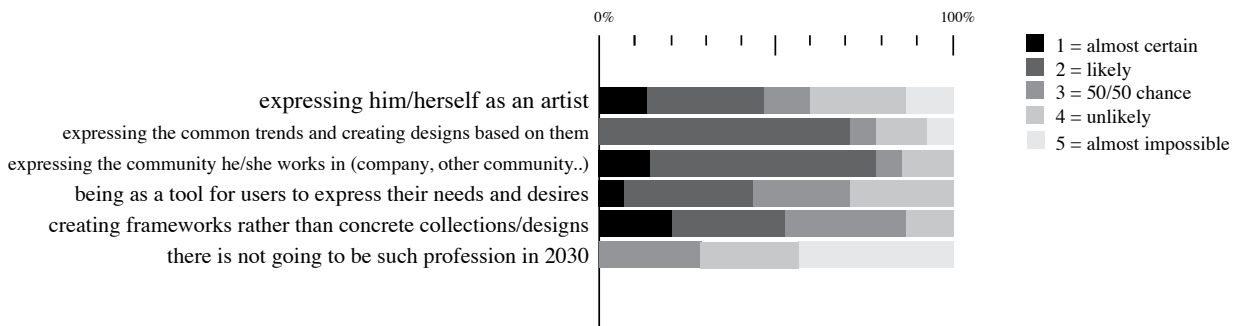
28. The creation of fashion / fashion design is going to



29. What are going to be the main tasks of a fashion designer in, for instance, in 2030?																							
OPTION	LIKELIHOOD: FROM 1 (ALMOST CERTAIN) TO 5 (ALMOST IMPOSSIBLE)														AVERAGE	DEVIATION	1	2	3	4	5		
expressing him/herself as an artist	-	2	3	4	4	1	1	2	5	3	5	4	4	2	2	2	2.93333	1.33452	13%	33%	13%	27%	13%
expressing the common trends and creating designs based on them	-	-	2	2	2	5	2	2	2	2	3	2	4	2	2	4	2.57143	1.01635	-	71%	7%	14%	7%
expressing the community he/she works in (company, other community..)	-	-	2	4	2	2	1	2	2	2	2	4	2	1	3	2.21429	0.89258	14%	64%	7%	14%	-	
being as a tool for users to express their needs and desires	-	-	3	4	4	2	4	1	2	2	3	4	2	2	3	3	2.78571	0.97496	7%	36%	29%	29%	-
creating frameworks rather than concrete collections/designs	-	1	3	2	3	1	3	2	1	2	4	2	4	2	3	3	2.4	0.98561	20%	33%	33%	13%	-
there is not going to be such profession in 2030	-	-	4	5	5	5	4	5	3	4	5	3	4	3	3	5	4.14286	0.86444	-	-	29%	29%	43%
other:																							
comments:	<p>- Fashion is storytelling, linear and non-linear. Fashion designers stand in a blurry line of telling a story that you can somehow live in your real life and can transform you. This premise will stay, how we execute the selling and making of that dream is the challenge of the fashion designer in the future. (GG)</p> <p>- The change and shift in our need for individualism will directly impact any profession, especially the role of the fashion designer. Individualism will not disappear, but most likely become to exist again representing new values of solidarity (MS)</p>																						

29. What are going to be the main tasks of a fashion designer in, for instance, in 2030?	
1-2: ALMOST CERTAIN - LIKELY	-
2-3: LIKELY - 50/50 CHANCE	expressing the community he/she works in (company, other community..) (av. 2.2, dev. 0.9), creating frameworks rather than concrete collections/designs (av. 2.4, dev. 1), expressing the common trends and creating designs based on them (av. 2.6, dev. 1), being as a tool for users to express their needs and desires (av. 2.8, dev. 1), expressing him/herself as an artist (av. 2.9, dev. 1.3)
3-4: 50/50 CHANCE - UNLIKELY	-
4-5: UNLIKELY - ALMOST IMPOSSIBLE	there is not going to be such profession in 2030 (av. 4.1, dev. 0.9)

29. What are going to be the main tasks of a fashion designer in, for instance, in 2030?



30. Is the name of the profession of fashion designer going to change or remain the same? Name three optional titles for a person, who is going to create fashion in the future.

- I don't see it likely to change. (PK)

- I certainly have no idea... (GG)

- I personally don't like the word "fashion" at all (especially in Finnish "muoti"). Fashion for me seems to be always connected to the latest trends and "to be in fashion or out of fashion". More so I would like to use word "style" which is more about the style that the consumer represents through clothes. "Fashion designers" design, well, clothes. That's all. Those clothes are transformed to style by each consumer.

Optional title could be "clothes/clothing designer" or just a "designer". Industrial clothing design is just one form of industrial design, so why couldn't fashion designers be also industrial designers? (AN)

- As with any commercial creative profession, the profession of the fashion designer will change when amateurs will gain power to influence. What is the role of a photographer when most people have a camera and can actually use it quite well? And when quantity rules over quality, there is in a way quite little use for being highly educated in a creative field. I think the role of fashion designers will become closer to the role of consultants, being the ones who sense what has real value and what is only a momentarily thing/trend. Also I hope that the visual world, such as fashion, will gain more interest also as a thing of knowledge, not only as a consumer commodity. That people will like to learn and know about fashion in a deeper sense, if that would happen educated fashion designers are in a position to distinguish themselves from amateurs such as bloggers.

Fashion/clothing artist, fashion/clothing expert are titles i can think about to use when talking about someone who has more knowledge about fashion. The word design has anyway lost its meaning of insinuating functional or conventional value. just look at the ugly paper posters covering the bins of the city of helsinki, it says on them that they are design, but in reality they are ugly pieces of ill-thought paper that come off at the first drop of rain and then only look drab. it feels like design means any kind of making now a days. a 5 year old kid can design a clay dinosaur. but i don't think it is uncommon that that happens to words, that they loose their initial value and meaning, but then a better word has to be found for describing, in this case, that someone creates and relates to a subject with knowledge and thoughtfulness. (CH)

- Actually already now are used names like designer,clothing designer.I believe that name fashion designer remains.I prefer designer. (JJ-A)

- creative director, collector, stylist (KH)

- Creator, Visual person, Designer (KN)

I think fashion designers will stay as fashion designers. But new types of co-creators / amateur designers / mass customizers etc. practicers of "lesser" forms of design might have own new definitions. (ML)

- Fashion action planner (a person who spots the interaction between consumer and supplier, amateur and professional, and executes an action plan to move things forward)

- Fashion co-creator (MS)

- Stylist

- Fashion coordinator

- Fashion collaborator (SV)

- The profession of "fashion designer" will stay the same as long as the business of fashion (comprehensive of the fashion schools/unviersities) based on the false idea of the "genius" and the "artist" can profit from it.

- Fashion enterpreneur

- Social fashion enabler (ZR)

APPENDIX 3. THE DELPHI PANEL, ROUND 2 QUESTIONS & QUALITATIVE OUTCOME

1. FASHION DYNAMICS

According to the first round, the nature of fashion trends will quite likely be polarized: extremely fast and slow paralleling each other - an idea of “customizable seasons” was proposed. This might be seen as a sign of post-industrial development taking place, where the system is based on information sharing and services rather than industrial manufacturing.

Question A: Are the “customizable seasons” and “open fashion” as a tool going to find their place within the traditional industry-based companies (that are quite likely going to continue to exist)?

- In a small scale that might happen, but probably not in bigger scale
- Probably only in some areas of fashion. High fashion is too conservative to change traditional models, fast fashion is too tied into existing manufacturing infrastructures etc. Most likely early adopters of “customizable seasons” and / or “open fashion” are streetwear, high street and sportswear companies.
- Yes. I think it’s vital for the “traditional” companies to learn new ways of doing business. But at the same time I feel that these new tools are more easily adapted in new companies that take these in consideration from day one.
- customizable seasons would most likely find role as a trend or a gimmick, helping out to promote bigger marketing schemes and seasons’ clothes on a street level. One of the hardest target groups (and most desirable) are the youth age 25-35, because they spend money and are self aware of their spending. The same group is most likely most interested in customizable options etc.
- Traditional industry-based companies will try to test some niche markets around those two topics in their business mix, at least as a marketing strategy.
- Yes I think for example Nike already does this

Question B: Do you see the open fashion to be more like a trend (similar to the customization trend, popular also among the big mass-production companies) or a shift in collective thinking, affecting the power distribution of the fashion system, or something else?

- Probably some advanced companies try to benefit from consumers activity and create some open fashion systems , but that might be very small and short term trend. On the other hand there might be ever growing but still a niche group (activists) who are spreading do-it-yourself attitude and who is creating opportunities for this
- I think open fashion has potential to be something more than just a passing trend, but it is not going to replace existing fashion system. It’s more likely that it lives alongside the current system and slowly creates it’s own market & following.
- Mass-production companies will most likely use open fashion to some extent, but not profoundly adapt it to the core business. The same thing that has happened to “eco-fashion”. It will take quite a long time that the existing fashion system can (or even wants to) profoundly change. Most likely the core business of “traditional” fashion companies will continue to be fast mass production as long as they can / are allowed to produce clothes as they are produced now.
- the shift in the collective thinking will most likely affect the fashion industry and not the other way around. Minor changes might already happen in the way people think, but on a public level I believe open fashion will exist only when the world is ready to think a certain way on a global scale. I believe it will be a trend and slowly gain more recognition, finally taking over as the more reasonable and rewarding model.
- It’s more a shift in the collective thinking due not only to the ethical aspect but in the future, mostly regarding ecological and social burdens.
- Trend like organic food

2. IDENTITY AND MATERIAL VALUES

The growing awareness has undoubtedly affected the material values of western consumers. One can express oneself not only by consuming fashion but also by creating it - or just discussing. Production-on-demand-type of system seems to be desirable concept due to the cost-effective resource limitations and the requirements of sustainability. The fashion production probably has to find ways to emphasize quality instead of quantity. These changes in thinking are not so mainstream though and have not affected the industry notably.

Question A: Who have the biggest power to make the changes mainstream?

- Companies, public policy makers
- Large clothing companies. In the fashion world supply creates demand and not the other way around. If biggest players in the industry (H&M, Nike etc.) make big changes in their practices it will affect the whole supply chain, consumer behavior etc.
- The core thing to make the change possible is to change the way people think about consumption: quality/quantity, slow/fast.. But how can this change be made and by whom? Everyone involved in the industry have to take part: fashion companies, media, consumers, governments and NGOs.
- the consumer, blogger, social media activist and trend setters. Someone has to lead the way, masses will follow
- The industry will fight as much as possible not to change the status quo and keep extracting value from social production. And we need to expand our idea of what is part of the industry: it's not only about fashion houses but also fashion schools, fashion magazines and real estate companies. It's a whole system that needs the fashion industry to stay as it is. Probably a considerable change could take place from what's taught in universities and by professors.
- Consumers

Question B: One of the survey participants poses an interesting question: how could self-actualization through fashion be transformed into building sustainable lifestyles?

- Sustainable lifestyle needs identifying of deep values (personal, in society) and perhaps through this value aspect it is possible to discuss about transformation (possibilities and limitation while trying to do the change) for sustainable lifestyle. Perhaps it needs in overall a more activist attitude and do-it-yourself attitude in general and for all. Self-actualization links to happiness and these link to own doing, been more active and not just a passive consumer
- By making the production processes of fashion items to benefit surrounding ecosystems (instead of harming them) and by making the eventually discarded fashion items to benefit ecosystems (instead of harming them) .
- To build your identity through clothes is to wear clothes that fit your personality and do not follow the latest fast fashion trends. This also supports the sustainable lifestyle: you consume less and cherish your clothes more.
- One should probably find a model that uses fashion as a mean to gain more inner knowledge and strength. If fashion is a mean to mirror oneself with society and surroundings throughout ones life, then there naturally is a need for fashion. On a very simple note: There are natural materials such as hemp, that are strong long lasting and ecological. These materials have to integrate themselves into the fashion world.
- If the fashion industry as a whole system depends on finance and extraction of value in the short-term, sustainable lifestyles could be developed only as a bottom-up process
- When you have exactly the piece of clothing you need and want you do not have to buy more and search in sales. I know from my own experience that I could be smartly dressed for the whole autumn, winter early spring season when I found exactly the two jackets and three dresses that I wanted. I had to search NYC to find them but could have ordered them online if there was a custom service. Also apartments are filled with clothing and people now need larger closets than in 1940 when people still had their few pieces of clothing made by tailor. So few personal items help people to live in smaller apartments and more sustainable lifestyles. also you need less time to shop and organize your wardrobe.

3. NEW BUSINESS MODELS

Many of the survey participants think that, the new fashion industry should become more service-oriented and co-creative, gathering all the pieces “under the same roof”, either physically or digitally. Smaller sized local businesses or bigger ones based on software innovation and successful logistical concepts could aim at “fashion-brand-on-demand” system. The fashion communities would include sharing, lending, renting and swapping. The key issues for the new fashion system are workable frameworks and intelligent technologies, making it easy for non-professionals to create their clothes - not only consume them.

Question A: In the view of one of the survey participants, If a new business model dares to disregard one-way target group thinking, the design is open and free, the revenue might come from the actual making / manufacturing, so that area has the biggest capitalization potential. Do you think that, for example, local artisans will find an economically reasonable way to participate the fashion system, or will they be excluded, or something else?

- It already happens. In Helsinki there already exists several small studios which repair old clothing but also make modification, redesign from you old clothes as well as their own small collection from recycled garments/materials. They might even sell vintage clothing in their shops. So the futures way probably is to do mixing ways the fashion
- If local artisans work alongside the current fast fashion system, they will only be able to cater niche audiences due to cost, required effort etc. from the consumer. If there are radical changes in the current fashion system, artisans might play a bigger role (e.g. adapting pre industrial manufacturing processes to post industrial design.)
- The local artisans will find an economically reasonable way to participate if consumers are willing to pay reasonable prices for their clothes. Nowadays consumers think that the five euro T-shirt is the “right price”.
- This is a tough question. Certainly craftsmanship will be included in fashion one way or another, however the material costs are so high, and the process involves so many costs, that i actually believe we have to wait until the cheaper materials, and materials that are delivered to these makers, and craftsmen easier.
- Local makers could embody the new type of fashion directly connected with sustainable lifestyles. They are connected globally through virtual communities and locally with local hubs where to share infrastructures and supplies.
- If artisans would co-create they might find more customers

Question B: Are the new business models needed?

- Customers are little bit tired of same kind of fashion everywhere and also garments’ low quality. I think that customers are seeking for better quality and more unique fashion and this is a possibility
- Yes. Business models that are based on local design, local production and local materials.
- Yes, they are needed. I think that the local businesses will co-exist with global production. There’s no way we’ll totally go back to the time where everything was locally produced.
- new business models are needed, because the system that capitalizes growth, leaves out so much potential from the other end. We need a system that works as a full circle, involving more makers globally, to get full benefit of resources available, and doers and makers available around the globe.
- Yes, new business models are needed
- A service design that connects artisans and customers a shoe maker and dress maker that can provide the exact same colour for example

4. TECHNOLOGY

In addition to several sustainability-supporting technological research and development (cradle-to-cradle or 100% recyclability, low-water-use etc.), 3D-printing and easily accessible softwares seem to be the next important developments in the fashion production. Another direction concerns the interaction: social media or intelligent sharing systems, that work like, for example, a GPS dating service - matching the right piece of clothing for a particular user in the right location.

Question: A tool, like open source hardware for weaving and sewing, or parametric software for pattern making, and at-home body scanner to take exact measures are suggested in the previous survey round. Do you think these kind of developments could become innovations, i.e. be popular among users and economically profitable to produce, or will they be limited only to few experimental companies/users?

- Only for experimental companies
- I believe that the first few companies that utilize some of these developments can create new markets & be profitable, but it's hard to say if they will stay limited to those initial experimental companies or if they will affect the whole industry in the long run.
- In the near future these will be only for the few experimental companies/users, but I do believe that these will be more economically profitable and make it to wider audience in the future.
- When people believe in innovating and remember how to innovate again, then they will realise how much is possible to do without the middle-men. The trend for every man developing an innovation for common good actually already exists (demos peloton camp etc.). The rest is up to producing costs and models to get innovations into testing. How risky is this kind of business?
- They will become popular, profitable and at the base of the new business models of fashion
- 3 d printer to print the accessories could be economically profitable

5. DRIVING FORCES OF CO-CREATION

Demographics don't seem very important, but young population is most expected to be active in creating co-creation community - probably because they are already accustomed to the open sharing culture, have more extra time and money and are willing to correct the unsatisfying offerings of the market. Easiness is a key issue. Solutions that are easily accessible through price and usability would motivate people to participate.

Question: It is suggested, that game dynamics would be the best motivator for people to participate the fashion creation processes. What kind of workable fashion-game could you imagine?

- ? Second life type. I really do not know
- Something like threadless.com, but for whole collections maybe?
- Perhaps some solution like Threadless (<http://www.threadless.com/>) for new innovations or some particular innovation. There's always the problem that if everyone can create and be part of the design process, there will be a lot of bad ideas and a few good ones. A concept like Threadless would filter the best ones.
- The game would be called "create your own mirror". In this game one could point out what kind of values their own pieces of clothing reflect and become more aware of consumer choices one makes. The game would then suggest popular brands that fit values or post links to articles that might interest people who own such values, and like such clothing.
- Fashion-games regarding the creation of reputation, coolness depending on the contribution and interaction with the community
- Games where you design the clothing on a virtual doll that has your measurements - then you can order that online and the companies produce it from the assortment they have provided for the service

6. THE ROLE OF FASHION DESIGNER

The following names are proposed to describe the future fashion designer: designer, clothing designer, fashion/clothing artist, fashion/clothing expert, creative director, collector, stylist, style designer, creator, visual person, fashion action planner (a person who spots the interaction between consumer and supplier, amateur and professional, and executes an action plan to move things forward), fashion co-creator, fashion coordinator, fashion collaborator, fashion entrepreneur, social fashion enabler, industrial designer.

Question: The fashion designers are most probably not going to disappear, but their role might vary from a consultant to a tool. The artistic role divides opinions: the designer will either concentrate on expressing him/herself as an individual or abandon the creator-centered thinking and become anonymous operator. In your view, is "stardom" going to be desirable, among both professional and non-professional fashion creators?

- Designers probably always needs some kind of publicity to make their designs or services to sell
- Yes, it will be desirable among both professional and non-professional creators.
- I think there's always going to be both: people who desire stardom and people who wish to be anonymous.
- this is a very personal question, and I believe stardom will draw designers to some extent, however to establish a "brand" of new ideas might be sufficient for hundreds of designers to join co-working under it to create fashion semi-anonymously. As long as this brand would reflect certain values, for example forward thinking and new attitude in fashion consuming
- Stardom will be desirable but it will be more democratic and less marketing-driven due to the need of more transparency in of the use social media (one of the main vehicles of communication).
- Winner takes all is going to stay - stars are always needed. The average designer designs the options offered by services based on street wear and co-creation groups

7. CO-CREATION AND SOCIAL NETWORKING

All the industries are at a breakpoint (music, food, entertainment, fashion, other goods) heading towards two-way dialogue and (cap)ability of any individual in producing things previously accessible only to professionals. All major corporations will need to adapt the needs of amateurs and users by reading them more and more. Manufacturers will most likely benefit from the co-creation and social networking. Social media networking is expected to grow in the future, at the same time maybe creating the desire for hapticality and highlighting the skills of professionals.

Question: Fashion industry is looking for its place within post-industrial society. Can you come up with existing examples doing that successfully?

- Anna Ruohonen. Good design, high quality, not too trendy, Black Classic permanent collection where all garments are manufactured based on customer's orders only and individual measures. No extra production and left overs. Still chick and beautiful
- Food industry is (hopefully) moving steadily away from industrial era. Everything artificial, factory farmed etc. is being replaced by more natural products that are produced on a smaller scale and adapted to local needs.
- Patagonia is one of the few to tackle sustainability in a big scale. If all clothing companies would think the same way Patagonia does, that would be a good start in making the change:
"We design and sell things made to last and to be useful. But we ask our customers not to buy from us what you don't need or can't really use."
(<http://www.patagonia.com/eu/enFI/common-threads>)
- the food industry has already gained a lot of recognition by taking steps towards organig farming. Once organic became the trend, bigger players had to adapt to the trend-views of the masses.

APPENDIX 4. THE INTERVIEW OF KATE FLETCHER

1. Could you tell about some good examples of “post-industrial” or “open source fashion”?

Have a look at Antiform, Here Today Here Tomorrow, Otto von Busch and perhaps Sans (to a certain extent)

2. What could motivate the users to participate or create themselves? What could motivate the fashion companies to empower the users? In other words: why would people want fashion to be “open”, to choose Do-It-Yourself rather than Do-It-For-Me (<http://www.forumforthefuture.org/project/consumer-futures-2020/more/4-scenarios>)

If they experience fit issues with garments I think people are quite used to creating or modifying pieces

Also if people have a strong sense of their own style and have skills that they are proud of, they often enjoy ‘showcasing’ them in such pieces. I often wonder how much this influences consumption in the round however... whether it displaces other forms of consumption or is added to it

3. Do you think that “open fashion” could become mainstream or will it remain marginal (practiced by experimental companies, fashion enthusiasts etc.)?

As long as the key beneficiaries of the fashion sector’s current set up remain dominant, a change to such alternatives is unlikely... though this doesn’t mean we must not develop them

4. What kind of action has the biggest impact on improving the sustainability of the fashion system?

A change in habits of mind

