Aakko, Maarit; Niinimäki, Kirsi

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Managing and Negotiating: Approaches to Quality Work in Clothing and Textiles Companies

Maarit Aakko and Kirsi Niinimäki

Abstract

This qualitative study examines how various clothing companies approach quality and integrate it in their strategy and operations. It highlights the work required for reaching and maintaining a certain level of quality. The paper synthetizes these various approaches toward quality, with an aim to contribute to enhancing clothing longevity and other sustainable practices. The study is based on 15 semi-structured interviews with industry experts from the field of clothing and textiles, and analyzed by thematic analysis. It identifies the multilayered quality work that companies do on different core areas of business practice. The
study shows how companies have to manage several aspects simultaneously in their quality related work, and negotiate and compromise between different activities to implement the quality level they are aiming for. The paper aims to show the different ideas regarding quality on the strategic level and to highlight their importance as the basis of quality work for clothing and textile companies. It is significant to define and align the company’s core values with the overall strategy and operations to best support the quality work and also enhance clothing longevity.

KEYWORDS: clothing, quality, quality work, sustainability, case study method

Introduction

Quality is one of the critical aspects in the design and manufacturing processes of textiles and clothing; however, it is neither easy to deliver nor manage in the industry (Karell and Niinimäki 2020). Quality fundamentally affects the durability of a garment and is connected to user satisfaction (Niinimäki 2011), and therefore, plays a role in its lifespan and usability. At the same time, many designers struggle to find materials that are durable but also fit for their collection or have hard time finding suppliers that offer suitable manufacturing quality (Karell and Niinimäki 2020). While quality is an essential aspect of clothing, it is a complex question to manage in the fashion and textile industry.

Compared to the clothing production from two decades ago, the volumes have approximately doubled, while at the same time, clothing utilization has decreased by 36% (Ellen MacArthur Foundation, 2017). Also textile waste streams are increasing, and much of these vast quantities of textile waste end up in landfills or is incinerated (Dahlbo et al. 2017; Niinimäki et al. 2020). Clothing is often discarded due to psychological reasons, such as wanting something new to wear (Laitala, Boks, and Klepp 2015). Quality has been pointed out as another critical factor influencing the lifespan of a garment. Consumers report that quality and durability-related defects (e.g. holes, pilling, and worn appearance) are major reasons for disposing of clothing (Ibid.). Low quality shortens the garment’s lifespan, and therefore, increases the waste issues in the fashion system.

In the context of sustainability, extending the use times of garments, and thus reducing the quantity of clothing consumed, is a widely discussed and promoted idea. Producing better quality is one of the suggested strategies for encouraging consumers to use clothing for longer (Dahlbo et al. 2017; Ellen MacArthur Foundation, 2017; Laitala and Boks 2010; Laitala, Boks and Klepp 2015; Niinimäki et al. 2020). It also carries the potential for reuse, repair, redesign and recycling. For example, even if the first ownership of a garment were relatively short,
good enough quality would enable further userships through second-hand markets and renting services or qualify the garment as raw material in recycling processes (Dahlbo et al. 2017; Watson, Gylling, and Thörn 2017).

A new perspective to the fashion and textile sector has arrived with a deeper understanding of sustainability. The discussion on values has entered into the industrial management processes (Goworek et al. 2020). Defining and clarifying the company’s core values and aligning them with the overall strategy and operations can affect clothing quality drastically and also affect products’ durability and longevity. Quality management throughout the manufacturing processes is essential in order to reach the aimed quality level (Pippo, Niinimäki, and Aakko 2022). Therefore, quality and its management in the industrial clothing and textile design and manufacturing processes are significant areas to explore. All research that can, even partly, help solve these issues is welcome.

Companies have different approaches to quality, and unique ways to integrate it in their operations. Based on interviews with garment and textile industry experts, this study synthetizes and discuss these various approaches, often also intertwined with companies’ sustainable practices. This supports in gaining more sustainable balance in the fashion and textile industry, reaching loyal consumers and building trust toward their business and brand. Overall, the study aims to gain to more practical knowledge to contribute to the systematic change required in the fashion and textile sector for better product quality along with longer garment use time.

**Theoretical Background**

**Assessing quality**

There are various ways to conceptualize quality. Generally speaking, quality defines features of products as well as performance of individuals, organizations, and societies. It is related to the evaluation of an object based on its attributes (Anttila and Jussila 2017). Referring to the different standpoints of evaluation, quality is commonly differentiated into objective (measurable assessment) and perceived (subjective judgment) quality (Zeithaml 1988).

When discussing quality, the focus can be on one aspect, such as the product, manufacturing or the user experience (Garvin 1988). Quality can be further analyzed through its different dimensions such as, *performance*, *durability*, and *esthetics* (Garvin 1987). While the esthetic quality of garments is subjective, it is significant to the consumer (De Klerk and Lubbe 2008). There are also aspects that are not necessarily visible or tangible in a product, such as values (Garvin 1988). They are *credence qualities* that can be indicated, for example, through the information given by the company (Steenkamp 1990).
In the context of clothing and textiles, quality is linked to the material elements, such as fabrics, construction, color, and finishing, and to its design features, such as fit, functionality, and performance (De Klerk and Lubbe 2008). Various material properties of quality can be measured through standardized testing, such as colorfastness, dimensional stability, and abrasion resistance. To guarantee a certain level of quality, specific standards and established procedures are applied and various tests conducted throughout the manufacturing processes (Bubonia 2014).

Yet, in reality, there are many more features related to quality that cannot be objectively measured but play a significant role in the assessment of quality. While tests and quality assurance can guarantee the technical quality of selected features to some extent, consumers perceive experience and evaluate quality in individual ways. Consumers utilize both perspectives, the technical quality features (objective quality) and their own perception of quality (perceived quality), when assessing the quality of clothing and determining how long it is in use (Connor-Crabb and Rigby 2019).

The different aspects of quality essentially impact clothing lifespan and usability. One way to conceptualize it is to see technical quality as the *lifespan potential*. This stands for the variety of aspects that can be decided and managed in the design and production phases, such as garment functionality, materials, and construction details (Piippo, Niinimäki, and Aakko 2022). These physical features of clothing affect the perception of quality; based on this, consumers assess the quality of clothing and determine how long the clothing is in use. This way both aspects, objective and perceived quality, play a role in clothing use time (Aakko and Niinimäki 2021).

**Clothing quality and longevity**

The strategy of reducing the cost of materials and/or construction has reduced the final retail price, but at the same time, it has also reduced garment quality (Barnes and Lea-Greenwood 2006). In terms of “fast fashion” items, some consumers compromise quality for style, and accept even lower clothing quality if that still allows achieving a desired style for an affordable price (Gabrielli, Baghi, and Codeluppi 2013). Exception on this can be seen in the luxury fashion field, where quality is still an important part of the brand offering and reputation, and it is even tied to the symbolic value of the products (Joy et al. 2012).

The prevailing fashion business model often sees giving priority to clothing quality and durability as a challenge to the commercial objectives of a company (Goworek et al. 2020; Karell and Niinimäki 2020). Especially the fast fashion phenomena and the tight economical competition toward a cheap price point have made it difficult for companies to invest on the best quality (Joy et al. 2012; Niinimäki 2011). Jackson and Shaw (2009) claim that the competitive search for a desired price...
point has created a situation where quality can be only average or lower. Furthermore, it is not worthwhile to aim for the best quality if fashion consumers are content with a product that performs at the minimum level and manufacturing standards as long as it can be purchased for a low price (Ibid.). Yet, as Jackson and Shaw (2009) point out, often the price of a product is forgotten shortly after purchase, but the quality is remembered much longer, and, therefore, it plays a role in brand loyalty. In that sense, quality can be regarded as a factor for a company’s success.

Today, the quality, durability, and longevity levels of garments on the market vary greatly (Benkirane et al. 2019). In terms of quality defects, there are various causes. According to Hoque (2022), issues with product quality occurring during the manufacturing phases can be related, for example, to the lack of systematic quality control, limited employee training, and lack of modern technologies. Regarding products themselves, issues can be related, for example, to the skills, experience, and attention of the worker; to the aptness and accuracy of the applied methods; to the functionality and maintenance of the machines; and to the quality and suitability of the materials (Ibid).

Quality management throughout the manufacturing process is essential. Also, working closely and sharing knowledge with suppliers at the design and prototyping stages can be beneficial for achieving the desired quality level (Goworek et al. 2020; WRAP 2017). As practical procedures are usually executed on the basis of managerial-level decisions, the strategic level of businesses is potentially even more important. Therefore, defining and clarifying the company’s core values and aligning them with the overall strategy and operations can affect clothing longevity (Goworek et al. 2020). Besides the broad interest toward the ways of managing quality, this study focuses particularly on gaining more understanding on how various clothing companies approach the quality of garments based on their values, and how they implement it in all their operations. Gaining more understanding of the practical work toward quality throughout the operations will also contribute to the knowledge of how to increase the lifespan potential.

**Materials and Methods**

This study was based on a qualitative strategy of building theory from cases (Eisenhardt 1989). Generally, this case study method aims to create understanding of the studied phenomenon in a specific setting, and it is particularly suitable for providing fresh perspective to an already researched topic (Ibid.). We interviewed 13 clothing and textile industry professionals in various managerial roles, representing 10 different companies in Finland. These included companies that focus mainly on women’s and men’s wear \( n = 5 \), children’s wear \( n = 1 \), bags and accessories \( n = 2 \), rental clothing service \( n = 1 \), and interior textiles \( n = 1 \). They varied from micro-size to large businesses, and from
start-ups to more mature companies. Their production sites varied from in-house and local production to globally outsourced production (see Appendix A). To deepen our understanding, we also interviewed two research experts who have practical and theoretical expertise in the fields of quality and textile/garment manufacturing.

The companies were selected by theoretical sampling (Eisenhardt 1989); in other words, potential case companies were screened ahead by reading materials on their websites, and cases that seemed theoretically useful were invited to participate in the study. In order to gain a broad understanding of good quality practices across organization types, we selected participants to provide a diversity of views. Supporting our research interest, we focused on companies that claim quality to be one of their priorities, and in many cases, environmental and ethical responsibility to be their guiding principles. Therefore, these companies are well known for their good quality, and/or even have pioneering approaches to quality, often linked to their practices for sustainability.

While planning the interview schedule, we identified several potentially important constructs from the literature on quality (cf. Eisenhardt 1989). Based on that, we decided to focus on four themes: (1) sustainability/responsibility, (2) views on quality, (3) methods and approaches for achieving the desired level of quality, and (4) product lifetimes (see Appendix B). The interviews were semi-structured and used the same set of questions for each informant. Since the case study method allows interest for any new theoretical insight, the interviews were conducted in a conversational way to encourage the interviewee to discuss topics related to quality that they considered significant. The interviews were mainly conducted at each company’s premises; two were conducted via a video call and one over the phone. They lasted from 45 min to 2 h and were audio-recorded and transcribed. Supporting data triangulation, most interviewees also provided a tour at their company premises and/or production facilities, which helped strengthen the understanding of the discussed themes. We also used information on the companies’ websites to deepen the discussed topics and details.

The interviews were analyzed using thematic analysis, which is an inductive method for identifying various patterns within the data, and has the aim of reporting meanings and the reality of the participants of the study (Braun and Clarke 2006; Eisenhardt 1989). First, the content of each interview was reduced by identifying, extracting, and coding its main ideas into a manageable framework. The data were then examined by searching and comparing distinctive ideas and themes both within and between the cases. Similar and recurring ideas were grouped together, naming the main patterns observed. Based on the literature and the initial knowledge of the topic, we decided to classify the emerging main ideas under predetermined core areas of business practice, namely, company, product, design, and production (cf. Garvin 1988). As the analysis progressed, we identified also the area of customer
relations as the fifth core area. Lastly we separated challenges that the companies had encountered in terms of their quality goals as its own theme.

The following sections describe these intersecting themes, which are further illustrated by direct quotes from the interviews with a reference to the particular interviewee (e.g. “D-1”). (The quotes have been translated into English.)

Results
This section introduces the findings of the study first through the five designated core areas (company, product, design process, production process, and customer relations) and the following subthemes (Table 1). To create a product with the desired quality level, proficient design and production processes, supported by efficient quality control, are essential. It also involves the efforts required in customer relationships. The subthemes show the main areas that quality work entails; these different aspects and actions help the companies produce and provide better quality. Lastly, the section titled Negotiating on quality summarizes the challenges the companies have faced.

The findings discuss the main aspects of quality work; this signifies the themes that companies have to deal with and their actions toward reaching the desired level of quality. As one of the companies expressed, it is essential to look at the entire design and production process holistically when creating, producing, and maintaining quality.

Quality is often thought of as one specific point in a certain part of the value chain, but we believe it concerns the entire process (H-1).

Table 1. The main areas involved in the companies’ work toward producing good quality.

<table>
<thead>
<tr>
<th>Area</th>
<th>Themes</th>
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<tr>
<td>Company</td>
<td>Core values</td>
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<td></td>
<td>Responsible action</td>
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<tr>
<td>Product</td>
<td>Elements of material quality</td>
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<td></td>
<td>Functionality and meaning</td>
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<td></td>
<td>Esthetics and timelessness</td>
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<td>Design</td>
<td>Design expertise</td>
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<td>Material and technical understanding</td>
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<td>Testing</td>
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<td>Production</td>
<td>Proficient supply chain</td>
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<td>Detailed instructions and data management</td>
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<td></td>
<td>Systematic quality control</td>
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<td>Customer relations</td>
<td>Dialogue with customers</td>
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<td>Communication of product quality</td>
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<td></td>
<td>Care and repair</td>
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</tbody>
</table>
Company

The first area focuses particularly on the work for quality at the company level, including their values, principles and philosophy behind the operations. It is classified under the subthemes of core values and responsible action.

Core values

Many of the companies emphasized that quality is an essential aspect of their product; they aim for as high quality as possible, and that they do their best to reach this level. This is illustrated in the following comment:

We always try our best to create good quality. There is no point in producing poor [quality] (J-1).

Generally speaking, the values and philosophy of a company influence the entire culture behind design and production. Based on the interviews, there are many important elements of quality, and each company has their own focus and guiding values. Two companies brought up that quality was connected to their values on a strategic level. These values guide their decisions, approach, and actions regarding the product, the design and production processes, and the interaction with the customer. In the same way, quality extends to relations and communication within the company as well as with the supply chain and other stakeholders. Respecting and acknowledging everybody involved in the process is part of quality (H-1). Therefore, quality can also be understood as an integral element of a company’s practice:

Quality concerns so much more than just products. It also concerns the quality of operations (I-1).

Quality involves many things. ...it means material durability, responsibility, pionership, and meaningfulness. It means being loyal to your own principles and trying to do your best (J-1).

Two companies mentioned that their regular customers are familiar with the brand’s quality level, and expect that of their purchases. In this sense the brand image is connected to quality. The companies pointed out that the long-term experience behind the practice and successful products has helped build and execute these expectations of quality (C-1; E-1). As a small company with in-house production summarized:

Our products themselves are the best marketing method we have (E-1).
**Responsible action**

Many companies consider responsibility as one of their core principles, and also include it as an aspect of quality. According to them, this means that they acknowledge the potential social and environmental impacts of their products and operations, and do their best to minimize these impacts. Sustainable principles are applied, such as preferring environmentally friendly materials, and manufacturing nearby or even locally, thus offering local jobs and fostering professional skills. Two companies mentioned compensating their carbon footprint as part of their responsibility scheme; a few others were planning to do so in the future. Recognizing and evaluating a company’s current position in terms of responsibility and sustainability offers an opportunity to reflect and find new solutions. Many companies mentioned their wish to learn more, and this attitude helps develop the operations into better practices. As one of the micro-sized companies explained:

...we’re not perfect, and we don’t know everything. Our decisions are not merely black or white. [We recognize] the obstacles and try to find solutions (H-1).

Some companies aim to apply circular economy principles and wish to play their part in extending the garment lifespan, for example, by producing durable technical quality suitable for several users. One company explains:

Our mission is to create a modern circulation of consumption that utilizes the idea of natural circulation. It stays away from linear economy, which centers on take, use and dispose (H-1).

In many interviews, traceability and transparency were mentioned as important tools of quality work and responsibility schemes. They help in tracking the production chain, for example, regarding materials and manufacturing. Many also openly explained their current engagements and future roadmap toward sustainability, even if these were still works-in-progress. For example, one company has added a “code” to each product, which enables online access to all the information available about the product in terms of materials, their origin, the manufacturers, and the cost breakdown.

**Product**

All the companies expressed that quality is closely connected to durability and long product use time. For example:

We are currently calculating the [product] carbon footprint, so that we can better understand the consequences during their life
cycle. We believe that one of the best environmental actions is to make durable products. [...] It is [therefore] essential that we try to make quality as long lasting as possible (H-1).

This section focuses on quality work at the product level. It is divided into: Elements of material quality, Functionality and meaning, and Esthetics and timelessness.

**Elements of material quality**

Based on the interviews, the foundation of product quality consists of fabrics, components, seams, construction, cut, and fit. One micro-sized company explained the main material guides the quality of the entire item. Then, to create a uniformly long lasting product all the other materials (such as linings and zippers) are chosen of equal quality. In addition, the product has to be skillfully constructed (H-1). The basic technical qualities have to be suitable for the intended purpose and use context:

The design is contemporary but quality also has to [...] retain its properties: abrasion resistance, breathability, waterproofness, and other such properties (B-2).

Accordingly, the level of quality can be increased by choosing higher quality fabrics and/or applying more sophisticated details of construction (C-1; D-1). The companies mentioned methods such as, utilizing traditional construction techniques (such as replacing fusible with different structural solutions, using stays or elastics in proper ways), adding certain insulating and supporting layers to inner constructions, paying attention to appropriate and durable linings (e.g. in pockets and sleeves), utilizing bias cut on suitable parts, and choosing more refined seam techniques (e.g. “French seam”), buttonholes and pocket openings.

**Functionality and meaning**

Design features, such as functionality and usability, are another essential layer of product quality. Summarizing companies’ comments, customers desire products that are comfortable and attractive, fit well, and feel good on the skin (E-1; G-2). Customers also want clothing that stays in good condition in regular use and is easy to maintain; colors should not fade in the wash and the garment should not wrinkle much (D-1). As an example, a small-sized clothing company comments,

Quality means that the product has a long lifespan. It is comfortable to use and it feels good. The product is designed for use (E-1).
One of the companies expressed that quality is also connected to the meanings that a garment can carry. For example, such a garment not only looks nice but wearing it makes one feel good and safe (J-1).

**Esthetics and timelessness**

Esthetics can also be considered an essential element of quality. We interpret from the interviews that in creating a durable product, the esthetics should be equally “timeless”. This way the garment stays in use as long as possible.

It is a very important aspect of quality that the product is both modern and timeless. It has to be contemporary – otherwise, people won’t be interested in it – and timeless, so that it will make you happy for a long time (H-1).

As explained by one of the clothing companies, the foundation of their collection stays the same for the most part, and each season it is updated by introducing some new colors and a few new items. If esthetics are only based on the seasonal trends, the product might be used for only one season. A durable and timeless garment can remain in use for years. As articulated in the following comment, esthetics are essential for the lifespan of the product:

...there has to be a clear purpose for the customer, both aesthetically and practically, so that they want to use it for as long as possible (H-1).

**Design**

The specifications regarding product quality are generally laid during the design process (B-2). It involves designing the functional and esthetic features as well as choosing materials and determining the construction details (B-1; I-1). Based on the interviews, depending on the company size, this dialogue involves designers, technical designers and product managers.

This section takes a closer look at quality work in the design process. It is categorized into the subthemes of Design expertise, Material and technical understanding, and Testing.

**Design expertise**

The sample garment designed and created during the design phase sets the level of quality for the final product that the production phase will aim for (K-1). A micro-sized company explained that experimenting, for example, with different fiber blends, is part of the process. Even if such
try-outs are not successful, they help develop the quality further (J-1). Many companies emphasized that professional skill and experience are crucial in understanding the elements of good quality required in the design process. For example,

As this company has existed over a hundred years, we have an understanding of what works, which materials and so on. That’s the foundation of the design process that our collection is based on today. It is grounded on all the gained experience of quality (I-1).

**Material and technical understanding**

Designing and developing a good quality product requires experience and understanding of materials and their properties (A-1; B-2). It also involves the developing of proper patterns and the choosing of garment construction techniques (e.g. suitable seam structures and allowances; E-1). All these details shape the quality of the final product. As one company pointed out, for example, making sure that seams do not unravel, seems like a small detail, but is a key element of durable garment construction (E-1).

One company emphasized that technical properties have to be considered together with visual and tactile characteristics to ensure that the material not only looks good but also is suitable for its intended use.

If we choose something only based on, for example, the abrasion test results, we won’t succeed. The fabric has to be tested in use, so that it works in the context and serves the purpose it is designed for (D-1).

**Testing.** Many tests are conducted during different phases of the production chain to ensure the desired quality level. In this study, medium and large-sized companies mentioned material tests (e.g. color resistance, abrasion, pilling, and dimensional change) as part of their quality assurance; depending on the product and the use context, more tests may be necessary. Even if materials are tested by their manufacturer, many companies mentioned conducting their own fabric tests and even using their specific test methods. Test-wearing garments and washing them in a domestic laundry machine are common tests to demonstrate how the garment will behave in regular consumer use.

Restricted substances have required levels, and the limits vary in different countries. One company explained that they review the standard limits of other countries, and then apply the strictest levels of restricted substances to ensure the product is as safe as possible to use (B-1).
Production

In addition to the decisions made during the design phase, the production process is another significant element of product quality. Many companies highlighted that for ensuring high, stable product quality, mistakes must be kept to a minimum during the process. Each production phase plays a part in the process.

This section introduces three areas of the production process that play a role in quality work: Proficient supply chain, Systematic quality control, and Detailed instructions and data management.

Proficient supply chain

First, as mentioned by many companies, using professional suppliers throughout the supply chain is essential. Proficient sewing and construction methods and suitable machinery are also crucial (E-1). In addition, the working methods and culture at each site influence the whole production process. Having reliable, long-term relationships with suppliers and manufacturers helps achieve the desired quality as it builds mutual trust and expectations (B-1; E-1). One micro-size company explained that a good relationship with manufacturers has also enabled them to take part in developing materials and methods according to their requests (H-1).

A few companies also mentioned that some of their manufacturers were very skillful and felt professional pride in their work. One micro-size company described that, in accordance with their strategy, they wanted to use local, artisan craft as much as possible. According to them, this not only provides local jobs, it is also a way of respecting skills and enables preserving them:

These artisans are retiring very soon, the last ones who are not bankrupt… There’s an urgency to preserve these manual skills before they disappear. […] We also think that the maker’s touch leaves an imprint on the product. If the production conditions are bad, it’s reflected in the product (H-1).

Systematic quality control

To ensure the intended outcome, quality must be controlled at all the different phases of the production chain. Large-sized companies in particular described that their quality control involves continuous checkups throughout the production chain. First, the fabrics are checked before production. During production, several in-line inspections take place. Then the final products are checked in the factory after production and possibly also by an external auditor through randomized check-ups. One large-sized clothing company explained,
We have our own quality control team that visits the factories frequently. We don’t just check the final products when they’re ready—we also do in-line inspections. So, when the products are being made in-line, we see any defects (B-2).

As a small company with in-house production explained, as part of their manufacturing process, the workers inspect every step themselves; the person in the production line first checks the previous phase and then their own work before passing it onto the next person (E-1). Depending on the company size, either a certain percentage or all the final products are checked after production. In online sales, products are typically also checked before being shipped to the customer, to limit the risk of returns (C-1).

Depending on preferences and resources, companies use external auditors or their own quality team (B-2; I-1). In the case of outsourced production, they can rely on audited factories, check the factory by regularly visiting it personally, or both (B-2). Nevertheless, some companies pointed out that factory visits might not reveal everything. Quality auditors are still key people in the quality assurance process. One company claimed to follow the “accepted quality limit” (AQL) guidelines but often conducted inspections even beyond these limits to ensure a high level of quality. Some of the companies mentioned using different certificates, which act as a proof of certain quality attributes or communicate aspects related to environmentally and ethically sound production (B-1). However, the smaller companies were often unable to purchase expensive certificates, and therefore relied on their own inspections.

**Detailed instructions and data management**

Accurate instructions for production are keys for defining and communicating what kind of quality is expected and how it will be achieved. Some companies explained they train the external partners in the supply chain to use their own particular methods to ensure that the targeted level of quality is reached. As one large company summarized:

Quality is not achieved by inspections, but by doing everything as planned and agreed on (A-1).

The systematic management of data is an essential part of the quality control system; it is crucial for developing and managing quality. Good data management helps companies keep track of the technical properties of fabrics and the tests related to them. Digital solutions enable the tracing of all the phases of production (e.g. yarn, dyeing, knitting and the final quality check), which reduces the risk of defects in the final product. One medium-sized company explained that digital applications have been crucial for obtaining immediate feedback on the quality of their in-house production process (B-2). Such a system detects errors
immediately and does not allow any more of them in the production process without a notification. As the head of quality of a large company with diverse outsourced manufacturing summarizes:

The more we know about our production, the better we can manage the risks (G-1).

**Customer relations**

The interviews revealed that customer service is part of companies’ quality work in many ways. This section discusses the main areas that supporting good customer relations, categorized as Dialogue with customers, Communication of product quality, and Care and repair.

**Dialogue with customers**

Dialogue with customers is a significant part customer service. In addition to regular service over the phone, companies also use multiple other channels, such as feedback forms on their websites, messaging options via social media channels, email surveys, and customer events organized by the company. These forms of communication allow customers to give the company direct feedback on product quality in use, for example, on the technical quality and functionality. Customer claims help the company understand issues with the product and develop it further; it can also help in sharing important information to other customers. As a small company explains,

It’s really important, that when we get a consumer complaint, we search very thoroughly for the reasons. If it’s a defect in the product—where does it come from? We handle it carefully (E-1).

Another way to gain a better understanding of customers’ desires and concerns is to involve them in the design and development process. One clothing company invites their customers to try on different styles and sizes already in the design process, and customers are very happy to be part of it. The direct feedback from these fittings helps develop the product. Their designer also interacts with customers on social media, and in this way, is able to apply their feedback immediately in the design process (E-1).

Understanding customers’ viewpoints is also essential in the quest for quality. As the director of apparel section of a large company explains, their perceptions may be different to the professional perspective:

After all, what matters is how the consumer perceives quality. As professionals, we discuss technical quality, but often the consumer has a very different experience of quality (G-2).
Communication of product quality

It is essential to communicate information on product quality to customers to help them understand the level and elements of product quality. Specific information is provided with every product (e.g., through hangtags and care labels), and more details are offered in the store and on the company website.

We try to inform customers in the store. Communication helps us understand how much the customer already knows, and then we can explain how to take care [of the product] and how to keep it (J-1).

Although online sales are often a significant part of business today, an image on the screen does not convey the tactile qualities of a garment. Therefore, one clothing company decided to set up a showroom in another city, in which people can try out their styles, touch the fabric, and see colors and prints before placing an order at the online store.

Care and repair

Appropriate care practices can help maintain the optimal level of quality and extend the lifespan of a product. It is the company’s responsibility to provide information and instructions on the care and maintenance of the product, but after this, the product is in the customer’s hands.

It’s their responsibility to maintain the garment well. ... We aim to inspire people to think: “In maintaining the quality, I am now the main person of the chain” (H-1).

Some companies also offer care and repair services for their products for a reasonable fee.

Clients have brought back coats that are 10 years old. And we have repaired and fixed them. We charge for it, but quite little. We want to encourage people to do this (C-1).

Many companies have a take-back service that allows the customer to bring the item back in any condition. If the item is in good condition, the company can resell it. They may also utilize the fabric of broken items as patches in repair services (C-1). One company organizes clothes swapping events, to which customers can bring this brand’s used clothing and exchange them in an organized way.

In cases of shortcomings in technical quality, a company may either repair the product, offer to pay the repair cost, or provide the customer with an entirely new product (B-1). One company offers to lend the customer a similar product while the original one is being repaired.
sell specific care products and repair kits to use at home. Care and repair can refresh the product and extend its use time, as expressed in this comment,

…it was always the same response when the client got the repaired garment back: “Wow, this is like new!” (J-1).

Some companies also offer a warranty for a certain period of time that includes either fixing the product or providing a new one in the case of irreparable defects. One company offers a warranty for life, as the main material—high quality wool—is assumed to stay intact for decades if used and maintained appropriately. Another company offers a warranty for 2 years and noted that such a service actually helps them make the product repairable, but it also pushes them to produce such high quality that the products will remain intact for at least two years and beyond.

If we want to manage the entire lifecycle, we don’t have the time or resources to repair and deal with broken items every six months (H-1).

Negotiating on quality

Quality entails many simultaneous features, and in a high-quality product, the ambition is that all these aspects are taken into account. According to the interviews, even if a company aims for a high-quality product, surprises can happen and compromises have to be made. In this sense, quality involves not only managing various aspects but also negotiating and making compromises between different elements.

In this section, we discuss the issues that challenge the companies’ pursuit of the desired level of quality. These involve weighing the features of quality against several other aspects: usability, cost, premium quality, locality, and sustainability. The discussion shows that quality work involves constant negotiating and making compromises.

Technical quality vs. usability

As mentioned by many companies, superior technical features of a product alone are not sufficient—the product also has to be functional and comfortable. As illustrated in the following comment, the technical features of fabric and the properties of fibers must be weighed against functionality, usability, and esthetics.

The main fabric has to be very durable. And yet, it should also feel nice and be flexible, not stiff. So, we have to compromise. Many criteria have to be fulfilled. But when there are many
features, you can’t have everything. It also has to be attractive and appealing (B-1).

**Quality vs. cost**

Choosing the preferred properties also means weighing the desired level of quality and cost. Different fiber combinations affect the price point, and often materials and production methods that support high quality are more expensive. Therefore, producing better quality makes the price point higher. Companies often have a specific price point, which also determines the details of quality. Some companies prefer not to compromise quality for price and choose quality first.

Designers are under a lot of pressure to choose a certain quality level, as the company sets the price point for each product. I think in the future we will have to find a clientele who are ready to pay for these decisions [of choosing high quality] (D-1).

**Basic vs. premium quality**

Some companies have lines that reflect different quality levels, for example, basic and premium quality, which each has varying requirements, and perhaps distinctive lifespan expectancy (B-1). Informing customers of this may help them distinguish the quality levels, and in the case of superior quality, it also explains and justifies the price of the product.

We have products of different quality levels, and this is reflected in our prices. For example, the most expensive [garment] costs 170 euros – which is a high price, but it’s supposed to be durable. But if you buy [the same type of garment] that costs 79 euros, [the quality] can’t be the same – it shows in the product’s durability (B-1).

Many interviewees, including both small and large companies, also expressed the challenge of sharing this information to customers in a practical, comprehensible way. Consumers may not have the same knowledge about materials as the textile and clothing professionals have, so it is unreasonable to list all the technical information about the product in the hangtag.

The consumer doesn’t know about technical quality, whether cotton should be 130g or 140g or something else. The consumer should look at the seams and see if the fabric is already shabby. However, it’s quite difficult for the consumer to know if the quality of a product is good enough. How can they evaluate these qualities? (G-2)
**Locality vs. offshore**

When aiming for a high-quality product, the quality of manufacturing is a crucial factor. Some companies reported that they had to choose between locally available options and production quality. For some types or scales of production, local manufacturers may not be available, or the required skill and/or machinery may not exist locally (D-1).

We would like to have some details done in a certain way, but can’t get it done here. There’s no machinery for that here. So, we have to settle for another solution, even though it’s not the best one quality-wise (D-1).

As the current market has such a large selection of low-priced products manufactured offshore, it is important for local production to strive for good quality. As the CEO of a small company with in-house production said:

Our product designed and produced locally can never compete by price with those produced cheaply offshore; therefore, quality has to be excellent (E-1).

**Quality vs. sustainability**

Many companies voiced that, even though sustainability is their guiding philosophy, at times they have to choose between high quality and sustainability. For example, some respondents explained that the quality of environmentally friendly material is not always as good as that of conventional materials, for example, comparing the quality of conventional to organic cotton (D-1; J-1); also, finding recycled fabrics that serve the desired level of quality is sometimes challenging (C-1). In cases like this, a company might choose quality over sustainability:

We had a really beautiful Tencel jersey, which is anti-bacterial, ecologically produced, very much liked, and so on. But when the product was ready, it was already shabby (D-1).

The using of elastane is also a commonly discussed issue. Although it makes the fabric more difficult to recycle (Niinimäki and Karell 2019), many companies reasoned that using a certain percentage of elastane ensures better fit and comfort, and enables the garment to keep its shape for longer. Similar issues concern finishing treatments: some treatments are not the best option from an environmental perspective, and yet, they increase durability and usability (B-1). It can also work the other way. If wishing to avoid harmful chemicals—which might improve the properties and quality of fabrics but are harmful to people and nature—a
company might choose less harmful options, thus compromising certain properties (B-1).

We’re not saying you can’t use elastane… if you make a product solely on the basis of sustainability, but it’s not aesthetic or comfortable; it makes it unsustainable (B-2).

One might also have to decide between finer quality fiber produced further away or a coarser fiber produced nearby (D-1). Textiles made from natural fibers are not always stable in their qualities, as crops can be different each season, depending on the weather, location and other natural causes. For example, if there were difficulties with a certain crop one season, this problem would affect all companies that year:

Textiles always vary. Not all material is the same. For example, cashmere, one batch might be more prone to pilling than another (J-1).

Discussion
Regarding clothing, quality is often primarily related to its material features, especially durability (De Klerk and Lubbe 2008). Also according to the interviews of this study, durability was regarded as a fundamental aspect of quality, indicating long-lasting products. However, the companies emphasized that creating good quality involves much more than choosing suitable materials and applying appropriate production methods.

Many companies reported that quality is related to their values and/or their core principles. Some explained how quality is further connected to their operational and strategic levels, and in this way, guides their overall decision-making and operations. The company’s values are implemented in the design process and integrated into the product. It could be said that companies form their values on the strategic level, and the products have reflections of these values. The level of quality they choose is thus part of their company identity and the brand image that they wish to represent (cf. Jackson and Shaw 2009); at the same time, this level is also expected of them. As Karell and Niinimäki (2020) state, the company mindset and its operational environment are intertwined with the design phase, and thus have a substantial influence on the choices made in the design process. Similarly, Goworek et al. (2020, 638) argue that the “strategic level within businesses is potentially even more important” than the design phase, as the practical processes are executed on the basis of the company’s management strategies. In the same vein, this study uncovered the significance of the values and principles guiding the strategy and direction of the company operations at the core level, thus connecting the managerial level principles with the design phase and all other aspects of quality work. Defining and aligning the company’s core values with the overall
strategy and operations is important for providing the best support for quality work and the extending of clothing longevity. Values guide the company’s managerial and operational level, and therefore, form the core and direction of their quality work.

The first round of analysis uncovered quality work that involves certain core areas of business practice. It also revealed themes that are simultaneously linked to several areas and require managing the different aspects that intersect in these areas. This led us look at the analysis in another light, and notice two main courses of action: 1) overarching areas that companies have to manage in their quality-related work, and 2) issues that companies have to negotiate in terms of the quality of the products.

As summarized in Table 2, companies aim to manage several interrelating aspects in their quality work through various measures, for

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Focus – The areas and themes related to the aspects; work in these areas help managing the particular aspect.</th>
</tr>
</thead>
</table>
| Reputation | Core values  
Respecting other stakeholders  
Safeguarding brand image  
Following quality promise and expectations |
| Knowledge | Continuous learning |
| Product attributes | Technical quality  
Functionality  
Usability  
Uniform quality |
| Flaws | Information  
Warranty  
Repair service |
| Time | Avoiding short term trends  
Timeless design  
Long-term usability  
Meaningfulness  
Production processes |
| Sustainability | Social responsibility  
Climate actions (e.g. carbon footprint)  
Environmental impact evaluation  
Locality  
Circularity |
| Production chain | Stability  
Testing, inspections, auditing, certificates  
Long term relationships with suppliers  
Proficiency |
| Risk | Avoiding mistakes in production  
Quality control  
Up-to-date data, information, knowledge |
| User experience | Emotional satisfaction  
Communication  
Feedback  
Service |
example, their brand reputation, knowledge on quality, product attributes and potential flaws. They also manage time, production chain and sustainability issues as well as risks related to all company operations. The hardest part to manage is user experience, which is founded on the functionality of a product, but fundamentally plays a role in emotional satisfaction and use-experience of the product. These aspects cannot be seen as just one point in the production chain; each of them touches upon different areas and phases of operations. For example, the aspect “Reputation”, is connected to the quality of the brand image, yet, it also concerns all operations, extending to relations and communication. It is managed by applying the company’s values through respectful relationships with employees, the supply chain and all other stakeholders as well as customers. “Product attributes” are managed by focusing on designing durable products with balanced technical qualities, functionality and comfort. While each theme seems separate, they are also overlapping and inter-related.

Quality work certainly also entails challenges and even complex issues that need to be resolved along the different phases of design and production processes. Achieving the intended level of quality often requires negotiating and choosing between certain aspects. For example, choices made for quality are often weighed against cost, or the level of quality against the sustainable choices available. These decisions may not be easy or even have a perfect solution; they may require compromises.

Many companies also discussed sustainability and responsibility as part of their core philosophy; they are connected to values and principles that are embedded in the products and their manufacturing processes. In practice, sustainability often means choosing environmentally friendly fabrics and/or considering the lifecycle of a product; and responsibility indicates addressing the societal aspects of production, such as working conditions (Karell and Niinimäki 2020). Willingness to consider the larger implications of business could be seen as part of quality work. The companies also regarded producing high-quality and long-lasting products as one of the ways toward sustainability. Although values and principles can guide the choices made in the design and production process, they are immaterial, credence qualities (Steenkamp 1990). If the customer shares the same values, these aspects may signify intangible but meaningful credence quality of the product. This in turn affects the perceived quality of the product (Zeithaml 1988), and can increase the willingness to take good care of it. High quality alone does not make the product’s active use time long. Ultimately, the customer determines how the garment is taken care of and how long it is in use. Apparel companies can only play a part in supporting the extension of clothing lifespan – but at least they can do so by providing good initial quality.
Goworek et al. (2020) mentioned that sustainable practices, such as focusing on the longevity of garments, might challenge other commercial objectives. We also touched upon this topic in our study, as some companies said that higher quality raised the product price point. Even then, as seen in these case examples, clear brand values that guide the strategy may help in solving these issues; a company may choose quality as one of their guiding principles. In addition, although high quality alone does not extend a product’s lifespan, the company can play its part and create durable, high-quality products through multilayered quality work and provide information on the product and its optimal care. In these various ways, offering high-quality products, integrating quality on the strategic level, and brand image may actually serve as a commercial advantage for the company.

**Conclusion**

By interviewing clothing companies and industry experts, this study focused on the meaning of and practical approaches to quality in the clothing and textile sector. The objective was to examine how various clothing companies approach and integrate quality in their operations, and to highlight the work required for reaching and maintaining a certain level of quality. It led us to understand that quality work is often a question of managing various elements and negotiating between different aspects, activities or even values to be able to implement the level of quality for which they are aiming for. Companies use these two main approaches—managing and negotiating—when considering their resources (e.g. money, time), which enable them to reach and keep up the desired quality level of products and the brand in general.

The companies in this study were chosen on the basis of their efforts and credentials in quality work. In this sense, they do not represent the most common or average strategies for producing good quality; rather, in comparison to the literature on quality, their methods often include the best practices for quality as well as innovative methods of their own. Bringing attention to the entire process of quality work, this article discusses how quality is contingent on the many elements of design and production processes, and how quality work in different areas supports and enables the creation of a good quality product. With the help of thematic analysis, this paper aimed to show the different ideas and mindsets regarding quality on the strategic level and to highlight their importance as the basis of quality work for clothing and textile companies. As discussed first through the five core areas and their subsections, quality work concerns the company’s mindset, involves the entire process from design to production, the final product, and customer relations. The themes of the five core areas, illustrated by the direct quotes from the interviews, aim to depict and describe multifaceted quality work, and how it promotes the creation of quality products.
This study draws attention to the multilayered aspect of the quality work that companies can do on different levels. Acknowledging the complexity of exactly defining quality, we chose to convey the different viewpoints of quality and to highlight the company mindset and their ways of working toward good quality and long-lasting clothing. These cases and their modes of operation can help other companies implement similar methods, and inspire them to develop new practices to support more sustainable garment production and consumption.

As for the limitations of this study, it did not analyze how company size influences quality work strategies and methods. The size most likely plays a role, as small companies may not be able to afford extensive testing (also discussed by Goworek et al. 2020) or implement comprehensive quality assurance and data management systems on the same scale as larger companies. This naturally affects how detailed the provided information on the product and its materials can be. Further research could focus on the ways in which quality is communicated to customers; what information they regard as important and useful, and efficient formats for sharing this.

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ORCID
Kirsi Niinimäki http://orcid.org/0000-0002-9759-7098

References


Appendix A. Description of Interviewees

<table>
<thead>
<tr>
<th>Informant</th>
<th>Role in the company</th>
<th>Sector</th>
<th>Size***</th>
<th>Production</th>
<th>Special services</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1</td>
<td>Vice President</td>
<td>Workwear</td>
<td>large</td>
<td>Outsourced: Near-by &amp; Asia</td>
<td>Rental, second hand</td>
</tr>
<tr>
<td>B-1*</td>
<td>Quality manager</td>
<td>Clothing</td>
<td>medium</td>
<td>Outsourced: Europe &amp; Asia</td>
<td></td>
</tr>
<tr>
<td>B-2*</td>
<td>Sustainability</td>
<td>Clothing</td>
<td>medium</td>
<td>Outsourced: Europe &amp; Asia</td>
<td></td>
</tr>
<tr>
<td>C-1</td>
<td>Owner, designer</td>
<td>Clothing</td>
<td>micro</td>
<td>Outsourced: Near-by &amp; Asia</td>
<td></td>
</tr>
<tr>
<td>D-1</td>
<td>Quality manager</td>
<td>Clothing</td>
<td>small</td>
<td>Outsourced: Europe &amp; Asia</td>
<td></td>
</tr>
<tr>
<td>E-1</td>
<td>CEO</td>
<td>Clothing</td>
<td>small</td>
<td>In-house</td>
<td></td>
</tr>
<tr>
<td>F-1</td>
<td>CEO</td>
<td>Accessories</td>
<td>micro</td>
<td>In-house</td>
<td></td>
</tr>
<tr>
<td>G-1**</td>
<td>Quality manager</td>
<td>Clothing</td>
<td>large</td>
<td>Outsourced: Europe &amp; Asia</td>
<td></td>
</tr>
<tr>
<td>G-2**</td>
<td>Director of apparel</td>
<td>Clothing</td>
<td>large</td>
<td>Outsourced: Europe &amp; Asia</td>
<td></td>
</tr>
<tr>
<td>G-3**</td>
<td>CSR manager</td>
<td>Clothing</td>
<td>large</td>
<td>Outsourced: Europe &amp; Asia</td>
<td></td>
</tr>
<tr>
<td>H-1</td>
<td>CEO</td>
<td>Accessories</td>
<td>micro</td>
<td>Outsourced: Local &amp; Europe</td>
<td>Second hand, repair, warranty</td>
</tr>
<tr>
<td>I-1</td>
<td>Marketing manager</td>
<td>Interior textiles</td>
<td>small</td>
<td>In-house &amp; outsourced near-by</td>
<td></td>
</tr>
<tr>
<td>J-1</td>
<td>CEO, designer</td>
<td>Clothing</td>
<td>micro</td>
<td>Outsourced: Near-by &amp; Asia</td>
<td>Second hand, repair</td>
</tr>
<tr>
<td>K-1</td>
<td>Expert</td>
<td>Research</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K-2</td>
<td>Expert</td>
<td>Research</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Two representatives of the same company were interviewed individually.
**This interview was conducted with all the three company representatives in the same session.
Appendix B. Interview Questions

Company Information

- Revenue
- Products and services
- Manufacturing countries
- Number of employees
- Established (year)
- Sales locations and channels
- Interviewee: Position in the company

Responsibility

- How is responsibility applied in the company on a practical level?
- Do you use some ecological textile materials (e.g. Tencel)?
- Have the choices related responsibility/sustainability somehow influenced the quality of the products? If yes, how?
- (Bit similar to previous: Have some compromises been made with the desired quality? Has there been any situation where desired quality has not been possible to achieve? What was the reason for that?)
- Are there some responsible/ecological methods or technologies that you are planning to apply in future?

Definitions and Criteria of Quality

- What kind/what level of quality are you aiming regarding the quality of the products?
- Do you have products of different quality (levels) in your collections?
- How is quality defined in your company? What does the intended quality (level) mean on a practical level? What kind of criteria do you have for quality?
- (Do you emphasize a certain aspect regarding quality? (For example, consumer-centered, longevity, or functionality?))

Tools and Measures

- How is the desired quality achieved? What are the methods for that?
- How is the quality tested and monitored?
- Are there any compromises you have had to make for reaching the desired quality? Has there been any situation where desired quality has not been possible to achieve? What was the reason for that?
- Are there any quality standards (e.g. ISO) used in the company?
- What type of feedback do you get from your customers regarding quality?
- What aspects of quality do the customers appreciate? What kind of quality do the customers wish for?
• Do you have a product warranty? (How long it is and how it is defined?)
• Has the quality of your products changed over the years?
• (Have the customers’ expectations of quality changed during the years?)

Quality and Life Cycle
The products go through a long chain of operations from production to sales, and thereafter to customers.

• Is the company able to affect the life cycle of a product after a customer has bought it?
• Are you aiming for a certain length of use in your products?
• Are you able to plan/design product life cycles in advance?
• Would you like to better design and control the product life cycle? How?
• (Have you considered applying EPR (extended producer responsibility) in your company?)