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Social Sustainability and Cost Competitiveness – beyond 'win-wins'?

A Case Study of a Facilitation-based Productivity Intervention in the Pakistani Garment Industry

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Abstract

This thesis explores how a facilitation-based productivity intervention created by the International Labour Organization (ILO) might play a role in handling tensions between demands for social and environmental sustainability and cost competitiveness. This intervention is called Factory Improvement Toolset (FIT), and ILO is currently piloting FIT in the Pakistani garment industry. The purpose of this pilot is to improve productivity and working conditions by upgrading production systems and factory practices through a facilitation-based approach.

This study finds that codes of conduct and in-factory audits are ineffective tools to overcome tensions, whereas facilitation-based productivity interventions have the potential to assist factories in bringing attention to economic and social concerns simultaneously, and through this handle tensions. Drawing on a longitudinal, mixed-method case study, I present an empirical model which illustrates how the facilitation-based productivity intervention FIT impacts employee engagement and blurs boundaries between hierarchical levels in the factory. The model highlights three main elements of facilitation that are important for successful results: ensuring psychological safety, having context-adapted material, and using an activity-based approach, while also considering potential barriers to success.

The FIT provides a platform for the factories to increase productivity and improve working conditions through simple and non-costly initiatives deriving from workers' first-hand knowledge about factory processes. Consequently, this study provides empirical evidence that the use of facilitation has considerable advantages in handling tensions between social sustainability and cost competitiveness that have not yet been recognized within the current literature.

My findings suggest that international brands should re-evaluate their adherence to code of conducts and audits, moving past the search for so-called 'win-win' solutions aiming to reconcile social and economic goals by bypassing tensions. Rather, brands can benefit from supporting the rollout of facilitation-based productivity interventions and establishing platforms for the exploration and handling of tensions within the factories. This study also has practical implications for managers of manufacturing firms, as well as development agencies professionals, as it proposes a facilitation-based productivity intervention as a new strategy for the development of supplier units and improving the working environment.

Preface

This thesis is written as part of my Master of Science in Economics and Business Administration at the Norwegian School of Economics (NHH) and the CEMS's Master's in International Management.

My fascination for the complexity of global supply chains and social sustainability was what made me pursue a degree in economics and business. Thus, it has been an honour for me to also end my studies by researching this particular field. It has been a challenging, but rewarding journey, and I am truly grateful to everyone that has made this possible.

First, I would like to thank all collaborators from the International Labour Organisation (ILO) for allowing me to research the Factory Improvement Toolset (FIT). I particularly want to thank Charles Bodwell and Simona Lepri, for valuable conversations and fruitful collaboration.

I would also like to thank my supervisor Sveinung Jørgensen, who has been extremely helpful throughout the whole process. His encouragement, constructive criticism and valuable insights were essential to producing this thesis. I have also highly appreciated all conversations about sustainable business, and 'no-parking' signs of different kinds.

In addition, I want to thank all interview participants, who took the time to share their valuable insights and reflections with me. I learned so much from each and every one.

Last but not least, I want to thank friends and family for their encouragement and patience throughout the whole project period. This would not have been possible without your constant cheers and support.

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1. Introduction

Since the adoption of the United Nations' 2030 Agenda for Sustainable Development, businesses have increasingly been expected to identify, prioritize, handle and later report on relevant sustainability considerations (Tsalis, Malamateniou, Koulouriotis & Nikolau, 2020). In recent years, the introduction of regulatory frameworks demanding that companies report on their sustainability practices, such as the Corporate Sustainability Reporting Directive (CSRD), UK Modern Slavery Act and Norwegian Transparency Act has transformed these expectations into obligations (European Commission, n.d; Forbrukertilsynet, n.d.; Schaper & Pollach, 2021).

While the three dimensions of sustainability; the economic, social and environmental, are assumed to be mutually supportive and compatible (Govindan, Shaw & Majumdar, 2021; Carter & Rogers, 2008), businesses find themselves in challenging situations when trying to integrate all three dimensions in everyday management. Research shows that policymakers find it especially challenging to operationalize social sustainability (Boström, 2012). Also, within sustainability research, the focus has primarily been on economic and environmental concerns, while the social dimension is still not addressed adequately (Govindan et al., 2021).

Up to date, most research in management literature, corporate social responsibility literature (Van der Byl & Slawinski, 2015) and the supply chain management literature (Xiao, Wiljelm, Van Der Vaart & Van Donk, 2019), tends to view the relationship between economic, environmental, and social goals either as a 'win-win' situation or as a trade-off. Whereas the 'win-win' approach aims to reconcile sustainability and economic goals by bypassing tensions, and ignoring measures that do not result in short term economic results (Sarkis, 2021), the trade-off approach views the goals as conflicting and requires the company to choose between them (Van der Byl & Slawinski, 2015).

One emerging tool to assist companies in the process of identifying and prioritizing sustainability concerns is materiality assessments. By conducting a materiality assessment, companies identify which salient environmental and social concerns they face and prioritize them with regard to their importance from economic, environmental, or social standpoints (Jørgensen & Pedersen, 2018). Empirical research on materiality, however, discovers practical tensions that exist while applying materiality (Jørgensen, Mjøs & Pedersen, 2021). Moreover, at times, different material sustainability issues might conflict. Tensions between the

economic, social and environmental goals are creating challenges for integrating the three sustainability dimensions in daily operations from the traditional 'win-win' approach (Epstein, Buhovac, & Yuthas, 2014). Thus, scholars argue the need to look beyond 'win-wins' and trade-offs (Margolis & Walsh, 2003). As a response, some scholars suggest the acceptance and exploration of the tensions between the dimensions as a new starting point in research and practice (Lewis, 2000; Margolis & Walsh, 2003; Smith & Lewis, 2011).

The challenge experienced while aiming to operationalize social sustainability is particularly true for corporations operating with complex, global supply chains (Govindan et al., 2021). Up to date, it is mainly the merging of economic and environmental dimensions that has been seen to create synergies, or so-called 'win-wins', whereas the social dimension has received limited attention both in research and in practice (Boström, 2012). Whereas the potential positive impact on business performance by, for instance, reducing waste and decreasing resource usage has been intuitive to grasp, corporations struggle when trying to find equivalent 'win-wins' with respect to social sustainability (Govindan et al., 2021).

Although tensions have been discussed in the sustainability literature, some scholars highlight that there has been less focus on tensions *within* the supply chain (Xiao et al., 2019). This despite that literature has identified various paradoxical tensions experienced by suppliers when facing the processes of implementing the sustainability standards of international buyers (Xiao et al., 2019). Over the years, common practices for approaching sustainability concerns in global supply chains have been to develop codes of conduct and introduce compliance requirements while conducting social and environmental audits to ensure this compliance (Alamgir & Banerjee, 2019).

In the case of social sustainability, it is often the world of work that is considered the key focus area for businesses (Boström, 2012). One term commonly used when discussing work-related issues is 'decent work', defined as 'productive work for women and men, in conditions of freedom, equity and human dignity', and covers elements such as fair income, safe working conditions, secure form of employment, equal opportunities and freedom to organize (European Commission, n.d; United Nations, 2008, p. 69).

However, despite countless compliance initiatives, progress in creating decent work in global supply chains remains limited (Alamgir & Banerjee, 2019; LeBaron, 2021; Locke & Samel,

2018; Reinecke & Donaghey, 2021) and in several parts of the world, working conditions are even worsening (Anner, 2020).

As a response to the limited progress by existing compliance initiatives, scholars argue a need for developing new strategies for the development of suppliers and improving their working conditions (Hasle & Vang, 2021). One emerging strategy is to adopt a productivity intervention-based approach where measures to increase both productivity and decent work are integrated (Andersson et al., 2019; Hasle & Vang, 2021; Touboulic, McCarthy, & Matthews, 2020). Consequently, scholars call for research on supply chains to engage more in intervention research (Hasle & Vang, 2021; Touboulic et al., 2020).

When designing future productivity interventions, Hasle & Vang (2021) suggest adopting a more facilitator-focused role, where the attention is given to the facilitation of the participants' own problem identification and solution 'journey' (p. 64). Currently, there is to my knowledge no research on facilitation-based productivity interventions in global supply chains, and within organizational studies, there is limited research on facilitation in general, and even less within the context of interventions.

Within this setting, the purpose of this thesis is to fill this research gap and explore how a facilitation-based productivity intervention might play a role in handling tensions between sustainability and cost competitiveness. Therefore, to provide this thesis with a strong foundation and structure to achieve its purpose, the following research questions are proposed:

RQ1: What are the tensions between social sustainability and cost competitiveness?

RQ2: What elements constitute a facilitation-based productivity intervention?

RQ3: How might a facilitation based-productivity intervention play a role in handling tensions between social sustainability and cost competitiveness?

The garment industry in developing countries provides a particularly informative context for studying the research questions for two reasons. First, it is an industry characterized by both decent work deficits, labor standards violations and extensive negative environmental impact, while being an industry considered key for the social and economic development in the region (Andersson et al., 2019).

Second, international brands are now not only taking into account price, delivery time and quality, but they are also more and more obliged to take into account social and environmental concerns when making decisions (Andersson et al., 2019; Matthes, Beyer, Cebulla, Arnold., & Schumann, 2021). Simultaneously, the Asian garment sector is experiencing pressure to increase its productivity levels. Traditionally a competitive advantage, labor costs are increasing, while buyers' demands for even lower prices, shorter lead times and higher quality persist (Hamja, Hasle & Hansen, 2021).

This study will answer the research questions by conducting an exploratory case study on a facilitation-based productivity intervention created by the ILO piloted in the Asian garment industry called FIT. It will use a mixed-methods approach and examine a rich base of data collected from the pilot process.

The thesis claims the following contributions to literature. First, it shows how in-factory audits to ensure compliance appear to be an inefficient tool to overcome tensions in global supply chains, and might be a precedent of tensions. Second, it extends the knowledge on productivity interventions by identifying three elements that are essential for a successful facilitation-based productivity intervention: ensuring psychological safety, having context adapted material and using an activity-based approach. Third, the findings suggest that a facilitation-based productivity intervention can ensure the integration of productivity-enhancing measures and measures to increase the working environment. By creating a platform where workers can contribute to improving factory processes, the teams were able to identify simple and non-costly initiatives which led to improvements in several key performance indicators (KPIs) related to productivity. Overall, this study suggests that facilitation-based productivity interventions might assist companies in moving beyond 'win-wins' and create a platform for handling the tensions within the factory context.

This has implications, particularly for business, where the opportunities for 'win-win' approaches have been an essential part of the embracement of the sustainability agenda. Thus, explicitly addressing the tensions arising from the competing material issues is of high importance for the future of sustainable business. Moreover, understanding how tensions arise and play out, as well as how they can be handled has implications for anyone involved in global supply chains, and in particular for sustainability professionals. Examining alternative strategies, in this case, a facilitation-based productivity intervention, for handling these

tensions are both of interest to international brands developing their sustainability strategies, managers of manufacturing companies as well as developing partners offering training.

Disposition

The thesis starts by presenting the empirical context to provide background information and context for this study. Then, a theoretical overview of the theory relevant for answering the research questions is presented. This is followed by a description of the chosen methodology, as well as a discussion of the strengths and weaknesses of the research, along with ethical considerations. Subsequently, the findings of this thesis are presented. Then, the research setting, and the findings are discussed in relation to the current research on the topic in two parts. First, I first present stepwise the development of a model. Next, the theoretical contributions and managerial implications of this research are discussed. Lastly, conclusions concerning the research question are explained together with limitations of the research and suggestions for future research.

2. Empirical Context

In this section relevant information related to the following topics will be presented: the garment industry, trends and sustainability requirements, the International Labour Organization and the Factory Improvement Toolset (FIT). This section serves as background information and provides the context of the research. The information presented in this section is retrieved and compiled from both primary and secondary sources.

2.1 The Garment Industry

The garment industry has divergent definitions, and in literature, a variety of terms and definitions are used interchangeably. Whereas the garment and apparel industry refer to the production of clothing items, the textile industry refers to the production of yarn and fabric production and finishing (Gereffi & Memedovic, 2003). Nevertheless, the supply chains of textile and garment industries are intertwined, and oftentimes these industries are referred to interchangeably. The production of garment is a buyer-driven chain, which entails that it is the international brands and retailers, usually headquartered in the United States and Europe, that dictates the key functions such as marketing, sales, and design (International Labour Organization [ILO], 2017).

Today, the garment industry is characterized by rapid market-driven change and complex structures with the involvement of multiple actors in globally interlinked supply chains (Koep, Morris, Dembski & Guenther, 2021). The actual production of the garments is often subcontracted to suppliers in a variety of countries, leading to assertive competition that brings down costs (ILO, n.d.f). This competitive pressure has been constantly increasing with the fast fashion business model, a term for the emerging way of producing garments with high-speed turnover, marketing new lines and items frequently, which results in redundancy of old styles (Koep et al., 2021). This business model entails a strict focus on lead times, costs, price renegotiation and order changes, and the trend goes towards even faster and more flexible productions, while the pressure to maintain low prices persists (ILO, n.d.f.; Koep et al., 2021). Additionally, the industry is marked by low predictability, low-profit margins and high volatility (ILO, n.d.f).

Asia is the number-one garment exporting region in the world today (Andersson et al., 2019). In 2018, the region accounted for approximately 63.7 percent of global exports of garments,

textiles, and footwear, whereas the majority is exported to the European Union and the USA (ILO, 2017). Moreover, the textile and garment sector remain one of the most labor-intensive industries (Hamja et al., 2021; ILO, n.d.f). Today, the garment industry in Asia employs more than 43 million workers, and it is considered key to the social and economic development in the region's many garment-exporting countries (Andersson et al., 2019; ILO, n.d.f). While there is a clear contribution from the industry to these countries' rapid economic growth in recent years, they also share common challenges in poor working conditions and low productivity (Andersson et al., 2019).

The garment industry has become particularly well-known for its sustainability challenges over the years (Govindan et al., 2021; Huq et al., 2014). In the preface of the book Sustainable Textile and Fashion Value Chains: Drivers, Concepts, Theories and Solutions, Mauro Scalia describes how the garment industry is representing a complex and diverse value chain, and how the industry has been accused of having a massive negative impact on working conditions and climate through its short-lived, high-competition and resource-intensive industry (Matthes et al., 2021, p. vii). In recent years, the increased awareness of the consequences of climate change has put the industry in the spotlight for being one of the industries with the biggest environmental footprint. This has led to intensified pressure for the industry to reduce its negative impact throughout its supply chain (Matthes et al., 2021).

Still, the industry is probably most known for its challenges related to social sustainability concerns. The sector is marked by a number of working conditions related issues and violations of labor standards. This concerns issues related to workers health due to the handling of chemical production, as well as injuries from repetitive tasks and poor safety levels, but also low wages, long working hours, and gender discrimination (Andersson et al., 2019). Two of the most famous incidents in the garment industry the last decade, the Rana Plaza collapse in 2013 in Bangladesh and the Ali Enterprise fire in Pakistan in 2012 have become brutal illustrations of the social sustainability challenges in the industry (Siddique, Begum & Berndt, 2021). These incidents, where thousands of garment workers lost their lives or were seriously injured, gained massive international attention, and major brands suffered reputational damage and financial losses in their aftermath (Govindan et al., 2021).

As an industry facing challenges both related to environmental and social sustainability, while simultaneously being an important source for economic development in the garment exporting

countries, the garment industry offers a particularly informative context for studying sustainability-related tensions.

2.2 Trends and Sustainability Requirements

Today, the status quo in the industry is challenged. The low labor costs, which have traditionally been the competitive advantage in the Asian garment industry, are increasing. Nevertheless, the buyers' demand for shorter lead times, even lower prices and higher quality continues (Hamja et al., 2021). Furthermore, there is also a trend in the sector towards even more flexible and fast production. (ILO, n.d.f).

In the aftermath of incidents such as the Rana Plaza and the Ali Enterprise, the debate over the negative social externalities experienced by emerging-country suppliers of the industry intensified (Govindan et al., 2021). Thus, the expectations for international buyers to act responsibly also further down their supply chain increased. This has led to the establishment of extensive supplier labor codes of conduct and social and environmental compliance requirements (Hasle & Vang, 2021; Reinecke & Donaghey, 2020). For the supplier factories, this has introduced an additional demand in the form of social compliance requirements and environmental standards (Hamja et al., 2021; Matthes et al., 2021). Today, international retailers and brands are both taking into account price, delivery time and quality, as well as social and environmental standards when they make decisions (Andersson et al. 2019; Matthes et al., 2021). Thus, a new set of expectations and demands are emerging for the manufacturers.

In the last decades, there has been an emergence of corporate initiatives to address voluntary labor and social commitments through codes of conduct (Mamic, 2004). To ensure compliance with these codes of conduct, companies use social compliance and environmental compliance audits. These types of audits can be defined as “an instrument used for measuring, monitoring and evaluating the performance of a factory’s concerning its social and environmental policies” (Islam et al., 2018, p. 193).

Despite that many compliance initiatives have been introduced, progress on creating decent work in the global supply chains remains limited (Alamgir & Banerjee, 2019; LeBaron, 2021; Locke & Samel, 2018; Reinecke & Donaghey, 2021). Scholars argue that while pressure from international buyers and different multi-stakeholder initiatives on the surface appear

successful, the changes are mostly symbolic and contribute little to any real on-the-ground changes (Anner, 2020; Hasle & Vang, 2021).

The demands for increased flexibility in production with emergent demands for sustainability compliance are changing the competitive landscape for garment factories, which already were operating at constant risk of buyers choosing their competitors or competing countries who can fulfil demands from buyers at a cheaper cost (Siddique et al., 2021). This increased pressure has already resulted in many factories across Asia being forced to close (Andersson et al., 2019). The International Labour Organization (ILO) are among those who express concerns that the total pressure experienced by factories today, potentially can contribute to additional decent work deficits and impact the sector's vulnerable workers (ILO, 2021).

Although there are structural impediments that need to be addressed to face the industry's challenges, there are approaches to be taken at a factory level to positively impact competitiveness. Particularly, working to improve productivity is highlighted as beneficial (Hamja et al., 2021, Andersson et al., 2019). Compared to other industries, the productivity of the Asian garment sector is low. The abundance of low-wage workers, together with preferential trade agreements, have made it possible for the garment factories in Asia to remain competitive without needing to acquire higher levels of productivity or invest in improving the operations (ILO, 2021). Since productivity levels are important to determine overall production costs, as well as the factories' ability to maneuver and sustain their operations, improving on this, would better equip the factories for the competitive landscape (ILO, 2021).

One suggested tool in the pursuit of increasing productivity levels in the garment industry is productivity interventions. Productivity interventions in global supply chains are not a new idea. There are various examples of the implementation of interventions aiming to increase productivity and efficiency in global supply chains. Productivity interventions targeting manufacturing supplier firms usually implement elements from lean manufacturing and lean management. Lean production is known as a multifaceted approach that includes a set of different management practices in an integrated system (Shah & Ward, 2007). Among the practices within lean are work teams, cellular manufacturing, just-in-time practice, quality systems (Shah & Ward, 2003), as well as 5S (systems for organizing workspace efficiently) etc. (Hasle et al., 2012). While sustainability improvements, either in environmental or social dimensions, can be indirect results of such interventions, the main purpose of the interventions is to optimize manufacturing processes.

2.3 The International Labour Organization (ILO)

The International Labour Organization (ILO) is a tripartite agency in the United Nations established in 1919. Its main goals are to "promote rights at work, encourage decent employment opportunities, enhance social protection, and strengthen dialogue on work-related issues" (ILO, n.d.a). The organization brings together governments, employers and workers of the UN member states to define labor standards, develop policies, and design programs promoting decent work (ILO, n.d.a). The ILO has been working on labor-related issues in the Asian garment industry for over 30 years. In 1999, this work was integrated into the 'Decent Work Agenda', which stated the ILO's primary goal to be "the promotion of opportunities for both women and men to obtain decent and productive work, in conditions of freedom, equity, security and human dignity" (European Commission, n.d.; ILO, n.d.b).

Part of ILO's work is to support the development of sustainable enterprises. One example of this work is the establishment of The Peer Learning Hub for Enterprises in the Asia-Pacific region, which is a platform providing training materials and information related to the ILO's programs implemented in the region (ILO, n.d.d). In recent years, ILO has increasingly argued the case for working with productivity-enhancing initiatives in order to achieve the goals set forward by the decent work agenda and assisting factories in meeting the various demands set by international buyers, including decent work (Andersson et al., 2019).

One ILO program embarking on this approach is the SCORE program, a global program improving productivity and working conditions in small and medium-sized enterprises (SMEs) by combining practical classroom training with in-factory consulting (ILO, n.d.e). The SCORE program has been delivered to over 3100 SMEs globally, representing a workforce of more than 500.000 workers that have been working on enterprise improvements (ILO, n.d.e).

2.4 The Factory Improvement Toolset (FIT)

Building on the SCORE program and internationally recognized systems such as lean manufacturing and 5s, the ILO introduced the Factory Improvement Toolset (FIT) in 2020 (ILO, n.d.c). The FIT is a productivity intervention aiming at supporting manufacturers in global supply chains in "improving productivity, competitiveness and working conditions by upgrading production systems and factory practices" (ILO, n.d.c). By working in small groups,

the participants review real-life situations and engage in discussions to determine improvements to be made in the factory without an external trainer or specialist (ILO, n.d.c).

What distinguishes the FIT from other productivity increasing interventions is its facilitation-based methodology. As opposed to traditional classroom training approaches led by external trainers or specialists, FIT builds its methodology around a facilitator that makes it possible for participants to use the FIT to make improvements in the factory themselves (ILO, 2020a). **Table *1*** shows how the ILO illustrates the difference between FIT and traditional training approaches.

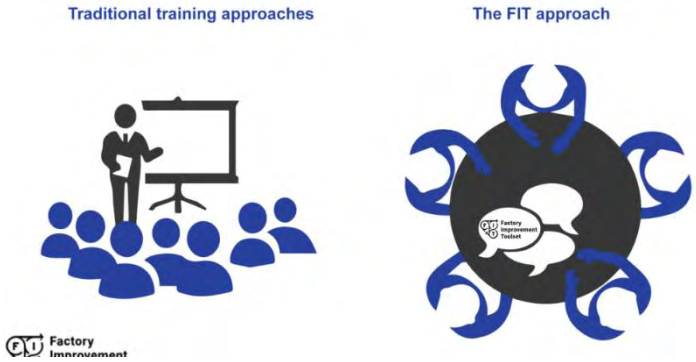

Figure 1: Illustration of the FIT approach (ILO, 2020a).

The role of the facilitator is to facilitate dialogue with support from the FIT material. In this way, the facilitator assists the participants in learning from each other, from the tools and working together effectively to identify areas of improvement in the factory. Ultimately, the facilitator assists the group in identifying common objectives, and in finding ways to achieve these objectives. Figure 2 shows how ILO illustrates the difference between a 'teacher' and a 'facilitator' in the "Facilitator manual and checklist" (ILO, 2020a). .

Teacher	Facilitator
A teacher lectures to the class.	A facilitator encourages discussion.
Information flows from teacher to students.	Information flows from multiple directions.
Relationship with students are formal.	Relationship with participants is informal.
Teachers often prioritize one right answer.	Facilitators encourage and value different perspectives.

Figure 2: Illustration of the FIT approach (ILO, 2020a)

The FIT material consists of over 75 different training modules consisting of different sets of activities such as scenario-based business case studies, discussions, learning outcomes, and action plans. Such activities encourage the participants to learn from each other's ideas and perspectives. These discussions are key in the FIT methodology. Moreover, each module is expected to last no more than 2.5 hours, to train personnel with minimum interference with the factory processes (ILO, 2020b).

Furthermore, by making supervisors, managers and workers work together on problem-identification and problem-solving, FIT accommodates workers to share their opinions and concerns to the management. Additionally, workers actively being engaged in such activities can have a positive impact on workers' soft skills, such as communication, critical-thinking and problem-solving skills (ILO, 2020b).

2.4.1 Practical Illustration

At the core of the FIT is its modules. In this section, a practical illustration of a typical FIT session is provided. This illustration shows the following module: ST1: *Receiving Materials in the Storeroom* (ILO, 2019b). Being one of the modules chosen by the factories in this pilot, this provides an informative illustration of what the factories have been through in the FIT pilot.

After having decided which FIT module to use, participants are divided into small groups of 5-7 people. Based on the FIT material the group members discuss real factory situations and share experiences and knowledge. Together they work on identifying improvements that can be made in the factory (ILO, 2020b). This is done in three different steps: case study, learning about the topic and action planning.

Step 1: Business Case Study

The module always starts with a "Business Case Study" where a scenario common to the industry in relation to the topic in question is presented. This is followed by a discussion on the case, where the group answers a set of questions. In module ST1, the participants read about the new storeroom manager Sita, and the problems she has identified on her first day at work. Afterwards, the participants discuss and answer questions about Sita's situation, such as "What problems has Sita identified?" and "What impact do these problems have on the factory and its workers?", as illustrated in Figure 3.

Table 1. Questions about Sita's situation
1. What problems has Sita identified? What impact do these problems have on the factory and its workers?
2. What does Sita do or change in order to solve these problems?
3. What are the results of Sita's solutions for the factory and its workers?

Figure 3: Illustration of module ST1 – Receiving Materials (ILO, 2019b)

Step 2: Learning about the topic

In the next step, the participants learn about the topic through activities conducted in plenary. These activities encourage the participants to reflect on the conditions in their own enterprise. By doing so, the participants directly connect the topic in question to practical real-life issues. In ST1, the participants study an example of a list of steps for receiving materials, then they reflect about their own process, and then they discuss if there is anything that could be done to improve it. This activity is illustrated in Figure 4.

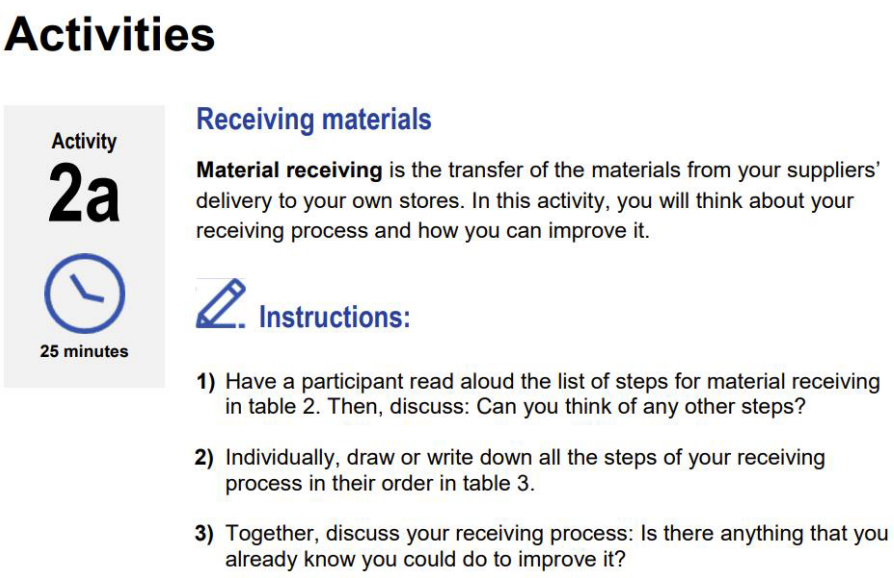

Figure 4: Illustration of module ST1 – Receiving Materials (ILO, 2019b)

Step 3: Action Planning

In the third step, the participants summarize and revise the newly gained knowledge and identify concrete applications of the new knowledge that might benefit the factory. At the end of the module, the participants create an action plan. Based on problems identified, and solutions discussed, the participants agree on what solutions to implement. They discuss what action must be taken, designate the responsible person, the deadline for the actions and how they will measure the change, as illustrated in Figure 5.

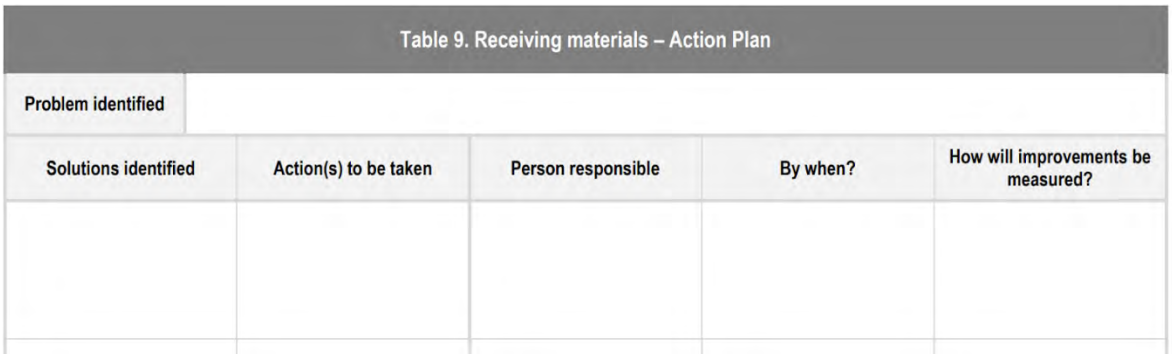

Table 9. Receiving materials – Action Plan				
Problem identified				
Solutions identified	Action(s) to be taken	Person responsible	By when?	How will improvements be measured?

Figure 5: Illustration of module ST1 – Receiving Materials (ILO, 2019b)

2.4.2 FIT Pilot in Pakistan

The FIT is piloted in several developing countries, such as Cambodia, Bangladesh, and Pakistan. As presented, these are all countries where the garment industry contributes significantly to economic and social development (ILO, n.d.f).

This thesis studies the pilot project in Pakistan. The Pakistani garment industry is the country's most important industrial sector and contributes to more than 8.5% of the country's GDP (Ali et al., 2019), and about 25% of the total workforce is employed in the sector (Asian Garment Hub, n.d.). While the industrial production in the country remains low, the demands from international buyers for more sustainably produced textiles are increasing (Andersson et al., 2019). As such, Pakistan shares the characteristics of other garment-exporting countries in the region, such as Bangladesh and Cambodia. The pilot project in Pakistan thus provides an informative context for studying the research question.

In Pakistan, about three in five of the apparel industry jobs are held by salaried employees, which means that they are hired on contracts (Andersson et al., 2019). However, in the

factories subject to study in this thesis, it was reported that most factories had workers operating on a piece rate basis. This entails that the workers are paid per piece they have successfully produced, and their daily wage depends on the quantity finalized.

The aim of the pilots is to test FIT and to optimize learnings for further improvement of the approach before providing a full roll out of the program. The pilot process looks different in the respective countries, depending on the context and partners for implementations. In Pakistan, the pilots are run as a part of a project within the ILO office in Pakistan. This project helps tripartite partners and other stakeholders to strengthen national labor and compliance with international standards. The project aims to increase competitiveness, sustainability, and inclusive growth in Pakistan by, amongst other things, implementing pilot interventions to develop business cases for compliance with labor and environmental standards.

The FIT pilots were scheduled to be implemented in 11 factories in Pakistan, located in Karachi, however, in one factory the implementation did not take place. The factories were chosen based on their former involvement in SCORE, another ILO productivity-increasing program. Among the participating factories were clothing producers (t-shirts, sweaters, trousers), towel producers, denim producers and industrial safety gear producers. Most factories were exporting factories directly involved with big international brands. The number of employees ranged between 500 and 1650.

External consultants were engaged as facilitators and were responsible for implementing the FIT sessions in the factories. Most of the consultants had been involved with the ILO earlier as trainers in the SCORE program. Some were assigned to deliver the FIT in the same factories as they did SCORE, while others were new to the factory. The consultants all had more than 10 years of experience working with manufacturing improvement processes, either through productivity interventions, as consultants or as auditors. Among most of the consultants, it was common to inhabit the role as a trainer or a teacher in the factories they had visited. From these diverse experiences, the facilitators were experienced in working with factory representatives in solving issues related to factory processes.

The pilots were run over the period of September 2021 to April 2022, with slightly different start- and end dates for all factories involved due to the schedule of the factory and facilitator. The facilitator had the responsibility for organizing the implementation, which included dates

of visits, dates of follow up and guidance for monitoring tools. Figure 6 shows the timeline of the pilot period from the perspective of the coordinators and facilitators.

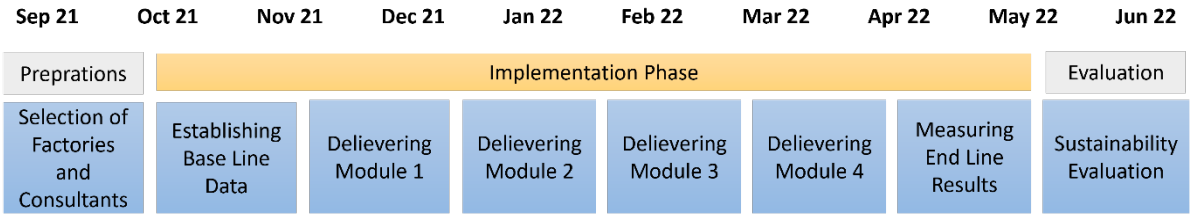

Figure 6: Timeline of the FIT pilot in Pakistan

For the factories, the involvement of the FIT pilots consisted of the following elements: the facilitation of four modules by the consultant, the sharing of factory information and data through the FIT monitoring tools and in-factory visits by coordinators from the project team. Two modules were made mandatory in this pilot, the IO1 – Setting up your factory for FIT and IO2 – Solving problems in your factory. The two remaining modules were decided by the factory representatives based on a need assessment survey and the problem-solving activities.

As agreed with the organization responsible for the pilot, the ILO, their name will be used throughout this paper. However, the enterprises in which the pilot has been implemented have been anonymized to avoid any negative consequences for the factories, and for the protection of the informants. Therefore, pseudonyms are used to identify the factories and informants throughout this paper.

3. Theoretical Background

For corporations and multinational enterprises (MNE), the expectations to handle and report on relevant sustainability considerations have increased in recent years. Consequently, so has the need to find ways to identify and prioritize sustainability concerns. One emerging tool which assists companies in this process is materiality assessments. By conducting a materiality assessment, a company identifies which salient environmental and social issues it faces and prioritizes them with regard to their importance from economic, environmental, or social standpoints (Jørgensen & Pedersen, 2018). In practice, this helps the company to distinguish between material sustainability issues, which are those likely to influence stakeholders' decision-making, and non-material issues (Jørgensen et al., 2021).

Research shows that while applying materiality companies face practical tensions (Jørgensen et al., 2021). At times, different material sustainability issues might conflict. Example of tensions in corporate sustainability are numerous (Epstein et al., 2014; Jørgensen et al., 2021) including the tension between simultaneously improving both business performance and sustainability performance. Though there are some examples where such simultaneous improvements have been achieved, however, such examples do not apply to all sustainability initiatives. Many sustainability measures are unprofitable in the short term due to, for instance, investment costs (Jørgensen et al., 2021). Thus, managing tensions between business performance and sustainability is challenging for many corporations.

The expectation for corporations to identify, prioritize, handle and report on relevant sustainability considerations have implications for their supply chains. For instance, to stay competitive, the Asian garment sector needs to increase its productivity while assuring compliance with sustainability standards (Andersson et al., 2019; Matthes et al., 2021; Hamja et al., 2021; ILO, 2021). For an industry already operating on tight margins, scholars argue the existence of a paradox (Xiao et al., 2019). These scholars emphasize how simultaneous demand for both cost competitiveness and sustainability conflicts with the socio-economic environment of the supplier of emerging markets, causing paradoxical tensions (Xiao et al., 2019; Huq et al., 2014).

In this section literature related to tensions arising from sustainability requirements in global supply chains, productivity interventions, facilitation and employee engagement are reviewed to provide the theoretical background to the research.

3.1 Tensions Arising from Sustainability Requirements in Global Supply Chains

In literature, the term ‘tension’ and the term ‘paradox’ are oftentimes used to explain similar situations related to competing demands between distinct goals. Van der Byl & Slawinski (2015) define tensions as “competing demands”, which can be said to be paradoxical when “interrelated and persistent” (Van der Byl & Slawinski, 2015). Epstein et al. (2014) define tensions as “two phenomena existing in a dynamic relationship involving both complementarity and competition” (p. 3), whereas Smith and Lewis (2011) define paradox as “contradictory yet interrelated elements that exist simultaneously and persist over time” (p. 382).

The three dimensions of sustainability, the economic, social, and environmental, are assumed to be mutually supportive and compatible (Carter & Rogers, 2008; Govindan, Shaw & Majumdar, 2021). Still, corporations increasingly find themselves in challenging situations when trying to integrate all three dimensions in their daily operations, due to tensions between economic, social, and environmental goals (Epstein et al., 2014). Research shows that policymakers find it especially challenging to operationalize social sustainability (Boström, 2012). This is particularly true for corporations operating with complex, global supply chains (Govindan et al., 2021).

Today, monitoring for compliance with codes of conduct and in-factory audits is the principal way that global corporations address social sustainability issues, such as poor working conditions in their supplying factories (Locke & Romis, 2007; Mamic, 2004). While earlier, these initiatives mainly focused on compliance with national regulations and laws, over time it has been more concerned with private and voluntary codes of conduct. This is especially the case when used for attaining to environmental and labor concerns (Locke & Romis, 2007). To ensure compliance with these codes of conduct, companies use social compliance and environmental compliance audits. These types of audits can be defined as “an instrument to measure, monitor and evaluate a factory’s performance in relation to its social and environmental policies” (Islam et al., 2018, p. 193), and can be both carried out by representatives from the brand or external parties.

As mentioned, scholars argue that the demand from international brands for both sustainability and cost competitiveness cause paradoxical tensions for their suppliers in developing countries

(Xiao et al., 2019; Huq et al., 2014). This partly derives from the fact that sustainability improvements generally require notable changes in operations and considerable costs for suppliers. This makes supplier factories often experience contradictions between sustainability goals and cost competitiveness (Lund-Thomsen & Lindegreen, 2014)

Although tensions have been discussed in the sustainability literature, scholars highlight that there has been less focus on tensions *within* the supply chain (Xiao et al., 2019). In an extensive literature review studying 129 research papers, Govindan et al. (2021) identified how most research on multi-tier supply chains is focused on barriers and challenges, whereas tensions within the supply chain have not been addressed adequately. Furthermore, they found that the majority of papers on social sustainability in multi-tier supply chains do not employ theory to explain the findings, establishing the need for future research to explore this aspect (Govindan et al., 2021).

3.2 Productivity Interventions

To further strengthen the foundation for answering the research question, it is pertinent to investigate the existing literature on productivity interventions and their relation to the working environment. As a response to the limited progress of existing initiatives directed at improving decent working conditions, which is based on codes of conduct and audits, scholars have argued the potential for intervention-based approaches which integrate both productivity and decent work measures to represent a new alternative (Andersson et al., 2019; Hasle & Vang, 2021; Toubolic et al., 2020).

Research on productivity interventions is to a certain extent scattered across a variety of fields, and the term is used ambiguously by researchers. However, an intervention can be defined as a process that tests a theory about how to solve a problem by introducing specific changes in the research setting (Hasle & Vang 2021; Oliva, 2019). Oftentimes, interventions aimed at increasing productivity build on elements from lean production, one of the most recognized systems for efficiency increase (Hopp, 2018). Shah and Ward (2003) define lean production as “a multi-dimensional approach that encompasses a wide variety of management practices, including just-in-time practices, quality systems, work teams, cellular manufacturing, supplier management, etc. in an integrated system” (p. 129). Gupta and Jain (2013) highlights how the wide range of tools and techniques that constitutes lean production are chosen based on the specific situations.

Although there have been extensive studies on productivity interventions from industrialized countries, the research on how to successfully implement this in developing countries has been limited (Hamja et al., 2019). This despite that it is anticipated to be particularly difficult to implement in developing countries (Andersson et al., 2019; Hamja et al., 2021). In the garment sector, an additional layer is added to the complexity of productivity interventions; their impact on occupational health and safety (OHS). Facing pressure to not only increase productivity but also improve OHS and ensure social compliance, manufacturers today need to attend to these needs simultaneously (Andersson et al., 2019; Hamja et al., 2021; ILO, 2021; Locke & Romis, 2007).

The relationship between productivity interventions and the social concerns of the workers has been heavily debated in academic literature (Hamja et al., 2019). Oftentimes, the term used to refer to the social concerns vary among researchers, with occupational health and safety, working conditions and working environment being among the most used. This thesis uses the term *working environment* to cover what is traditionally understood as occupational health and safety, while also including the psychosocial factors in the workplace (Hasle et al., 2012).

Hasle et al. (2012) detected a tendency of negative impact of productivity interventions based on lean manufacturing on both the working environment and employee's health and well-being within the context of manual assembly work characterized by low levels of complexity, such as the garment industry. Hamja et al. (2019) showed weak positive to mixed effects of lean production on OHS. They argue the potential for lean manufacturing to have a positive to neutral effect on OHS in the short term, however, depending on the context of the implementation. Pagell, Klassen, Johnston, Shevchenko and Sharma (2015) indicate that the relationship between the priority of OHS and operations can be both complementary and contradictory depending on the joint management of these priorities.

As a response to the debate on the relationship between productivity interventions and social concerns, scholars increasingly argue the need for the integration of productivity-enhancing measures and occupational health and safety in intervention designs (Hamja et al., 2021; Hasle & Vang, 2021; Pagell et al, 2015). As few studies integrate these two perspectives, Hopp (2018) called for a new discourse of positive lean that integrates an impact on both the working environment and operational effectiveness. Also, Hamja et al. (2019) called for further intervention research to take into account challenges related to competing logics in an integrated approach.

However, there are certain challenges to the integrated approach. First, there seems to currently exist a non-integration problem, where activities related to decent work and productivity are separated into different spheres with little interaction in both international brands and the manufacturing firms (Hasle, Madsen & Hansen, 2021; Halse & Vang, 2021). Second, tensions between productivity-enhancing and decent working conditions create challenges for designing interventions with sustainable performance improvements in both areas (Hasle & Vang, 2021).

Additionally, there are several general challenges to the implementation of lean-based productivity interventions. Hopp (2018) highlighted three main factors making implementation difficult: lack of top management commitment, resistance to change and an overreliance on tools. In general, literature agrees that top management support is the most crucial factor for successful implementation of lean, in particular in strongly traditional top-down cultures (Hamja et al., 2021). Literature on change management often discuss the concept of resistance to change. Research argues that introducing lean inspired systems is more of a culture change than a technical issue (Erthal & Marques, 2018). Marodin and Saurin (2013) suggests that such resistance can be avoided by securing the participation of workers and supervisors and empowering them in their work. Such participation may happen if workers are considered partners and are empowered to make decisions related to their local environment (Erthal & Marques, 2018; Hamja et al., 2021). In developing countries, such participation of workers is particularly very low (Hamja et al., 2021). Hopp (2018) comments on the overreliance on tools and finds that successful lean implementation should be less about tools and focus more on the individuals behind the tools, leveraging their skills and knowledge of using the tools.

Oftentimes, productivity interventions are to a great extent pre-designed by external service providers. When discussing suggestions on how to redesign interventions to attain the underlying conflicting logics of decent work and productivity-enhancing measures, Hasle & Vang (2021) propose adopting a more facilitator-focused role, where the attention is given to the facilitation of the participants' own "problem identification and solutions journeys" (p. 64). This could potentially assist the participants in exploring the logics of integrations themselves and strengthen the local ownership of the intervention activities (Hasle & Vang, 2021).

Scholars suggesting the design of interventions to take an integrated approach, tend to also argue for using more inclusive approaches when designing interventions (Andersson et al., 2019; Hasle & Vang, 2021; Reinecke & Donaghey, 2020). Inclusive approaches suggest ensuring a wide reach, both horizontally and vertically (Andersson et al., 2019), whereas worker involvement is highlighted (Reinecke & Donaghey, 2020). Reinecke & Donaghey (2020) argue that involving worker representatives and giving them an active role in the monitoring and enforcement of decent work initiatives, one can ensure accountability towards the intended beneficiaries of those initiatives. Ideally, it should involve workers from different levels in the factories (Reinecke & Donaghey, 2020).

3.3 Facilitation

Productivity interventions mostly take the form of traditional classroom training sessions or consultancy. Thus, in this context, the facilitation approach is novel and the literature on facilitation-based productivity intervention is limited. Therefore, drawing on general facilitation literature may provide relevant theoretical insights for answering the research question.

Facilitation can be defined as a "technique by which one person makes something easier for others" (Kitson et al., 1998, p. 152). Thus, someone adopting the 'facilitator role' is someone who makes things easier, encourages others, promotes action, and helps other people towards achieving particular goals (Kitson et al., 1998). Raelin (2012) describes the facilitator's goal as helping members achieve their purpose by assisting them in having a constructive exchange of ideas, as free as possible from disturbing internal dynamics, thus highlighting the facilitator's role as a servant to the group. As opposed to the more traditional class-room training, where an external figure is intervening in an organization to teach, the facilitator's job is to aid people in exploring what they need to change, and how they can change it to achieve their desired outcomes (Kitson et al., 1998).

In existing literature within organizational studies, there is a lack of research on facilitation. This is despite the fact that throughout the last decade, management literature has increasingly suggested the facilitator role as a popular alternative to the traditional method of command-and-control for managers (Raelin, 2012). The facilitator role, associated with empowerment and self-direction approaches to leadership, is seen as a way of encouraging the autonomy of workers over those decisions by which they are immediately affected (Raelin, 2012).

Facilitation methods can vary, where most scholars delimit their practice to focusing on the process rather than the content of the facilitation practice (Raelin, 2012). Raelin (2012) proposes dialogue to be the primary modality to be used by managers when adopting a facilitation role. He argued that dialogue, as a conversational exchange, respects every participant's point of view and expects the participants to explore new discoveries in thought and action throughout the conversations. He further argues how engaging people in this way prompts them to explore through conversations and bring out the individual and collective creativity and wisdom, as well as leading to outcomes such as exploration, decision making, and collaborative actions (Raelin, 2012).

Further, particularly pertaining to our case study, is the way facilitation might span across boundaries within the organization. As the facilitation-based productivity intervention FIT intends to facilitate for workers, supervisors, and managers to sit together in group sessions, the intervention is bringing together individuals from different hierarchical levels of the factory. This is a key element in the FIT, and since such communication is not common in the factories understanding the dynamics at play is essential. In literature, the concept of boundary spanning is often used when referring to activities lowering barriers and improving relations in organizational theory. Most literature on boundary spanning relates to the boundaries between the organization and the external environment.

However, boundary-spanning can also occur within an organization, so-called intra organizational (Colman & Rouzies, 2019). Colman & Rouzies (2019) found that union representatives performed boundary-spanning activities within the organization by bridging boundaries between management and employees. This was done by promoting information from the management to the shop floor, mitigating conflicts between management and employees and mobilizing the shop floor by influencing them towards commitment and positive attitudes (Colman & Rouzies, 2019). Dollinger (1984) found that boundary spanning could be a strategic action for entrepreneurs to improve organizational performance (Dollinger, 1984).

3.4 Employee Engagement

Since key in the facilitation-based productivity intervention FIT is to engage employees through an activity-based approach, a review of the theory on employee engagement is necessary. The concept of employee engagement was introduced by Kahn (1990) and has since

then been discussed by several scholars as well as corporate professionals (Choo et al., 2013). Throughout the years, there have been several definitions in use, and there is still a lack of universality (Anitha, 2014). There are also several terms and expressions used in describing work-related engagement, among these are “employee engagement”, “work engagement”, “job engagement” and “organizational engagement” (Motyka, 2018). However, on a general level, employee engagement can be defined as “the level of commitment and involvement an employee is having towards its organization and its values” (Anitha, 2014).

Prominent research has shown a positive relationship of employee engagement with work outcomes, such as higher employee performance and increased profits (Anitha, 2014; Saks, 2006; Schaufeli & Bakker, 2004). The level of employee engagement is determined by different factors (Anitha, 2014). Anitha (2014) identified that two factors, working environment and co-worker relationship, have the strongest impact on employee engagement. Holbeche and Springett (2003) further propose that the experience of meaning is of high importance when it comes to employee engagement. They argue that the perception people have of their workplace and how they are contributing has an impact on the level of engagement, and thus also their performance (Holbeche & Springett, 2003). As such, Locke and Romis (2007) found that opportunities to participate in decisions related to the work process had a strong and positive impact on work climate when studying manufacturing suppliers in the apparel sector.

Anitha (2014) suggests that having a good work environment comprises both physical and emotionally safe environments that motivate the employees to be engaged at work. Concerning emotional safety, Khan (1990) proposed the concept of psychological safety, as being the “feeling able to show and employ oneself without fear of negative consequences to self-image, status, or career” (p. 708).

When it comes to teamwork, Edmonsson (1999) defined team psychological safety as “a shared belief among individuals that the team is safe for interpersonal risk-taking” (Edmonsson, 1999, p. 354). Nembhard & Edmondson (2006) highlighted the importance of sensitivity to the impact of professionals on psychological safety in cross-disciplinary teams. Thus, they proposed that not only is it needed to train the staff to speak up, but it is equally important to train leaders in inviting team members' comments and show appreciation towards these comments Nembhard & Edmondson (2006). Another element which has been recognized as a main factor in employee engagement is internal communication (Ali et al.,

2019). High levels of internal communication are linked to the well-being of employees. (Ali et al., 2019).

When responding to the lack of engagement research in the manufacturing sector and textile industry, Ali et al. (2019) investigated how certain factors impacted employee engagement in the textile industry of Pakistan. Their results showed that internal communication and reward and recognition had a positive influence on employee engagement. They further argue that HR departments in textile factories can improve employee and organizational performance by ensuring secure and flexible communication and providing attractive reward opportunities (Ali et al., 2019).

From this theoretical review, I have tried to understand from the contemporary literature how tensions arise when implementing sustainability and productivity initiatives. I have further covered research perspectives of what characterizes facilitation, how it can be used and why it is relevant. Lastly, I have looked into both antecedents and impacts of employee engagement. It is with this theoretical foundation that I will aim at answering the research question.

4. Methodology

In this section, the methodology used to answer the research question is discussed. First, the research design is described and explained. Next, the data collection process is presented, as well as the methods chosen for analysis. Subsequently, the robustness of the chosen methods will be debated. Finally, ethical considerations will be discussed.

4.1 Research Design

Currently, there exists very limited research concerning how a facilitation-based productivity intervention might play a role in handling tensions between social sustainability and cost competitiveness. Therefore, it is imperative to have an exploratory approach in order to obtain new insights to the topic in question. This approach is useful for exploring, explaining, and gaining new insights into a phenomenon or a problem (Saunders, Lewin, & Thornhill, 2019). Furthermore, it allows for flexibility and adaptability in the approach, which is valuable as it allows for a broader initial focus that can be adjusted in the later part of the study as insights are generated (Saunders et al., 2019).

This thesis is a case study of a productivity intervention which aims to increase productivity and improve the working environment. It will utilize qualitative data from semi-structured interviews and observational data, as well as both quantitative and qualitative secondary data from surveys and internal documents to provide insights to the phenomenon in question in a real-life setting.

4.1.1 Research Approach

In this study, the data is approached inductively, and the findings stem from within the data itself. This is appropriate since the goal of this thesis is to develop new insights and theory, while remaining open to several potential explanations (Saunders et al., 2019). Before immersing myself in the data, I researched background theory on productivity interventions. Then, my interim empirical findings guided me regarding additional prior theories from literature, as such, other prior theories were identified inductively. As mentioned, this research approaches the data inductively, however, I also compare the findings to already existing theories (Gehman, Glaser, Eisenhardt, Gioia, Langley & Corley, 2018), to explore potential explanations for the case. While developing the model, I iterated between data and existing

theories to ground the nascent concepts. I followed the recommendation by Dubois & Gadde (2002) and attempted to avoid forcing the data into predefined categories, but if they existed and were appropriate, I utilized them. One example is how psychological safety emerged as an underlying theme in the informants' reflections, which is a concept developed in the existing literature on employee engagement. This concept was included in the final model, though the term 'psychological safety' itself were not directly used in the empirical data.

4.1.2 Research Objective and Strategy

The objective of this thesis is to aid practitioners in understanding how a facilitation-based productivity intervention might play a role in handling tensions between social sustainability and cost competitiveness. It also aims to lay groundwork for further research in this field. This thesis uses a mixed methods approach, as it uses non-numerical data such as semi-structured interviews, observational data, documents, and survey-results, supplemented by numerical data on productivity measures. As the main objective of this study is to gain new insights, qualitative techniques and procedures dominate (Saunders et al., 2019). The quantitative productivity data gives quantified empirical results of the productivity intervention pilot, whereas the qualitative data study the case in more depth and allow for in-depth insights.

The research strategy utilized in this thesis is *case study*. This is particularly suitable in this study, as the phenomenon needs to be understood within the context in which it takes place (Yin, 2014). Furthermore, it is a useful strategy to analyze questions that begin with "what", "why" or "how", which is the case for this thesis (Saunders et al., 2019; Yin, 2014, p. 197). In this study, the phenomenon in question is a productivity intervention aiming to ameliorate the tensions arising out of sustainability considerations. To get a good understanding of this phenomenon, it can be apt to study it within the context in which the tensions were arising and mitigated by the productivity intervention.

Building theory from case studies has the advantage that it provides context to the problem in question, which plays an active role in the sensemaking of the qualitative data collected (Flyvbjerg, 2006). Due to the importance of context in the interpretation of the data, findings from case studies are not representative in other contexts but their own (Eisenhardt & Graebner, 2007). However, since this study is exploratory in nature, the purpose is not to obtain any correct answer for statistical generalization, but rather to explore a phenomenon with limited existing research.

This thesis is a single case study of a productivity intervention pilot. As this study is concerned with the productivity intervention pilot as a whole, it is also a holistic case study. Flyvbjerg (2006) suggests that an in-depth single case study, might be of more value than a superficially executed multiple case study. In light of the existing time and resource constraints for this thesis, the researcher considered it more appropriate to prioritize resources in studying one case in-depth. Staying focused on one case, in this occasion, one productivity intervention pilot, allows for the researcher to immerse themselves in the particular setting and context, which in turn can improve the depth and the quality of the findings (Dubois & Gadde, 2002).

The specific case was chosen due to its unique characteristics and context, providing a particularly informative case for answering the research question. The uniqueness of the case derives from its many novel facets, representing an alternative to traditional approaches of productivity interventions available in the sector (ILO, 2021).

As discussed, this phenomenon is novel in nature. With limited historical research about it, the opportunity to observe and analyze a phenomenon that few have considered before is one reason to select a single case (Saunders et al., 2019). Therefore, an in-depth study of this pilot can provide valuable insights into the research field, and thus a holistic single-case approach was considered suitable.

4.1.3 Time Horizon

This thesis can be described as a longitudinal case study as it studies the pilot of a productivity intervention implemented over a period of several months (Saunders et al., 2019). This is valuable, as it allows for observing people or events over time, and accommodates researchers to exercise a measure of control of the studied variables (Saunders et al., 2019). However, it also increases the importance of assuring that they are not affected by the research process itself (Saunders et al., 2019).

The semi-structured interviews were collected after the main parts of the implementation period was over and can thus be characterized as retrospective to some degree. At this time, it is assumed that the actors have familiarized themselves with the methodology and have participated in a number of sessions in which they inhabit different experiences. The informants of the semi-structured interviews were particularly informed about the productivity intervention pilot as they were involved in the whole process directly. The observational data

collected from bi-weekly sharing sessions were collected throughout the main process of the pilot implementation.

4.2 Data Collection

The following section outlines details about the data collection process. It contains information on how the access to the data was granted, the type of data used, how it was collected, how it was prepared and how it was analyzed.

Throughout the pilot period, I have been granted unique access to the implementation of the FIT pilot in Pakistan by the International Labour Organization (ILO). Representatives from the ILO were helpful in granting the visibility needed and assisted in contacting informants, as well as scheduling the interviews. The flexible and collaborative mindset of the ILO has been of crucial importance for the collection of data in this research.

I was introduced to the productivity intervention and its pilots by its main developer already in 2019. Since then, I held a dialogue with the ILO about the potential to study the productivity intervention pilot. Throughout this period, I was updated regularly on the development of the pilot process. Thus, extensive knowledge about the pilot and its processes was acquired already before the beginning of the master thesis project. I was also engaged on a paid contract by the ILO as an external collaborator to produce additional documentation for the organization based on the data that I had been granted access to. Despite the anchoring in the same data, the two projects have been kept separate throughout the whole process.

In such a situation, with close involvement with the organization subject to research, it is of particular importance to consider any risk of bias or conflict of interest. One risk is that the researcher gets incentives to show the data in any particular way, biasing the results of the stud (Saunders et al., 2019). However, I paid close attention to minimize this risk by keeping a professional distance and conducting the research following ethical and objective research practices. Furthermore, I kept ethical as well as legal foresight and took care to not misrepresent the data in any way that will intentionally harm anybody or benefit any party. Objectivity and neutrality were kept throughout the project, and rigorous research processes were followed thoroughly.

Moreover, I did not have any conflicting goals or targets from ILO or any other private institution. Despite working with the organization over a period of time, I maintained a professional relationship with the actors involved in the pilot. I was also aware that the publishing of the results may have positive or negative repercussions on the employed in the organization. The different steps taken to secure independence as an external researcher are outlined in chapter 4.5 Research Quality.

4.2.1 Data Sources

As stated earlier, this study uses a mixed-method approach for data collection. This allows for triangulation of data which strengthens the credibility of the research, as well as permits an in-depth understanding of the topic in question (Guba, 1981). Such triangulation is recommended when conducting case study research, as the opportunity to use several different sources of evidence is highlighted as one of the strengths of case study data (Yin, 2014). Additionally, multiple sources may reveal aspects unknown to the researcher and provide the opportunity to discover new dimensions of the research question (Dubois & Gadde, 2002).

As primary data, I collected data from semi-structured interviews and observation data with actors involved in a productivity intervention. The semi-structured interviews allow for flexibility and improvised follow-up questions in the interview situation, which gives room for unexpected information to occur. In this way, the researcher can get a more comprehensive understanding of the response and argumentation of the interview participants (Saunders et al., 2019), which is arguably advantageous to answering the research question in this thesis.

The observational data collected in this thesis consist of hundreds of pages of transcripts and notes from biweekly sharing sessions with the actors in the pilot process. In these sessions, the external consultants shared experiences from their roles as facilitators in the implementation of the pilot. As highlighted by Saunders et al. (2019), observational data can be used as the main method of data collection or as a supplement to other methods. In this thesis, the observational data are used to supplement the semi-structured interviews and provide valuable information about the experience of the facilitator in the pilot process.

This thesis uses several sources of secondary data to gain additional knowledge and supplement the primary data. This consisted of survey data from the pilot's monitoring tools, internal documents and reports, and public information such as websites and minutes from meetings. Furthermore, notes and personal memos assisted in the analysis of the data.

Table *1* outlines the data collection at the different stages of the pilot. Overall, the research process spans from March 2021 to May 2022, which includes ideation and context-building. This timeline can be divided into three parts as shown in the table below. Although the data collection and analysis were later in the research process (from mid-January), I was part of the ideation even before the pilot started, which is what constitutes the period t0. This process involved ideation with stakeholders, understanding their motivations, and building the context of the research. Period t(1) constitutes the main part of the implementation phase, while t(2) is the final stage/after the implementation. The first interview was conducted in mid-February and the interviewing process continued until mid-April.

Table 1

Research Timeline

Period t(0)	Period t(1)	Period t(2)
Internal documents and information meetings with ILO and the facilitators provided observations and information about the pilot and supplemented the data collection.		
Preliminary talks with creators of the FIT program about the background and objectives of the program.	Participatory observation in bi-weekly sharing sessions among the facilitators and the ILO	Participatory observation in conversations and meetings with the facilitators and ILO about the achievements in the project period
Context-building by taking part in conversations and meetings with the pilot coordinators and facilitator	Participatory observation in conversations and meetings with facilitators and coordinators	10 semi-structured interviews with the facilitators.
	Post-module survey date about participants' experiences of the specific module after completion	2 semi-structured interviews with factory-representatives
	Retrospective quantitative data from the monitoring tools to establish baseline for comparisons end pilot to be used as secondary data	Quantitative data from the monitoring tools to analyse the potential changes due to the pilot.
		Transcription from interviews with 2 workers

4.2.2 Primary Data: Interview Data

In this section, information related to the data collection of primary interview data is presented and discussed.

Sample

The sampling technique used in this thesis can best be described as theoretical sampling. This is a purposive, non-probability sampling technique where cases are chosen based on their aptness for building theory in the topic of exploration (Saunders et al., 2019).

The productivity interventions were piloted in several countries, and this list of countries was expanded continuously during the research process. Compared to other geographies where the pilot was to be initiated, the pilot project in Pakistan provided a good avenue to conduct research. This was because the pilot had already been initiated in Pakistan and was progressing despite challenging scenarios related to the covid-19 pandemic. Furthermore, the data was accessible, and initial steps and progress were well documented.

When having decided to study the productivity intervention pilot in Pakistan, the next decision was to decide on how to sample informants among the different actors involved in the pilot. The pilot involves three types of actors: coordinators, facilitators, and participants. Since all these actors inhabit an important perspective of the productivity intervention in question, it was of importance for this research to include representatives of all categories. The majority of the informants are facilitators, as all ten facilitators involved in the pilot in Pakistan were part of the sample. As this research is part of a master's thesis, crucial time restrictions were limiting the span of the research. Thus, as time was of essence and furthermore, as the actors themselves were highly busy implementing the pilot, the span and scope of the research were limited and focused. A non-probabilistic sampling technique was used to optimize the number of interviewees and to get the best possible insights towards enhancing the research. This process led to four representatives from the participants, representing two of the pilot factories, to be included in the sample. The interview participant information is illustrated in **Table *2***.

Table 2

Interview Participant Information

Pseudonym	Professional Role	Informant Characteristics
Facilitator A	Consultant	17 years of exp.: consultancy, auditing, mentoring, facilitation, deployment services to various industries incl. garment
Facilitator B	Consultant	Several years of exp.: consultancy, auditing in the garment industry, chemical process industry, steel industry and certification companies
Facilitator C	Consultant	15 years of exp.: consultancy, training whereas 10 years in the garment industry. Expertise in quality management, OHS, productivity.
Facilitator D	Consultant	Several years of exp.: consultancy related to quality, productivity and occupational health and safety in manufacturing industries
Facilitator E	Consultant	18 years + of exp.: corporate compliance, development of performance management systems in different industries incl. garment
Facilitator F	Consultant	18 years of exp.: textile engineering, consultancy in the garment industry
Facilitator G	Consultant	17 years of exp.: value chain development incl. training, monitoring, evaluation in different industries, incl. garment
Facilitator H	Consultant	Several years of exp.: consultancy, training in various industries incl. garment.
Facilitator I	Consultant	Several years of exp.: consultancy, training. Expertise in quality control, garment industry.
Facilitator J	Consultant	Several years of exp: consultancy, operational health and safety and quality in garment, oil and gas.
Coordinator A	Project Officer	Several years of exp.: development field, project officer responsible for monitoring in the FIT pilot. Involved in the initial meetings with the top management of the factories.
Coordinator B	Project Officer	Several years of exp.: development field, project officer in FIT operating as the bridge between the facilitators and the top management, being responsible for coordinating and communication.
Supervisor A	Supervisor A	22 years of exp.: started at lowest levels in other garment factories, then promoted, now working as a supervisor responsible for the store room.
Manager A	Manager A	Responsibility for the engineering activities in factory B, producing mostly workwear garments.

Worker A	Worker A	Several years of exp..: different factories, now 13 years in Factory A, started at the lowest level, now working as store clerk. Exp. with 5s.
Worker B	Worker B	Responsibility for the market place, which is a mini store in Factory B.

Interviewing Process

To provide a certain level of structure to the interviews, an interview guide was made (See Appendix C). This consisted of a list of predetermined questions to guide the conversation but was not used as a strict question-to-answer strategy (Saunders et al., 2019). The Interview guide functioned as a point of departure and guide for the interviews, and they were adapted to fit the informant's role in the pilot, as well as depending on the participants' responses. Throughout the process of conducting the interviews, the questions were refined, focused, and expanded. Informants were allowed to speak freely in the directions they preferred. Follow-up questions were asked to clarify that the information provided by the participant was understood clearly by the researchers.

Ideally, the interviews would be conducted in-person to further increase the trust between the researcher and the informant (Saunders et al., 2019). However, due to the Covid-19 pandemic and the outbreak of war in Ukraine at the point of data collection air travel became infeasible due to cost, security, and health concerns. Thus, the second-best alternative of interviews via teams was considered. The fact that the researcher had already established a certain degree of trust by being involved over a longer period assisted in making the informant feel comfortable in the interview setting.

The interviews with workers were conducted by the facilitator responsible for the factory. This was agreed to be the best solution for ensuring that the workers felt safe and comfortable responding to the questions and limiting any risks. However, the facilitator followed the same interview guide that I had developed and provided me with the full transcripts afterwards.

The main contact person from the ILO assisted in scheduling the interviews with the coordinators, facilitators, and participants subject to the sampling decisions made. During the scheduling of the interviews, the informants received information on how the data would be used and details on their personal privacy and rights.

Ahead of the interview, the participants had to sign a letter of consent to approve the usage of the collected data. One informed consent was given on behalf of the ILO and its ongoing

documentation production, and one was given on behalf of myself, my supervisor, and my research institution in relation to the production of this thesis. This latter informed consent was created in accordance with Norwegian privacy regulations and GDPR. (See Appendix A). This document included information about the master thesis, how the data would be used, how the data would be stored and processed, as well as the rights of the participants. Providing this information ahead of the interviews gave the informants time to carefully read the information and feel secure about signing the consent.

To start the interview, an introduction to the researcher, the project and the topic in question was provided. Afterwards, the informant introduced themselves. Then, the informants were asked background questions, related to their work experience, current role in the enterprise, their role in FIT pilot and whether they had been involved in other productivity interventions earlier. Moving on, the questions were focused on their experience with the productivity intervention pilot (See Appendix C for the initial interview guide). Throughout the interview simplistic language was used to avoid confusion, thus theoretical terms and concepts were kept out. Furthermore, constant attention was given to nudging the conversation towards the participants' subjective experiences of advantages, challenges, stories, and opinions.

The nature of the semi-structured interviews gave the flexibility to have an open conversation on the different topics, rather than a strict question-answer format. This allowed for new topics to occur, and for the participant to lead the discussion to the topics they found most relevant to elaborate on. The order of the questions differed depending on the situation and conversation. At the end of every interview, the participant was always asked if they had something they would like to add, to assure that the researcher did not overlook a topic of importance to the informant.

All interviews were conducted through Microsoft Teams, they were recorded and transcribed verbatim to ensure the original content of the conversation. The interviews lasted between 30 minutes to 1 hour. Input from previous informants was reflected upon and incorporated into the interview guide to allow for comparisons of key topics to be made across the responses by the informants.

4.2.3 Primary Data: Observational Data

The primary observational data used in this thesis are notes and transcripts from biweekly progress review meetings held with the ILO and the external consultants throughout the pilot

process. This has resulted in several pages of transcripts from these sharing sessions. In these sessions progress related to the FIT pilot were discussed, as well as challenges and recommendations for countermeasures. This data is used as supporting evidence in this thesis.

4.2.4 Secondary Data

Different sources of secondary data have been used in this thesis to gain additional knowledge and further verify the information provided in the semi-structured interviews.

I was given access to the raw data of the monitoring tools used in the pilot by the ILO in the format of excel files. This consisted of survey results related to the baseline survey, endline survey and post-module survey which were part of the monitoring tools of the pilot. The surveys were created by the organization with the purpose to monitor the results and impact of the pilot, both with regard to productivity and the working environment. These types of survey-based secondary data can be categorized as 'Ad hoc surveys', as they were undertaken by the organization subject to research and are specific in their subject matter (Saunders et al., 2019).

The post-module survey was distributed to all participants of the intervention pilot to examine their experience of the pilot and did not include facilitators or coordinators. The end line and baseline surveys contained quantitative measures related to several key performance indicators (KPIs) reported by the factories and the facilitators in connection to the module implementation.

By using the surveys as a secondary data source, I could supplement my primary data and observe whether there was convergence on certain topics, so-called data triangulation (Saunders et al., 2019). The survey results contain information on the development of several KPIs, as well as how all participants in the pilot have experienced certain elements of the program.

Publicly available information on the FIT material was also analyzed. This aspect of the secondary data is not prominently presented in the 'Findings' of this study. However, it informed the process of understanding the program and the pilot process, established the empirical context and was used in preparing the interviews and developing the interview guide. Internal documents such as PowerPoint presentations and final reports produced by the external consultants were also used in my analysis.

4.3 Data Analysis

The analysis of qualitative data in this study is conducted by following clear guidelines defined by Charmaz (2006) and Saunders et al. (2019). Considering that this thesis makes use of qualitative and complex data to explore the research question, structuring the analysis carefully is of the utmost importance to ensure the reliability of the research.

The qualitative data is analyzed in two stages as outlined by Charmaz (2006). The first stage is initial analysis and coding, which is done by using line-by-line coding. The second stage is the focused data analysis and coding, which organizes the coded data in an analytical and explanatory manner.

4.3.1 Data Preparation

The recordings of the interviews were transcribed verbatim. While transcribing the data, attention was also given to the way the respondents expressed themselves. Comments were added in the transcription notes on reactions such as laughter, enthusiasm, and sarcasm. This was done to add contextual information that could allow for a better understanding of the data provided. Next, the transcripts were imported into the qualitative data analysis software Nvivo. The observational data collected from biweekly sharing sessions were transcribed verbatim entirely and imported into Nvivo as well. Some secondary data sources, such as the final reports and the survey results have been analyzed in Nvivo and have been used in supporting the findings of the interviews.

4.3.2 Initial Coding and Analysis

After transcription, the process of line-by-line coding was conducted. In every part of this process, Charmaz's (2006) guidelines for initial coding were followed carefully. The data was studied attentively, and codes with sentences that summarized the meaning of each data line were created. Making codes that stick close to the data lay the foundation for building an analysis from the ground up deeply rooted in the data (Charmaz, 2006). Using line-by-line coding prompts the researcher to remain open and observe nuances in the data (Charmaz, 2006). This process was lengthy but was extremely helpful for the initial conceptualization of the large quantity of data, creating a strong foundation for the second stage of coding.

4.3.3 Focused Coding and Analysis

In the second stage of coding, the researcher followed Charmaz's (2006) approach to focused coding and analysis. This aided the process of determining which codes to use for developing the exploratory insights and analytic focus of the data. This approach was both time-consuming and reflective, and eventually, exploratory insights were obtained by following the guidelines closely.

By thoroughly reviewing the initial codes and their linked conversation segments, I could construct categories that provided exploratory insights into the research question. This led to yet another time-consuming and complex process of reviewing the codes together with the constructed categories. Figure 7 illustrates the process from initial coding to focused coding and aggregated categories.

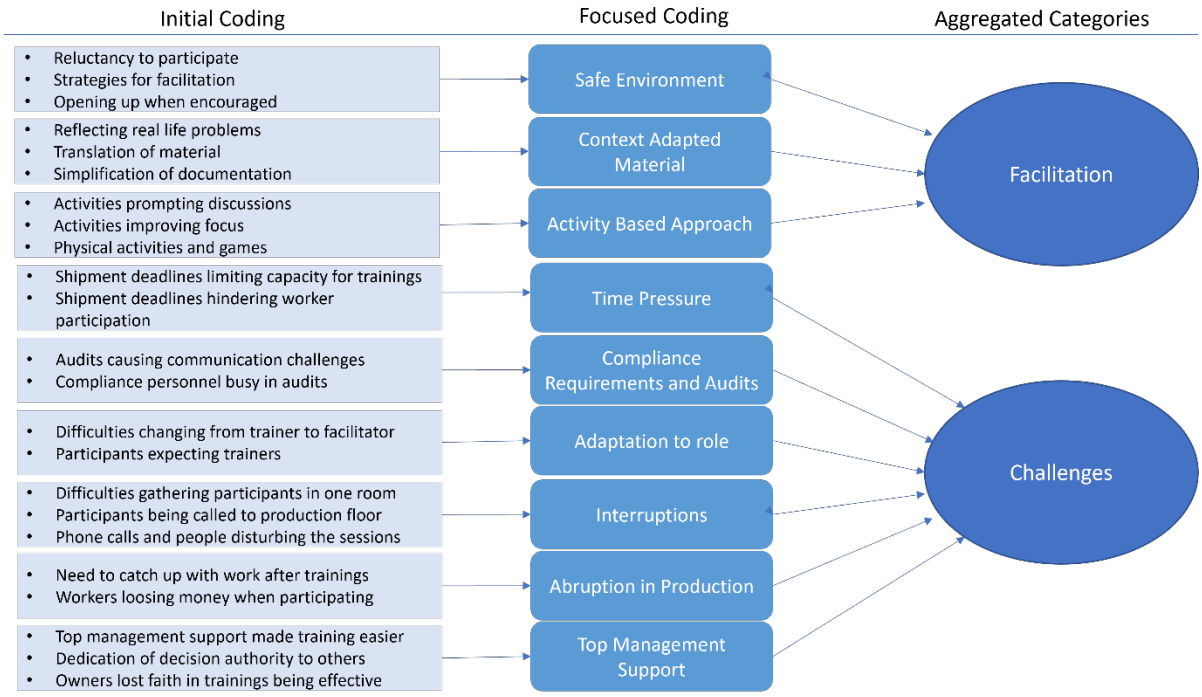

Figure 7: Illustration of the coding procedure

As the final step of the data analysis, insights from the 'Findings' and 'Research setting' are related to current literature outlined in the 'Theory' section. I further developed a model by iterating between empirical data and existing theories to ground the emerging concepts. In this process, I followed recommendations by Dubois & Gadde (2002) and used predefined categories if they existed and were appropriate but did not force the data to fit. This model is presented and discussed in 'Discussion', where also the relation between existing research and

exploratory insights gained from this case study are reviewed. This process was conducted to see how the findings could be explained, and how they added and contributed to existing research in relevant fields.

4.3.4 Analyzing Survey Results

I had access to these results of the survey results as they emerged, which means that the collection of survey data overlapped with my qualitative research timeline. This allowed me to move back and forth between analyzing the survey results and data collection. The analyses were conducted through simple techniques in Microsoft Excel, to see to what extent respondents agreed with certain statements, and to analyze the development of productivity-related KPIs. The survey results were incorporated into the findings where it was considered appropriate for theory building.

4.4 Research Quality

This section addresses the overall quality of the research methods used for data collection and data analysis. The quality of research is often determined by the concepts of 'reliability' and 'validity' (Saunders et al., 2019). Reliability refers to the extent to which the techniques used for data collection, as well as for analysis, are replicable and consistent (Saunders et al., 2019). This entails whether the findings remain consistent no matter the characteristics of the researcher conducting the research and regardless of when the research is conducted (Saunders et al., 2019).

Validity focuses on whether the findings are truly about what they appear to be about (Saunders et al., 2019). One can establish validity by determining the following aspects: construct validity, internal validity, and external validity. Construct validity is whether the concepts studied are measured appropriately. Internal validity is whether the research illustrates a causal relationship between variables. External validity is whether the results can be generalized to a broader group (Saunders et al., 2019).

With regards to qualitative research, these traditional measures of validity must be adjusted to fit the nature of this research method (Lincoln & Guba, 1985). In qualitative research, the goal is instead to establish *trustworthiness*. This can be established by measuring credibility, dependability, transferability, and confirmability (Lincoln & Guba, 1985). In their paper from

1985, Lincoln and Guba detail how these measures are replacing reliability, construct validity, internal validity, and external validity. These measures are considered more appropriate for qualitative research (Lincoln & Guba, 1985). Consequently, as the main data in this thesis is qualitative, I will use these measures to assess the research quality in the following sections.

4.4.1 Credibility

The concept of credibility assesses whether the researcher's understanding of the answers provided by the respondents corresponds with what the respondents aspired to express. In this way, it replaces internal validity. (Lincoln & Guba, 1985). First, continuous dialogue with my supervisor allowed for valuable peer debriefing. Furthermore, throughout the interviews, follow-up questions were asked for clarification of the meaning of the informants' answers. Replies were also often summarized throughout the interview to allow the informant to correct the interpretation immediately. This was particularly important in a situation where both the interviewee and the informant are operating in their second language, and thus a strong emphasis was put on summarizing opinions to ensure alignment. When the data were transcribed, the documents were sent to the informants for them to have another opportunity to review their answers.

To further establish credibility to the research process (Guba, 1981), triangulation was used. Primary data from semi-structured interviews and observational data from bi-weekly meetings were combined with secondary data, including quantitative data from the pilot monitoring tools.

Ultimately, the informants selected provided a heterogeneous sample that inhabited different perspectives of the productivity intervention. By collecting data from informants having different positions in different enterprises, the researcher could verify subjective statements across participants. This further increases the credibility of this research.

Moreover, the time selected for the data collection process ensured that the informants had experienced the productivity intervention just recently. This reduces the risk of collecting data based on retrospection, something that might pose a threat to credibility due to participants not remembering accurately. However, choosing to have the interviews at the end of the pilot process still allows for some retrospection and thus the potential of increasing the informative value as the participants have had some opportunity to reflect on the outcomes of the events (Langley, 1999).

4.4.2 Transferability

Transferability is used to assess whether the findings can be generalized to other contexts, thus it replaces external validity (Lincoln & Guba, 1985). As this research is exploratory in nature, the intention is not to be representative or generalizable. Rather, the aim is to provide an in-depth understanding of how a facilitation-based productivity intervention might play a role in handling tensions between social sustainability and cost competitiveness within the context of the study. Thus, the purposive theoretical sampling did not intend to be representative, but to maximize the range of information revealed (Guba, 1981).

Moreover, in a qualitative case study, the interpretation of the events is closely tied to their context. In this way, the generalizations of findings are typically eschewed (Guba, 1981). In this research, the potential for transferability is strengthened by having provided detailed, precise and vivid descriptions of the research setting and context (See section 2 - Empirical Context). These levels of *thick descriptions* should aid readers to judge for themselves whether the findings can be applied to other possible settings (Guba, 1981). Furthermore, the findings provide a ground for future research that might be of particular interest to productivity intervention providers, such as international companies and development agencies (Saunders, et al., 2016).

4.4.3 Dependability

Replacing reliability, *dependability* is used to measure whether the results are likely to occur at other times, with other researchers. Dependability assesses whether the methods used are consistent and accurate, making it possible to recreate the study and repeat the findings. In exploratory research, dependability plays a crucial role, as the focus is on interpreting collected data (Saunders et al., 2019). To ensure this, different steps of the research process are documented and described in detail in this paper through an audit trail. This makes it possible for readers to revisit the steps taken and assess the processes for how the data has been collected, analyzed and interpreted (Guba, 1981). In addition, I engaged in processes of peer audits with the supervisor, as well as with other students. These processes provided constructive feedback with regards to research methodology as well as interpretation and theory building (Guba, 1981).

The main source for primary data in this study has been semi-structured interviews. These are generally complicated to replicate, as the interviews tend to unravel in different directions for

each informant. Thus, to strengthen dependability, the interview guide (Appendix C), provides an overview of the main topics covered. Furthermore, the interviews were recorded and transcribed. To increase the accuracy of the transcripts, participants' reactions were included (Bailey, 2008).

4.4.4 Confirmability

The concept of *confirmability* is used to control whether the views and perspectives of the researchers have impacted the results (Lincoln & Guba, 1985). Finding the right balance between establishing relationships with the informants and remaining objective is a well-known challenge for qualitative researchers (Lincoln & Guba, 1985).

This has been of particular importance in this study, due to the engagement I have had as an external consultant in the organization providing access and visibility to the case in question. Thus, continuous caution and awareness have been put on not allowing personal values to affect and bias the research process. As stated by Walle (2015), the awareness of this threat throughout the process of research, will in itself mitigate the risks. However, several other actions have also been taken to ensure my independence and professional distance from the research, thereby increasing its confirmability.

For instance, confirmability was aided by using a clear research design and following this closely (Charmaz, 2006). Also, all findings are backed with direct quotes from informants. The findings chapter also includes several tables detailing the process behind the findings. This aids in demonstrating how the informant’s thoughts and experiences have been interpreted by the researcher (Gibbs, 2018). Furthermore, by discussing my interpretation of the findings with my supervisor and peer-reviews, the objectivity of the conclusions drawn was strengthened.

As the research's main source of data was semi-structured interviews, particular attention was paid to ensuring objectivity. If participants feel their anonymity is not ensured, they might choose to withhold relevant information, which causes interviewee bias (Saunders et al., 2019). Thus, establishing the participants' trust in the interviewers and the confidentiality of the process has been a priority. To ensure that the participants trusted the confidentiality of the process, all participants were introduced and familiarized with the informed consent form ahead of the interviews (See Appendix A). The informed consent form included information

about the procedures related to the research project, how the data will be used, and that the data would be anonymized.

To avoid interviewer bias, the interview guide went through several rounds of revision. By doing this, leading questions and unclear formulations were eliminated (Saunders et al., 2019). The interview guide was also tested in advance to further establish the clarity of the questions, as well as to get additional feedback on the interview guide. Furthermore, to ensure the transparency of the analysis, this study made use of the analytical software NVivo. This allows for external parties to audit the analysis process, which in turn strengthens the confirmability of this study (Sinkovics et al., 2008).

4.4.5 Ethical Standards

The importance of research ethics was considered throughout the research process due to their potential impact on the research quality (Saunders et al., 2019). The importance of ensuring that no one involved in or impacted by the study, experiences any negative implications, can not be underestimated. This chapter outlines the relevant measures taken to stay committed to high ethical standards throughout the research process.

Before conducting the interviews, I familiarized myself with the university's regulations on privacy-related issues when handling research data. The data collection and processing plan was approved by Norsk Senter for Forskningsdata (NSD) to comply with Norwegian data protection legislation. Thus, I obtained legal permission to collect and analyze data (See Appendix B).

The participants were given clear and transparent information on the process and their rights before the interviews. This was done orally and through the written informed consent (See Appendix A), which the participants familiarized themselves with and signed in advance. This informed consent contained information on the process, how the data would be processed as well as their right to withdraw their consent at any time. These rights were also repeated before the interview began and before any recordings were started. Participants were also informed about the voluntary nature of the research, and that they could at any time decide to leave the interview.

All data was handled with utmost caution throughout the process. To protect the identity of the participants, the data were anonymized already during the process of transcription.

Furthermore, all personal names, company names, locations and dates have been replaced with a pseudonym. The utmost precaution has also been taken in the storage of data to make sure that no identities are revealed. After completion of the thesis, all recordings will be deleted, and any data stored will be completely anonymised.

5. Findings

This section presents the findings of the study. The findings build on data from semi-structured interviews, observational data, and several sources of secondary data. As the main source of primary data has been qualitative semi-structured interviews, for simplicity, I first provide an illustration of how the final topics and categories of the findings emerged. Then, I elaborate on the findings with illustrative quotes. At the end of the different sub sections, I provide a supporting table.

These findings are based on interviews with 16 informants, that inhabited different perspectives of the FIT pilot. Although, they represent in total ten different factories, their experiences related to the main topics mostly converged. The facilitators all had over ten years of experience working as consultants in the garment industry or similar manufacturing-based industries. Thus, they often drew upon their earlier experiences and made comparisons when discussing the FIT pilot. Some had tried facilitation before, but for most this was a new approach. The factory representatives interviewed, confirmed the information from the facilitators and mostly highlighted similar topics. Both the supervisor, the manager and the workers reported similar stories and were particularly enthusiastic about the changes they had experienced on the factory floor. The following sections further explore the respondents reflections.

5.1 Status Quo

In this section, findings related to the conditions of the factories before the productivity intervention implementation is presented. These findings reflect the status quo, context and experiences of actors involved related to dominant topics that emerged from the data analysis: existing demands for delivering on time and complying with sustainability requirements, the level of communication in the factory and desired improvement areas. Figure 8 shows the analysis conducted for arriving at the spesific categories.

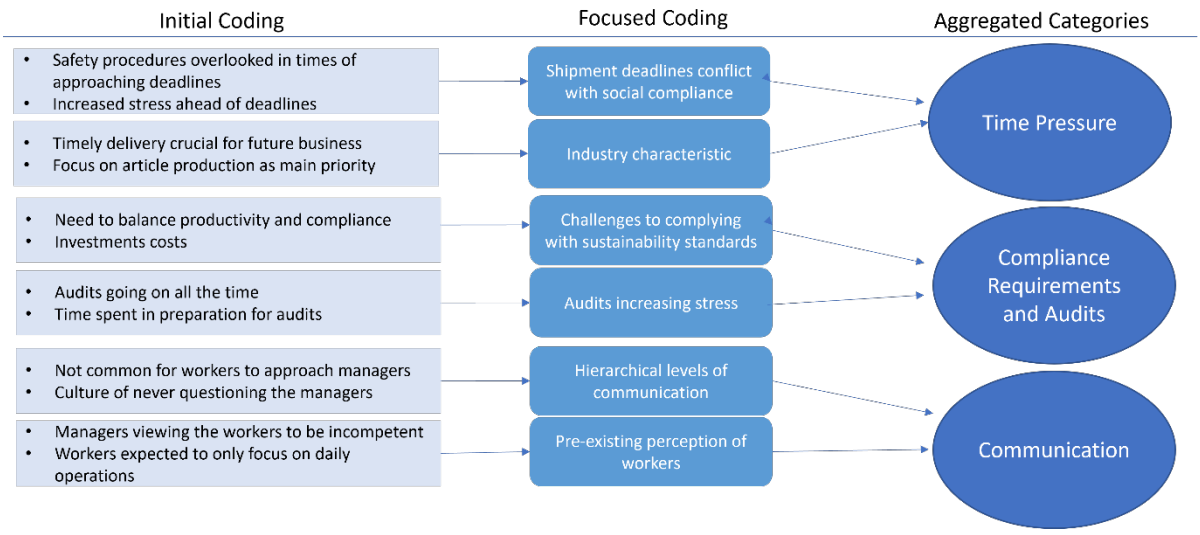

Figure 8: Status Quo Analysis

5.1.1 Time Pressure

In several factories the pressure for delivering on tight deadlines led to sustainability concerns being overlooked. In times of approaching deadlines for shipment, procedures and protocols related to safe working conditions are often deprioritized, while all attention is given to delivering the order in time. Facilitator G, drew upon her 17 years of working with value chain development when she described:

> *And when the shipment has to be made, you know, when they will not look left, right, you know, they're just focused on that, and protocols can again go out the window. So they don't matter. So the shipment is basically, you know, the target or the objective of it, you know, leaving in time*

The facilitators described how ensuring the shipment reaches customers on time is the absolute priority in the industry, as this is essential to ensure customer satisfaction and continued business. Facilitator E built on his experiences from working within corporate compliance and performance management systems when describing how this is characteristic for the textile industry:

> *The main thing is, when we talk about textile sector. The target is to make articles, have the production. And that shipment should reach their customer on time*

5.1.2 Compliance Requirements and Audits

The informants emphasized that many factories found it hard to balance the demand to meet compliance requirements with the need to stay productive and profitable. Facilitator B, who had been auditing more than hundred companies in the garment sector of Pakistan described:

> *It is a dilemma, in fact, for the local factories here in Pakistan, that they have to maintain the compliance requirement and they have to meet the productivity as well, and without, they have to maintain a balance between the compliance requirement and the productivity improvement technique.*

The challenge of balancing the demands appears to derive from the increased investment in terms of time and costs involved in meeting sustainability standards. Facilitator C, reflected upon his ten years of working in the garment industry when describing how factory owners experienced the demands for sustainability compliance:

> *Customer always keep on saying that you need to comply with this standard, need to comply this environmental standard, you need to comply this social standard, you need to comply with this quality standard. And they are saying that we are really in trouble, that to comply with all these standard is very difficult, and lot of investment and cost and involving this kind of, you can say, standards and requirements.*

The demands for complying with sustainability standards manifest themselves through the presence of customer audits. In most factories, there are on-going audits at all times from different customers. The informants described how in many factories, at times for audits, a lot of time was spent on preparation to ensure everything looked good. These times of preparation were often described as periods of increased stress for factory personnel. From her experience with value chain development, Facilitator G observed how audits played out in many factories:

> *I also feel that there's this culture, you know, or did you know, there are audits happening all the time? And there's a big show off, you know, making sure that, you know, everything is presented well*

5.1.3 Communication

In several factories there existed prominent hierarchical levels which determined the communication flow. The informants emphasized how it was common for workers to not

approach managers, and always communicate through their supervisor. Worker A, who had been working in the factory for 13 years, where he started as a helper, but now worked as a clerk, explained:

> *Before we used to follow the hierarchy and seldom approach the Manager of Stores (...) Previously I used to inform my supervisor and then it escalated to senior level*

These hierarchical levels partly derive from culture and norms in the factories, and the management's perception of workers. Informants explained that it is a common norm to not question the managers' decisions or solutions. For instance, Facilitator G highlighted:

> *I don't know how much you know about a culture in factories. So there is what we call it, the mentality. You know, the boss is always right. So you can't question the boss even if he's wrong, you know, he's right.*

Additionally, there exists a perception that workers, particularly female workers, do not inhabit any valuable knowledge. Informants told how the views of workers are left out, or their opinions are taken lightly by their supervisor and the management because of the perception that they do not have the knowledge to contribute. Coordinator A, who was the main responsible for monitoring in the pilot, explained how this perception of workers played out:

> *Sometimes you listen to the arguer and not the argument, they don't really think that a specific set of arguer will make any sense, so if it is the worker, the worker will not have the knowledge to actually give you something important, so let's not involve them, let them focus on what they are only working on. Same goes for females, because of there less engaging cultural involvement, their opinion are just taken lightly*

Initial codes, examples of representative quotes and key themes constituting the "Status Quo" category is outlined in **Table *3***.

Table 3

Status Quo

Initial codes and representative quotes	Key theme
Time Pressure	
Safety procedures overlooked in times of approaching deadlines: *"At the time of the shipment, you know their emergency stairways would be blocked, the floors could be in a complete mess and chaos. So and that factory was Actually, I mean, it was in a mistake away from, you know, a major accident, you know?" [Facilitator G]* Increased stress ahead of deadlines: *"I face a great deal of pressure and problem in the previous factory (...) But, I mean, they were just running here and there" [Facilitator C]*	Shipment deadlines conflict with social compliance
Timely delivery crucial for future business: *""The main thing is, when we talk about textile sector. The target is to make articles, have the production. And that shipment should reach their customer on time (...) He shouldn't have any complaints from the customers. That is the goal, which on which any low-level company is also achieving" [Facilitator E]* Focus on article production as main priority: *"So the shipment is basically, you know, the target or the objective it, you know, leaving in time" [Facilitator G]*	Timely delivery as an industry priority
Compliance Requirements and Audits	
Need to balance productivity and compliance *"It is a dilemma, in fact, for the local factories here in Pakistan, that they have to maintain the compliance requirement and they have to meet the productivity as well, and without, they have to maintain a balance between the compliance requirement and the productivity improvement technique" [Facilitator B]* *"And environmental and social audits also conducted in the factory. And there are also some external pressures from by related to environmental footprint like carbon and water usage and energy consumption and these kind of things so we can say that there are mix of pressure you can say internally and externally both" [Facilitator C]* Investments costs: *"Customer always keep on saying that you need to comply with this standard, need to comply this environmental standard, you need to comply this social standard, you need to comply with this quality standard. And they are saying that we are really in trouble, that to comply with all these standard is very difficult, and lot of investment and cost and involving this kind of, you can say, standards and requirements" [Facilitator C]*	Challenges to complying with sustainability standards
Constant presence of audits: *"There are other social trainings and audits happening, environmental audits happening you know, so there are audit, trainings happening all the time. So I mean there's so much happening" [Facilitator G]* Time spent in preparation for audits: *"The thing is that they try to make things look good when there is an audit, after that things are working like the same manner which they were" [Facilitator E]*	Audits increasing stress

"And in in Factory F, because it is a multinational also, and they have very good practices over there and things are there. But even they at some points I feel that they might be a sparing a day for the preparation of the audit" [Facilitator F]	
Communication	
Not common for workers to approach managers: *"Workers are not much heard by the owner of the factory. It is not common practice that workers can give their suggestions and feedback". [Facilitator C]* Culture of never questioning the managers: *"I don't know how much you know about a culture in factories. So there is what we call it, the mentality. You know, the boss is always right. So you can't question the boss even if he's wrong" [Facilitator G]*	Hierarchical levels of communication
Managers viewing the workers to be incompetent: *"They have to increase their respect to the female worker. Honestly say I think what I saw in the factory side, they don't respect the woman because they thought the lady was incompetent" [Facilitator J]* Workers expected to only focus on daily operations *"Commonly worker normally do not participate in the management decisions and management issues, so they just keep themselves with their work only" [Facilitator C]*	Pre-existing perception of workers

5.1.4 Desired Improvement Areas

In the stage ahead of the productivity intervention implementation some factories already had a desired area of improvement in the factories, whereas others identified their area for improvement through the need analysis or the mandatory problem-solving module, both part of the FIT.

I found that most factories had several rooms and departments that they considered ahead of the interventions and that there were various reasons for why they chose their final selection. In one factory, the decision to choose the storeroom was due to how they expected efficiencies in this room to impact the efficiency also in other parts of the factory. However, in another factory, choosing the store room was the only available option due to ongoing worker strikes limiting the daily production.

For most factories, the need assessment survey assisted in choosing the improvement area of focus. This need assessment provided the factories with a suggested focus area and relevant modules based on their responses to several questions regarding factory practices. The various needs and contexts for the individual factory led to the implementation of in total of 16 different modules. The different modules implemented in the different factories throughout the FIT pilot are presented in **Table *4*** sorted by factory department/room.

Table 4

Chosen improvement areas and modules shown by factory department/room

Store Room	Staff Management Systems	Sewing Room	Cleaner Production	Factory Systems	Stitching Room	Production Systems	Sample Room
ST1 – Receiving Material	HR5 - Training of Workers/Staff	SL01 - Using the Bundle System	CP2 - Reducing Waste and Pollution	FS3 - Managing Machinery	SL06 - Stitching Garments	PR4 - Improving Processes	SR4 - Organizing Sample Room
ST2 – Inspecting Material	HR6 – Reducing Turnover	SL02 - Making an Operation Bulletin			SL09 - Checking Garments		
ST3 – Storing Materials		SL03 - Line Planning					

5.2 Productivity Intervention

In this section, findings related to the productivity intervention implementation itself are presented. These findings cover insights from the implementation process of the four FIT sessions. These findings reflect the experiences of actors involved related to two dominant topics that emerged from the data analysis: elements of the facilitation-based approach and challenges for implementation.

5.2.1 Facilitation

In this section, findings related to the facilitation-based approach are presented. These are presented through three subcategories that informants highlighted in the collected data: ensuring a safe environment, having context-adapted material, and using an activity-based approach. Figure 9 shows the analysis conducted to arrive at the specific categories.

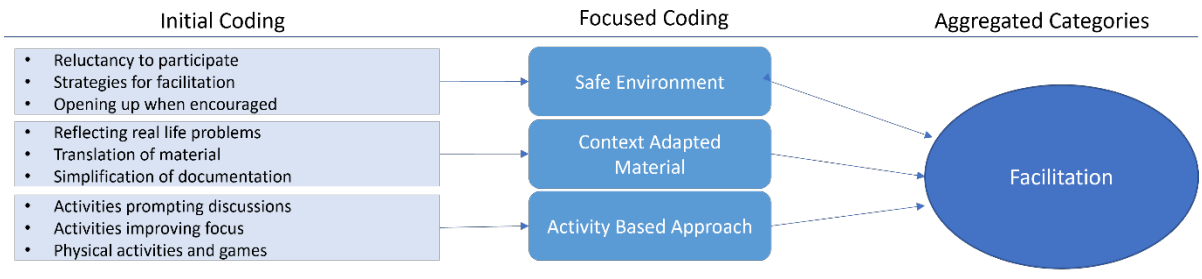

Figure 9: Facilitation Analysis

Safe Environment

Ensuring an environment where everyone felt safe was viewed by informants as essential for the participants to actively engage in the sessions. The informants emphasized how creating the right sort of environment made it easier for the participants to share their opinions, thoughts, and concerns. Facilitator G emphasized how this was key in the intervention:

> *But this did bring together, you know, workers from different operations and, you know, things were discussed with them and they kind of opened up, you know, because they were prompted, you know, they were facilitated.*

This was particularly true for the workers. As they were not used to participating in trainings or communicating with management, this was for many a completely new situation. Worker B, who was responsible for the marketplace in the store room, explained:

> *It was my first experience of being involved in such kind of program.*

The facilitators experienced how the workers appeared particularly reluctant to actively participate in the discussions in the initial phase of the FIT sessions. Facilitator E explained how the reluctancy to actively participate was an obstacle for the sessions:

> *Otherwise, as the other obstacle which I observed was, the workers are little bit shy in responding.*

The facilitators used different strategies for establishing a safe environment. Most informants described how they used encouraging words, prompting questions as well as explicit recognition of contributions to establish the right environment. As a result, the workers slowly opened up and many experienced that the workers were really active by the end of the FIT sessions. Facilitator B described how this played out in one of his FIT sessions:

> *The worker, lady [name], she was very quiet in the beginning of the meeting, but you know, I mean, this is the task of the facilitator: to make the people speak up. So, I mean, thankful for my goal, I feel very successful that in the end of the meeting she started speaking a lot. I encouraged her, and she basically, I tried to eliminate her reluctance and shyness and encourage her to speak, and she was speaking and participating a lot by the end of the day, in the meeting*

The value of the facilitator's behavior was confirmed by Worker B, who were participating in her first training, who stated that the facilitator motivated her to participate in the discussions:

> *It was full of knowledge and learning about new practices. Facilitator from ILO helped a lot in motivating me to participate in discussion.'*

Context Adapted Material

Having context adapted material ensured everyone had the ability to engage throughout the FIT sessions. Informants emphasized how the FIT material's close alignment with factory realities increased its relevance for the participants and made it easy to understand and to engage with. The FIT material both reflected real-life problems experienced by the factories and reflected the cultural context. Facilitator G described:

> *So I think FIT is a good entry point because, you know, it talks about very relevant issues and these case studies, they are also from developing countries you know. So yes, we're talking about best practices, but lessons learned or systems. The ones which FIT talks about that coming from countries which are at the same level as Pakistan (...) So I think it is a good entry point because it's relatable.*

This was also confirmed by participants from the factory, who highlighted the importance of the activities and material being connected to the business activities of the participants, to make it easier to understand and interact with the material. Manager A, who were leading the engineering activities in his unit, highlighted the importance of relatability with the material:

> *If you want to improve anything, you have to involve the team by types of games, types of activities which is related to their core area (...) For example we have a team which are related to the area of production within the textile sector, the case study should be available, should be related to the businesses, they will more clearly understand, and more clearly give they input effectively and efficiently.*

Adapting the productivity intervention design to fit with the everyday operations with the factories were also seen as an important feature. The informants emphasized how the simplification of documents allowed for anyone to engage with the material and run the trainings, thus lowering the threshold for the factories to get involved.

For instance, Facilitator A, compared FIT to other training programs when she stated:

> *The second thing is the simplification of documents, it is so good I've worked with so many other organizations. Only three sets of documents.*

The importance of having the content available in the local language was also constantly highlighted by the informants. This was particularly important for the involvement of workers with limited knowledge of English. As the FIT modules had not yet been officially translated into the local language Urdu for the pilot process, most facilitators themselves translated the material for the sessions. Facilitator F highlighted how this was important for engagement:

> *Especially when we talk in our own language, where worker is understanding everything, so they are they know what is being in discussion and they participated by by themselves.*

Activity Based Approach

By using an activity-based approach the intervention facilitated for an active participation in sessions. Informants described how actively engaging with the material allowed for increased focus that led to fruitful discussions. Worker A, who had experience from other productivity increasing initiatives described:

> *The best feature is that all modules are activity based. For 2.5 to 3 hours the complete focus is the activities of the process. It resulted in thinking, discussion and participation from all. The improvements were made at system level*

Even in situations where it was difficult getting the attention of the team, the integrated activities in the modules prompted the participants into engaging with the material. Facilitator A, who implemented FIT in a factory which had a challenging business scenario with on-going worker strikes, described:

> *(...) They came late the building, you know, break out as well. They would keep on gossiping about their yesterday's strike, things like that. So, it was a very difficult session. But to tell you the truth, because of the module itself, it has got so many activities. So, I mean, breakout sessions, so people are forced to take part in the in the activities.*

Some facilitators experienced that the intervention material could be strengthened by adding additional activities when working with the content, as this proved to function well as a tool to activate the participants. Informants described how engaging the participants also in physical movements, by writing on cards, facilitated for discussion. For instance, Facilitator G, with experience from facilitation-based approaches described:

> *(...) So I wrote those steps on like small cards, and I shuffle those cards and I gave those cards, and I just spread those cards on the table, and I asked the team to put these cards in order. So this was turned into an activity rather than, you know, me going through or anybody going through the list and then discussing (...) So I mean, that generated some level of excitement and, you know. Activity and discussion randomly, so I didn't even have to say anything, you know, they did it themselves. So they started the discussion themselves.*

Initial codes, examples of representative quotes and key themes constituting the "Facilitation" category is outlined in ***Table 5***.

Table 5

Facilitation

Initial codes and representative quotes	Key theme
Reluctancy to participate: *"Otherwise, as the other obstacle which I observed was, the workers are little bit shy in responding" [Facilitator E]* Strategies for facilitation: *"I did basically float a question on the table, which is of interest of everybody (...) [Facilitator F]* *"The biggest challenge for me to keep my volume of my voice flow. So it worked very well and they at the end of the session by the end of the session everybody was participating very, I mean actively" [Facilitator B]* Opening up when encouraged: *"and people speaking up, people who thought that, you know, they should not be speaking up or, you know, their views they don't hold any meaning or value." [Facilitator G]* *"The facilitator from ILO helped a lot in motivating me to participate in discussion" [Worker Storeroom B]*	Safe Environment
Reflecting real life problems: *"I think again the methodology of FIT, there resource material: It's very relevant in the sense that it talks about actual textile examples. there real examples So I think this is most probably the strongest point of this program" [Facilitator G]* *"If you want to improve anything, you have to involve the team by types of games, types of activities which is related to their core area. (...) they will*	Context-Adapted Material

more clearly understand, and more clearly give they input effectively and efficiently" [Manager B]	
Translation of Material: *"Facilitator helped enterprise with translating case study in Urdu but it was observed that everybody in the team was capable to understand the content. As team was explaining each other in local language. It was a great experience with the FIT team" [Facilitator F]*	
Simplification of documents: *"I think FIT makes it a better program that way, and it's easy to implement. You know it's cost effective, the modules and tools are there anybody who can speak well, we can train well, you know, can do it. So there's less documentation in it. So yeah, and it's pretty flexible that way" [Facilitator G]*	
Activities prompting discussion: *"So it will not be a readout session, it would be more of you know, And when people move around, you know, they just, you know, their senses are more alert and you know, they they're off their guard then" [Facilitator G]* *"If you want to improve anything, you have to involve the team by types of games, types of activities which is related to their core area. (...) they will more clearly understand, and more clearly give they input effectively and efficiently.[Manager B]*	
Activities improving focus: *"(...) They came late the building, you know, break out as well. They would keep on gossiping about their yesterday's strike, things like that. So, it was a very difficult session. But to tell you the truth, because of the module itself, it has got so many activities. So, I mean, breakout sessions, so people are forced to take part in the in the activities"[Facilitator A]*	Activity-Based Approach
Physical activities and games: *"A practical exercise to be there if things will be like that, I think it will be much fun and much interesting as well that everyone can participate over there" [Facilitator F]*	

5.2.2 Challenges

The other dominant topic that emerged from the data analysis was the various challenges for the implementation of FIT. In this section, these challenges are presented through several subcategories highlighted by the informants: time pressure, compliance requirements and audits, adaptation to the facilitator role, interruptions, abruption in production and top management support. Figure 10 shows the analysis conducted to arrive at the specific categories.

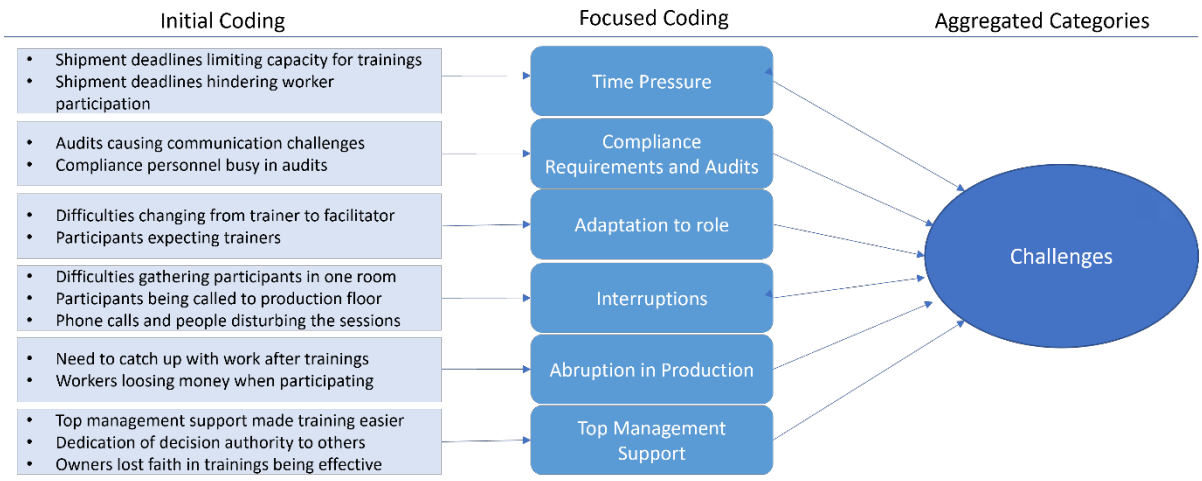

Figure 10: Challenges Analysis

Time pressure

Time pressure related to approaching deadlines for shipment constituted a barrier for the implementation. Informants described how many factories had limited capacity for conducting training, due to the priority of the shipment schedules. Facilitator C, drawing upon his experience from years in the garment industry explained:

> *For training they have very less time very, very limited time (...) Production should roll out, shipment schedules are always top.*

This was also seen in the reported challenges from the facilitators, where some experienced that the workers were not available to participate in the sessions due to the need of prioritizing production targets. For instance, Facilitator E described in his final report:

> *Due to extreme production targets, workers were not available at the sessions*

Compliance requirements and audits

As presented, the demands for complying with sustainability standards manifest themselves through the presence of customer audits. The informants described how the on-going audits in the factories created direct challenges for the implementation of the pilot project. This was explained to be due to mainly two factors. First, it created challenges for scheduling the time and location for the sessions. Second, many of the individuals chosen for the FIT team were heavily involved in the audit preparations and were therefore sometimes unavailable for the FIT sessions.

In times ahead of audits, conducting the necessary preparations was a priority for the factory. Thus, the FIT sessions were always scheduled at times when no customer compliance audits were going on in the factories. Also, at times of audits, the facilitators described difficulties in communication with the factories. This is exemplified by Facilitator E:

> *If they had an external audit or buyers audit in the factories and that case they don't give, they don't give us that date. So they ask us, they ask us to come on the next day or the day after tomorrow, because when they, whenever there is an audit, they are not available. Not respond to any questions you. So that is priority for that, we have to compromise on that.*

The constant presence of audits was observed to cause delays in the implementation of the FIT sessions. Both Facilitator G and Facilitator B reported this during the pilot:

> *Most probably I'll be doing this next week, as this week they have got a surprise audit*

> *Because it is delayed and has not completed yet, because they are going to have some compliance audit*

Moreover, the demand to comply with sustainability standards manifested through the presence of customer compliance audits, also created challenges for the execution of the FIT sessions. The informants explained how the compliance personnel were often chosen as the middle management representatives in the FIT training, which they claimed was a common practice also for other types of training and interventions. The compliance personnel are also the ones most involved with customer compliance audits. Throughout the FIT pilot, the informants described how the compliance personnel were often chosen to participate in the FIT sessions, and that they were often busy in preparation for customer compliance audits. This was highlighted by Facilitator G:

> *And usually what we have seen is that the person from the mid-management is from compliance. And compliance people are always, always busy with audits.*

Adaptation to facilitator role

Actors involved in the pilot also experienced some challenges related to the nature of the facilitation-based approach itself. Several informants described how the lack of familiarity with the approach created challenges for implementation, as participants were expecting a

trainer to provide answers and solutions to already established problems. Facilitator C was one of the facilitators who observed this:

> *Actually, as I noticed that they are expecting that the facilitator will give them some theory and some trainings on productivity and efficiency improvement, [They expect that] there will be some theoretical knowledge. And because, as I told you, that facilitation is not much common in textile and garment industry of Pakistan. So that is why they are whenever we go there, they were expecting this trainer*

Moreover, this approach was not only new to the participants, but also to the consultants themselves. The facilitators highlighted how they usually engaged in factory improvement processes through the approach of consultancy or training. For some consultants the approach came naturally, but for most, moving from the traditional role as a trainer to a role as facilitator included some challenges and the need to learn a new way of delivering training. For instance, Facilitator E compared the facilitator role to his role as a consultant:

> *But since last four years I'm working as a consultant and it is an advisory role. So it was a challenge for us to change our hat, because previously we were downloading all our knowledge to their brains*

Interruptions

Actors involved in the pilot experienced challenges related to interruptions of the FIT sessions. Several informants told how interruptions related to the daily operations of the factory were disturbing the sessions. This was said to also create challenges in getting the team members to stay in the same room for the time set aside for the FIT session. Facilitator C described how he experienced this throughout the FIT pilot:

> *It was very difficult to get them on one page, or one in one room at the same time. So, it was difficult and their managers was keep on calling them from the production floor that to come earlier, come quickly so… It was looking that they were much busy in in their task, both worker as well as managers as supervisor of the factory, they were too busy, and compliance team was looking much busy.*

Even the ones that experienced that it was not an issue finding available time slots for implementation and that the team was present during the whole session, reported continuous interruptions. These were often distractions such as phone calls and cases of managers calling

the team members out of the FIT sessions to attend to issues related to factory operations. Facilitator D reflected upon his experiences from the sessions:

> *We were discussing something very serious, and suddenly somebody open the door, and he focus on the manager's quality and using the finger calling him out of the room. These kind of things*

Abruption in production

Actors involved in the pilot also noted that the productivity intervention itself had some direct negative impacts on the factories. This derived from the abruption in production experienced when spending time on the training instead of on operational activities. Informants highlighted that when participants spent time on training, they would have more work to be done afterwards. Facilitator E explained:

> *If that time is available, they are free for me, they will set late to do other tasks if they are given 2 1/2 hours to me, obviously the work will suffer. After getting out from the meeting room, obviously they will work on that*

This abruption in production was noted to not only impact the factories' production, but also the workers' wages. Informants noted that as most workers in the Pakistani industry operate on piece-rate contracts, spending time in training is directly making the workers lose money. Facilitator G described:

> *They don't want to commit to additional work. When you're talking about workers. They are working on piece rate. So if you're calling them from their seat and asking them to participate, you know they're losing money. So they are not interested, you know, in participating in such trainings.*

Top management support

Having the support of top management was unanimously emphasized by informants as a key condition for the FIT to succeed. Informants explained how the support or lack of support by the top management of the factories impacted their chance of successfully delivering the sessions:

> *In my case, they had the support of the top management, so that's why you know, uh, it's working well.*

In general, the informants experienced that the top management themselves were not directly involved in any activities related to FIT. However, in cases where the top management was supportive, they had dedicated the decision-making authority to another person in middle management. This made it possible for the FIT to function well, without the direct involvement of the top management. Facilitator G explained how this played out in the factory she was delivering the FIT sessions:

> *So that's why I think FIT was more successful at Factory G, because the compliance officer himself had the trust of the top management, though he himself was busy most of the time, but he made sure that you know another FIT member was always available and informally, he did give her some authority, you know, to manage the team, to manage FIT team to, you know reach to different departments.*

Others highlight that the lack of direct involvement by the top management can still be considered an issue, even though authority is delegated to middle management. For instance, facilitator E explained how involving directly the owners in some way might be important:

> *But there should be some sessions, either online or physical sessions with the owners as well.*

Based on conversations with top management and factory owners, informants describe how many have lost faith in training giving them anything of value. With the presence of several development partners offering different types of training, informants argue a case of fatigue among the owners towards these offers. This was reported to create a challenge for the training they actually decide to participate in, as there is a tendency to only send the people that can be spared for training. Coordinator A, who had been part of most of the initial meetings with the top management of the factories explained:

> *There is a level of lack of trust and level of annoyance among the factory owners that it is just another sort of training that has come to us, to see if it is somewhat worthwhile well just engage in it, if not we just get rid of it. I think that is the reason why that most of the times when you gave the initial training, they are not sending the right people, but just sending the people they can spare among the big lot, and we have to continually struggle with them to tell them that they really need to give us the right people.*

Initial codes, examples of representative quotes and key themes constituting the "Challenges" category is outlined in **Table *6***.

Table 6

Challenges

Initial codes and representative quotes	Key theme
Shipment deadlines limiting capacity for trainings: *"For training they have very less time very, very limited time (...) Production should roll out, shipment schedules are always top"[Facilitator C]* *"Follow-up visits became difficulty in first half of the day due to hectic schedule" [Factory E]* Shipment deadlines hindering worker participation: *"Due to extreme production targets, workers were not available at the sessions" [Facilitator E]* *"Challenge: Busy schedule of workers" [Facilitator J]*	Time Pressure
Audits causing communication challenges and delays: *"Though they were planned last month, but because the factory had audits and production, those sessions had to be postponed. I visited the factory yesterday" [Facilitator G]* *"There are two audits going on now, so it's slowing down the progress of fit, but regular updates are coming and they're working with despite the challenges [Facilitator A]* Compliance personnel busy in audits: *"(...) and usually what we have seen is that the person from the mid-management is from compliance. And compliance people are always, always busy with audits" [Facilitator G]*	Compliance Requirements and Audits
Difficulties changing from trainer to facilitator: *"The approach of FIT little bit different from previous program, like previously we used to adopt consultancy and training approach. Now in this program we adopted facilitation approach, so there is much difference in in consultancy training and this facilitation activities [Facilitator C]* *"It was, uh, first experience for me, as well as a as a facilitator because I am working as I told you, that I am working as a consultant, advisor, trainer and you can say motivator. But this time this was a facilitation program, so it was little different and definitely I learned too much new new things in this area" [Facilitator F]* Participants expecting trainers: *"Differentiation between training and facilitating was one of the challenges because facilitation is not much common in textile and garment industry of Pakistan. During the session participants were expecting that they will be taught some new theory and philosophy of productivity enhancement" [Facilitator C]*	Adaptation to Role
Difficulties gathering participants in one room: *"Availability of participants remained a constant challenge during FIT projects. It was noticed that staff and workers in the factory were managing their time very hardly" [Facilitator C]* *"Like the non availability of the space, and the people do not come because their bosses do not make them free" [Facilitator B]* Participants being called to production floor:	Interruptions

"Their bosses kept on calling them while they were attending FIT session" [Facilitator C] *"Even their subordinates come in and ask for any help, that this problem is coming on the production floor, you have to be there. Or even their general manager is calling" [Facilitator D]* Phone calls and people disturbing the sessions: *"And throughout the session, obviously phone calls are also coming in so. That's so part of the job, in fact" [Facilitator E]*	
Need to catch up with work after trainings: *"If that time is available, they are free for me, they will set late to do other tasks if they are given 2 1/2 hours to me, obviously the work will suffer. After getting out from the meeting room, obviously they will work on that"[Facilitator I]* Workers losing money when participating: *"They don't want to commit to additional work. When you're talking about workers. They are working on piece rate. So if you're calling them from their seat and asking them to participate, you know they're losing money. So they are not interested, you know, in participating in such trainings" [Facilitator G]* *"When people are on piece rate, they basically concerned with the production, and they do not want to participate in such kind of a program" [Facilitator E].*	Abruption in Production

5.3 Impact

In this section, findings related to the impact of the productivity intervention implementation are presented. These findings reflect the experiences of the actors involved related to dominant topics, as well as the quantitative results from the intervention monitoring tools. First, the quantitative results from the productivity intervention are presented. Then, this is connected to the findings related to what sort of initiatives triggered these results. Next, this is connected to three dominant impact areas highlighted by informants: root cause identification and solution creation, communication flow, and worker motivation and commitment.

5.3.1 Quantitative Results

In this section, the quantitative results from the pilot's monitoring tools are presented. These findings provide insights into the impact of the pilot on the factories' productivity by showing the change in several key performance indicators (KPIs).

As the factories went through different modules, the KPIs used for monitoring the changes in the different factories also differed. This section shows the pilot results categorized by the rooms subject to the FIT implementation. In each section, the aggregated results from the different KPIs from the respective rooms are shown. This means that in cases where two or

more factories have used the same KPI in their FIT module, the average of the factories' results is presented.

Table 7 presents a summary of all reported baseline, endline and the percentage changes in the KPIs. Specific definitions and calculations of the KPIs are provided in the Appendix D. All definitions are provided by the ILO and have been retrieved from the various module material (ILO, n.d.c).

Table 7

Summary of Quantitative Results

KPIs	Baseline	Endline	Change
Store Room			
Space utilization rate*	81,00%	86,00%	6,17%
Average material retrieval time (minutes)*	357	104	-70,87%
Sample Room			
Average sample turnaround time (hours)	175	168	-4,00%
Sample hit rate	95,00%	95,00%	0,00%
Sewing Room			
Target achievement*	81,00%	84,07%	3,79%
Average work-in-progress*	5048	3933	-22,09%
Defect per hundred units*	21	16,83	-18,58%
Staff and Management Systems			
Turnover rate*	14,50%	10,00%	-31,03%
Absenteeism rate*	11,33%	9,67%	-14,71%

Overtime as a share of total hours worked	40,00%	32,00%	-20,00%
Production Systems			
Water consumption per unit of production / per employee (Litres)	1681,77	976,5	-41,94 %
Energy consumption per unit of production (in kWh) over the past month	2050521,5	1901721	-7,26%
Material waste for the past month (in Kg)	91057,66	18419	-10,59%
Average order cycle time /order lead time (days)	37.5	32.5	-13,33%
Number of accidents and near-misses	2	1	-50%
On-time delivery rate for the past month (%)	30	33	10%
Factory piece per employee	50000	50042	0,08%

Note: The symbol * is attached to every KPI implemented by more than one factory

Store room

The quantitative results from the store room show that the percentage change of the average space utilization rate increased by 6,17%, while the average material retrieval time reduced by 48,06% after the FIT pilot. Space utilization rate shows the proportion of space (floor + shelf surface) that is occupied by materials and other items (carts, machines, etc.) in the factory's storerooms. The observed increase means that a higher proportion of the space is utilized. Average material retrieval time is defined as the average time that it takes for a storeroom worker to find, retrieve and prepare materials from the stores for issuing. The observed decrease means that the storeroom worker uses less time to retrieve the material that they need to operate.

Sample room

The quantitative results from the sample room show that the average sample turnaround time was reduced by 4% and the sample hit rate remains unchanged. Average sample turnaround time is an indicator of how much time the factory uses for producing new samples for new styles. The sample hit rate measures the proportion of samples that are accepted by the buyer the first time.

Sewing room

The quantitative results from the sewing room show that the target achievement rate increased by 3,79%, the work-in-progress (WIP) decreased by 22,09% and the defect per hundred units (DHU) decreased by 18,58% after the FIT pilot. The increase in target achievement rate after the FIT pilot means that the factories increased the number of sewn pieces with good quality with respect to their targets. The decrease in WIP means that the factories reduced the number of pieces that have not yet been completed, which are either being sewn or waiting in between two different workstations. The decrease in DHU means that fewer inspected garments or pieces are defective.

Staff and management systems

The quantitative results from the staff and management systems show that the turnover rate, absenteeism, and overtime as a share of total hours decreased by 31,03%, 14,71%, and 20,00%, respectively, after the FIT pilot. The decrease in turnover rate means that fewer employees are leaving the factory, and must be replaced, as a percentage of the total number of employees. Absenteeism rate is defined as the amount of time (days) the factory employees were absent over a period of time, as a proportion of the total amount of time (days) they worked during that time. The decrease in absenteeism means that factory employees were less absent, whereas the decrease in overtime as a percentage of total hours worked means that the factory employees work less overtime after the FIT pilot than before.

Production systems

The quantitative results from the production systems show that the water consumption per unit of production, energy consumption per unit of production, and material wastage decreased by 41,94%, 7,26%, and 10,60%, respectively, after the FIT pilot. The decrease in water and energy consumption means that the factories use less water and energy per unit of production. Material wastage is defined as the amount of material (fabric, thread, trims, cardboard,

packaging, etc.) wasted in the factory over a certain period. Decreased material wastage means less wasted material over a certain period. The average order cycle time decreased by 8% and the on-time delivery rate increased by 10%.

5.3.2 Initiatives

This section presents the findings related to the different initiatives implemented throughout the FIT pilot. The main findings related to these initiatives were that the majority of the implemented initiatives were quite simplistic in nature and could be categorized as "low-hanging fruits". In this section, this finding is shown through two examples from the implemented initiatives whereas the remaining initiatives are presented in Appendix E.

Throughout the FIT implementation phase, the participants engaged in the identification of root causes for factory challenges, and the creation of solutions to attend to these issues. This resulted in a variety of initiatives agreed on and implemented in order to achieve the desired results. Some of the agreed initiatives derived from the best practices section presented in the modules. However, some derived from other ideas for solutions created through teamwork. Also, there were solutions created for problems that were not even identified in the modules but arose from the group discussions.

Though there were cases of initiatives which required more complex solutions, the majority of the initiatives the groups agreed on were related to 'lower hanging fruits' that did not require great investments either in terms of time or money. Two examples will be used to illustrate these findings, while the list of the remaining initiatives can be found in Appendix E.

The first example is from a factory that implemented the ST1 - Receiving Material module, which is training the factory to improve storeroom operations by working towards receiving materials in a more caring and systematic way (ILO, 2019b). The factory had identified that they spent unnecessary time unloading the received goods. The root cause was identified to be that several vehicles were parked at the off-loading gate of the main store room. Thus, the workers usually spent time identifying the owners, and asking them to remove their vehicles.

In their action plan, the group came up with the solution to create a "no parking" sign to be put outside of the off-loading gate. Through this initiative, the facilitator estimated that the workers saved 45-60 minutes every day in material retrieval time, by not needing to locate the vehicle owners. **Table 8** shows how the issue and solution were identified in the module

material, and Figure 11, from the facilitators' final report, illustrates the implementation of the initiative.

Table 8

Action Plan Factory A

Problem	Root Cause	Initiative	Result
Time wasted in unloading goods from the purchaser's vehicle	Vehicles are parked at the off-loading gate of Main Stores. Spending time searching for the vehicle owner.	Creation and usage of "No Parking" sign to be placed outside main stores off-loading gate.	45-60 minutes saved daily in time spent on operations

Figure 11: Before and After Initiative (ILO internal document with permission to reproduce, 2022)

The second example is from a factory that implemented the ST2 - Inspecting Material module, which is training the factory to improve storeroom operations by inspecting materials in a more detailed and systematic way (ILO, 2019a). The factory had identified that they had a high defect rate due to shade variations in the fabric. They discovered that the root cause was that the fabric arrived with shade variations from the dying departments. They further

identified that in the storeroom, they inspected the fabric at the last stage of the process. This meant that first after the garments had been through the sewing line and the stitching line, the 4-point inspection was carried out, and they identified the shade variations that caused the defects.

In their action plan, the group came up with the solution to introduce an inspection at the first stage, at the moment of receiving the fabric from the dying department, and then establish procedures for informing the dying unit directly regarding the shade variations. They set parameters for identifying the shade variations, and a new norm of communicating the defects to the dying department for re-dying immediately. **Table 9** shows how the issue and the solution were identified in the module material.

Table 9

Action Plan Factory J

Problem	Root Cause	Initiative	Result
High defect rate due to shade variation	The shade variation derives from the dying department, and inspection is carried out after sewing and stitching have been done	Introducing inspection at the first stage, before sewing, and establish procedures to notify buying department	Reduction in defect rate

5.3.3 Root Cause Identification and Solution Creation

After every FIT module, the participants were asked to respond to a post-module survey. In this survey, the participants answered to what level they agreed with various statements related to the FIT experience. The post-module survey results show that 98% of the participants either strongly agreed or agreed that the module helped the group come up with solutions on how to improve factory practices. This was also the topic mostly mentioned among the interview participants. Figure 12 shows the analysis conducted on the qualitative interview data to arrive at the “Root Cause Identification and Solution Creation” category.

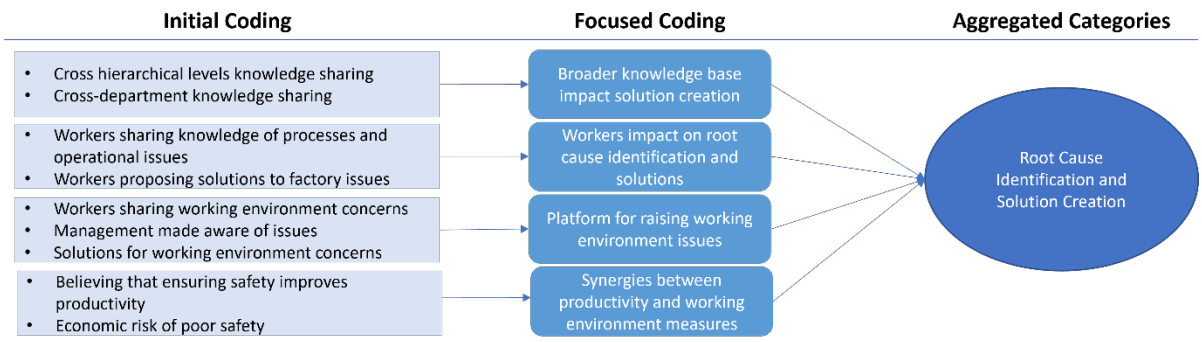

Figure 12: Root Cause Identification and Solution Creation Analysis

The facilitation-based group discussions established a platform which facilitated the sharing of knowledge across hierarchical levels. Actors involved in the pilot all highlighted how the inclusive nature of the intervention assisted in making improvements in several areas in the factory. By involving individuals of different professional roles and from different departments in the factories, opinions and knowledge spanned broader, and changed the process for identification of problems, as well as solution creation. Worker A, that has experience from productivity increasing initiatives from before, described:

> *The experience was excellent. It brings the best from the team. The focused discussion on activities clearly shows that everyone has knowledge, experience and thinking ability. Therefore the best option was identified for actions.*

Informants unanimously emphasized how the engagement of workers impacted the root cause identification processes. By including workers in the FIT sessions and facilitating them to share their opinions with the supervisors and managers in the factory, the teams were able to identify root causes of problems that they had previously overlooked. Supervisor A described how the workers provided suggestions beyond his own knowledge:

> *One of my workers, he suggested that "when we are taking the old stuff from the rack, why don't we clean it first before arranging it in the shell, and then put the new stock at the back?". So, in this way, the housekeeping of the stores also improved, and this was the idea from the worker which I didn't know before*

According to the informants, this increased efficiency of the problem identification processes derived from the workers first-hand knowledge about production practices. Engaging the workers through the facilitation approach allowed for the worker's technical knowledge about factory processes to be considered. Informants emphasized that their knowledge was not

available for the supervisors or managers as it is the workers who know the processes in detail due to them being the ones executing daily operations. Thus, informants, both facilitators and supervisors, emphasized how the engagement of workers through the facilitation-based approach allowed for valuable knowledge to be brought to the table. Manager A, described this:

> *They are purely 8-hour working on floor, so they know better than me the real challenge and issues of the sewing floor. So If you ask them what are the issues, they will more effectively and more efficiently highlight for you as the part of the improvement*

The involvement of workers, through its impact on problem identification, was also explained to impact the working environment. Informants highlight how the facilitated group discussions gave workers the opportunity to raise issues related to the working environment, including occupational health and safety. Several informants experienced workers raising issues related to social concerns during the FIT sessions, some which the middle management were not aware of. Supervisor A, who himself had experience working at the lowest levels in the factories, further explained how the involvement of workers enlightened him about a potential health risk in the lifting of heavy trolleys that he did not know:

> *I've got 2 examples for it, in which the workers knew something which I didn't know. The very first one is: I have got different teams in in chemical stores, and during this discussion, one of the worker told me that they use they manually do loading and offloading is big drums of 200KG, which is a health risk, so they should have trolleys for it*

The facilitators experienced several similar examples throughout their sessions. In one example, the Facilitator C experiences how risks related to fire safety were identified through the problem-solving module by one of the workers.

> *When we were doing second session with them on problem solving, they highlighted problems related to blockage of pathways and walkways, and they also highlighted problem related to blockage of fire apparatuses like fire equipment, like fire cylinders and fire hydrant points*

Having workers, supervisors and managers sitting together in facilitated group discussions provided a platform for raising awareness about worker-related issues. Informants emphasized how these types of platforms are not common in the factory context, and that therefore FIT, by providing this platform facilitated for the benefits of such dialogue. Facilitator G emphasized:

> *So, I think again one of those stronger points about this program is that in [a] factory setting you don't have Supervisors and workers sitting together discussing problems, get together. So, if there's a worker who is close to a supervisor and if he brings forward an issue, then you know he or she might be heard.*

Moreover, a common belief among the informants, and in particular the facilitators, was how ensuring that workers are comfortable also impacts their productivity. Facilitators highlighted how the workers are the ones knowing what are preventing them from performing more efficiently, whether that is ergonomic issues at the workstation or lack of proper lighting. Thus, when workers were part of the FIT sessions, the management could access this knowledge also for the enhancement of factory productivity. Facilitator C, having expertise in quality management, described:

> *And they know what are ergonomic problem they are facing in their sitting, in their workplace area, what are the things which are prohibiting them to perform efficiently, perform good, and what are the bottlenecks for them and what kind of environment is more suitable for them. What kind of atmosphere is most suitable for them to produce better*

Another common belief among the informants was that issues that superficially appeared to mainly concern about working conditions, also had an impact on productivity. Informants emphasized how ensuring safety through protective equipment also facilitated for avoiding direct productivity-losses. Facilitator A, building on years of experience with productivity work described:

> *So, they go together, if there's a mishap there, spillage of chemicals, it will not only harm the person, but it will that day productivity is gone. So, they go together and I cannot think, uh, I cannot separate them. If I've got good health and safety-wise environment, I can have productivity. Otherwise, the mishaps, the incidents will lower my productivity.*

In the same manner Supervisor A highlighted the connection between worker safety and profits when arguing with top management for the provision of equipment for his workers:

> *But if we have something gone bad to the worker, it will be far more expensive than that cost of the trolley.*

Initial codes, examples of representative quotes and key themes constituting the "Root Cause Identification and Solution Creation" category is outlined in **Table 10**.

Table 10

Root Cause Identification and Solution Creation

Initial codes and representative quotes	Key theme
Cross hierarchical levels knowledge sharing: *"It is a good experience where worker-managers and supervisor sitting equally and sharing their views. Sometime while working without team/group, it had been difficult to find relevant manager easily in the factory. FIT module discussion breaks that gap and let us share views and correspond with them" [Worker B]* Cross-department knowledge sharing: *"I work in the store, but the teamwork were designed for all departments, cutting, fabric and stitching. So, I learned from all departments, both problems and solutions" [Supervisor A]*	Broader knowledge base impact solution creation
Workers sharing knowledge of processes and operational issues: *"So some of the workers, you know, had good insights, you know, insights which even the supervisors were kind of surprised to hear. Then, you know, the perception that the supervisor had about a problem, you know, when it was discussed in a group setting, it was realized that his perception about the problem was wrong and the root cause of the problem lied somewhere else" [Facilitator A]* *"If you engage that level, that level of workers, they will more, they will highlight the improvement areas of the more, from the execution side, not from the management, and not from the top management side, so these are the things that you get from the cross-functional teams [Manager B]* Workers proposing solutions to factory issues: *"I know that if the workers are prepared through FIT, they will not only be able to reduce losses, but increase their productivity. Because the condition or the situation of the machine, only the worker can understand, not the managers and the level above"[Supervisor A]* *"It's a mistake when we think workers don't have the technical knowledge, they have the maximum knowledge, in fact. Because they are the ones who are working with the process. So, if we get the, they are the one who can identify the best practices within the same, you know, set up. I cannot bring every time a new machine, a new instrument. So, within the same financial constraint, the workers are the one who can identify the best practices as well for that very process" [Facilitator A]*	Workers providing first-hand knowledge of factory processes

Workers sharing working environment concerns: *"When we were doing second session with them on problem solving, they highlighted problems related to blockage of pathways and walkways, and they also highlighted problem related to blockage of fire apparatuses like fire equipment, like fire cylinders and fire hydrant points" [Facilitator C]* Management made aware of issues: *"I've got 2 examples for it, in which the workers knew something which I didn't know. The very first one is: I have got different teams in in chemical stores, and during this discussion, one of the worker told me that they use they manually do loading and offloading is big drums of 200KG, which is a health risk, so they should have trolleys for it" [Supervisor A]* *Solutions for working environment concerns:* *"So, at the end team picked up an issue in female prayer area. As reported, there were gaps in the schedule. So, they make schedule that emerge from female participant in the team. Formulate a better schedule and line wise meal and prayer break make it easy to solve that congested space for praying" [Facilitator F]*	Platform for raising working environment issues
Believing that ensuring safety improves productivity: *"If the workers are comfortable, you have will be having a good productivity, you will be having low quality problems, you will be having the higher output." [Facilitator I]* Economic risk of poor safety: *"But if we have something gone bad to the worker, it will be far more expensive than that cost of the trolley" [Supervisor A]*	Synergies between productivity and working environment measures

5.3.4 Communication Flow

Engaging in facilitated group discussions was said to have had an impact on the communication flow in the unit of implementation in some factories. In several factories, working together in teams appeared to remove some of the barriers between workers, supervisors and managers, and established new norms for communication. Figure 13 shows the analysis of the qualitative data conducted to arrive at the category "Communication Flow".

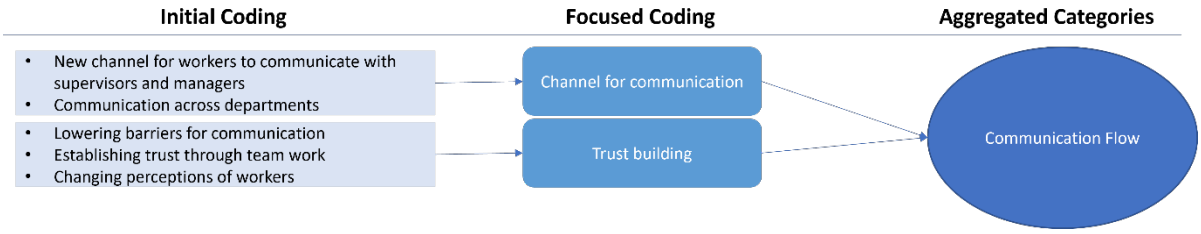

Figure 13: Communication Flow Analysis

An important element of the improved communication derived from the workers experience that they were being listened to. Informants described how the workers expressed that they felt their opinions were heard, which encouraged them to continue communication with the

supervisors and managers, opening a new channel of communication in the factory. Supervisor A described:

> *When I applied the suggestion for implementation, it triggered a sort of feeling among the other workers, that someone is listening to us. And that our suggestions will get implemented (...) But what is the impact of all these? Because we are giving the confidence to the worker that your suggestions are being listened to. As a result now there is a way, we have opened a channel for the workers to come and talk to us, give their suggestions. So, this has now become a norm in stores*

This new channel of communication experienced by some of the pilot factories stands in contrast to the existing hierarchical structure of communication in the factories, where worker normally do not communicate with managers. Worker A, who described a hierarchical flow of communication before the intervention, now talked about a new channel of communication in their unit:

> *After FIT sessions, the jelling of team has removed the barrier. The flow of work does not stop and communication is much faster (...) Now I can go and talk to the Manager (...) Since my supervisor was not available, I timely alerted the manager for action. This is now the New Norms of stores*

Also, Worker B could report how the FIT sessions had impacted her way of communicating with supervisors:

> *Working in that FIT team reduced my hesitation of asking questions. Now when I am interacting with my supervisor, I feel confident in discussing daily issues*

The change in communication flow seems to derive from workers feeling recognized, but also the establishing of trust between workers, supervisors, and managers. The cross-hierarchy teamwork appeared to also impact management's perception of the workers. Informants described how managers were positively surprised by the knowledge the workers inhabited, which contributed to increasing the trust. Facilitator J described this process:

> *And now this program increases the acceptability that workers are human, and they are capable human (...) In the first module they have participated enthusiastically, they designed the rooms, they participate, and they participate reflectively on the case study. And when this highlight is given to the management people, management are shocked and*

they are very happy with them. So that's why they building that trust between the workers and the management

The opportunity to share knowledge across departments and hierarchies was also highlighted by informants. Supervisor A was particularly excited about this:

If we have got FIT all over Factory A, the very first thing which should be happening here is we will be sharing knowledge among ourselves in our combined meetings, like we did in the second module problem solving, with all department people were sitting together and we were sharing knowledge

Initial codes, examples of representative quotes and key themes constituting the "Communication Flow" category is outlined in **Table 11**.

Table 11

Communication Flow

Initial codes and representative quotes	Key theme
New channel for workers to communicate with supervisors and managers: *"We have improved our communication with members" [*Worker B] *"We have opened a channel for the workers to come and talk to us, give their suggestions. So, this has now become a norm in stores" [Supervisor A]* Communication across departments: *"I work in the store, but the teamwork were designed for all departments, cutting, fabric and stitching. So, I learned from all departments, both problems and solutions" [Supervisor A]*	Channel for communication
Lowering barriers for communication: *"Sometime while working without team/group, it had been difficult to find relevant manager easily in the factory. FIT module discussion breaks that gap and let us share views and correspond with them" [*Worker B] Establishing trust through teamwork: *"They build that trust, so FIT program, build that trust between the workers and the upper management" [Facilitator B]* *It challenges the normal way of working. Formation of a working team develops trust, respect and leads to flow of communication. As a result, the hierarchical boundaries are no longer in place [Facilitator E]* Changing perceptions of workers: *"And now this program increases the acceptability that workers are human, and they are capable human (...) In the first module they have participated enthusiastically, they designed the rooms, they participate, and they participate reflectively on the case study. And when this highlight is given to the management people, management are shocked and they are very happy with them. So that's why they building that trust between the workers and the management"[Facilitator J]*	Trust Building

5.3.5 Worker Motivation and Commitment

It appears that participating in the facilitated group discussions also had an impact on the worker's attitudes at work. First, being actively encouraged in the facilitated group discussions impacted the motivation among the workers. Second, participating in developing solutions to issues in the factory appeared to impact the commitment due to the increased sense of ownership of the agreed initiatives. Figure 14 shows the analysis of the qualitative data conducted to arrive at the category "Worker Motivation and Commitment".

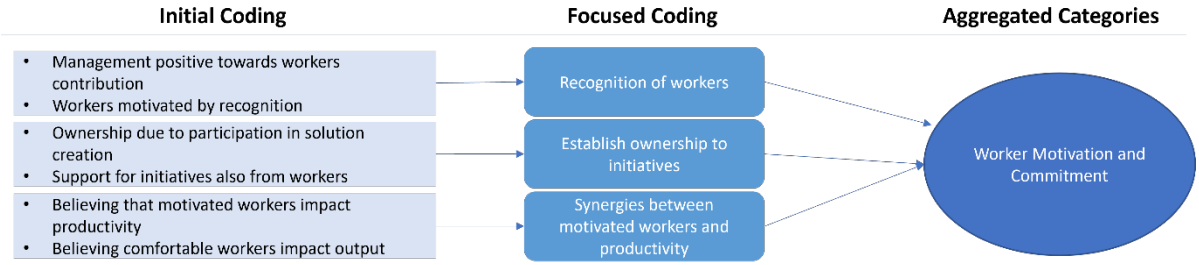

Figure 14: Worker Motivation and Commitment Analysis

Being encouraged to actively engage in the facilitated group discussions impacted the motivation among the workers. Informants emphasized how inviting the workers to the table for sharing their insights and participating in developing the solutions was experienced as a symbol of recognition and encouragement. Facilitator B, who had years of experience with consultancy, observed this:

> *They are working in a good environment, and they are telling their problems. And the most important thing if the workers feel that whatever they are, if they're raising their grievances, they're raising any complaint and if it is, they see that it is being addressed, it gives them a lot of encouragement. Yes, people are listening. My voice, my voice is not going in waste. That gives a lot of encouragement*

Also, participants from the factory emphasized how the involvement in FIT made the workers experience that their suggestions were heard, and that their suggestions had value for the management. Manager A, leading the engineering activities in his factory, explained:

> *But if these types of modules come to your factories, it brings change to your environment as well, the workers, the helpers can also participate in their areas of improvements. So they can feel change about the daily routine task, so they feel that*

their suggestions are valuable, they feel that their suggestions has some values in the eyes of the management

Informants described how experiencing this encouragement was observed to positively impact the motivation of the workers. This was also confirmed by Worker A who explained that his active participation in the FIT was motivating due to the recognition he got.

I did a presentation of the FIT update on a weekly basis to the FIT Team. It was for the first time I got the recognition. It was motivating.

The involvement of workers in the FIT seems to strengthen the ownership, and thus also the commitment to the initiatives decided upon. When decisions related to productivity improvements in the factory were made, these were now not only supported by the supervisor and management but also by the factory workers. Informants described how being actively involved in the problem identification, as well as the creation of solutions seemed to make workers more committed. Worker A described how the active participation impacted commitment:

Due to the team activities, tasks were discussed and the best was opted. The commitment was obvious from the fact that the correct implementation of tasks was supported, not only by the supervisor but also the members

A common belief among informants was that ensuring encourage and motivated workers might positively impact business performance. This was argued to be due to the argument that motivated workers, perform better, by for instance Facilitator B:

We have to make them convince the top management, that encouragement and motivated workers, you can measure their output. This is something although intangible: you cannot see something solid in your hand, but it can pay you off if the workers are comfortable.

Initial codes, examples of representative quotes and key themes constituting the “Worker Motivation and Commitment” category is outlined in **Table *12***.

Table 12

Worker Motivation and Commitment

Initial codes and representative quotes	Key theme
Management positive towards workers contribution: *"And they shocked their management as well, on the ground level, on the bottom level, on the worker level, participation, female participation was marvellous. They shocked because entirely, they are very innovative. They are creative"[Facilitator J]* Workers motivated by recognition: *"I did a presentation of the FIT update on a weekly basis to the FIT Team. It was for the first time, I got the recognition. It was motivating." [Worker A]* *"What I found, the self-esteem are getting up as well, from the worker side. Culture is strongly improved" [Facilitator B]*	Recognition of Workers
Ownership due to participation in solution creation: *"When we did module one and two, I can see the ownership, the team is taking - So I know they are going to go for system level changes" [Facilitator A]* Support for initiatives also from workers: *"Due to the team activities, tasks were discussed and the best was opted. The commitment was obvious from the fact that the correct implementation of tasks was supported, not only by the supervisor but also the members"[Worker A]*	Establish ownership to initiatives
Believing that motivated workers impact productivity: *"We have to make them convince the top management, that encouragement and motivated workers, you can measure their output" [Facilitator I]* Believing comfortable workers impact output: *"If a worker is comfortable, they will give you more productivity. If there's no, like there was a project in our problem-solving: lights in the weaving's section. If there's the lights are dim or lex level is low, then there will be more defects. So the productivity is automatically going down, we need to these two need to go together"[Facilitator A]*	Synergies between motivated workers and productivity

6. Discussion

This section discusses the empirical findings of this study in relation to existing literature. It draws on the empirical analysis conducted to discuss how facilitation-based productivity interventions might play a role in handling the tensions between social sustainability and cost competitiveness.

In this section, I propose a model that shows the dynamics between the facilitation-based productivity intervention and existing tensions, and how the facilitation-based productivity intervention might play a role in handling tensions. This model will be presented step by step to ensure clarity. Later, the theoretical contribution and managerial implications of this research are discussed.

6.1 Existing Tensions

From the findings, one may observe that the factories experienced time pressure related to the demand from customers for delivering quality orders within a restrictive period. The need to ensure customer satisfaction is the factories' number one priority, something that leads to increased stress in times of approaching deadlines. Ensuring that the shipments are delivered on time is essential for continuity of business, and thus managers and workers deprioritize and overlook safety and worker environment concerns.

The most common approach of customers to ensure sustainability compliance in the supply chain is the establishment of requirements or codes of conduct, with connected in-factory audits to verify the compliance (Islam et al., 2018; Locke & Romis, 2007; Mamic, 2004). It appears from the findings that many factories prioritized meeting these demands on the day of the in-factory audits, spending notable time on preparations with increased stress levels for the factory employees. When the day of the audits is over, many factories return to normal procedures. Arguably, this indicates that not only does it seem like in-factory audits do not ensure general social compliance, but it also seems like the audits themselves might contribute to increased stress for workers.

Arguably, these findings show how tensions arise when trying to balance the demands to comply with sustainability requirements and the demand to deliver quality orders within a restrictive time. It illustrates how the two demands are competing (Van der Byl & Slawinski,

2015), but also how they are interrelated and persistent (Smith & Lewis, 2011). Thus, these findings fit with the definition of both tensions, and paradox, as they are presented in the literature. Therefore, one can argue the demand for both cost competitiveness and sustainability causes tensions in the factories, as suggested by literature Xiao et al. (2019) and Huq et al. (2014).

Thus, the first part of the model illustrates the relationship between what I have called sustainability demands and cost competitiveness demands. These demands are represented through the demand to comply with working environment standards and the demand to increase productivity, as observed from findings, and as suggested by literature (See Andersson et al., 2019 and Hamja et al., 2021). This is causing tensions, which are observed in this study to manifest through time pressure and compliance in-factory audits. Figure 15 illustrates the elements which constitute the existing tensions.

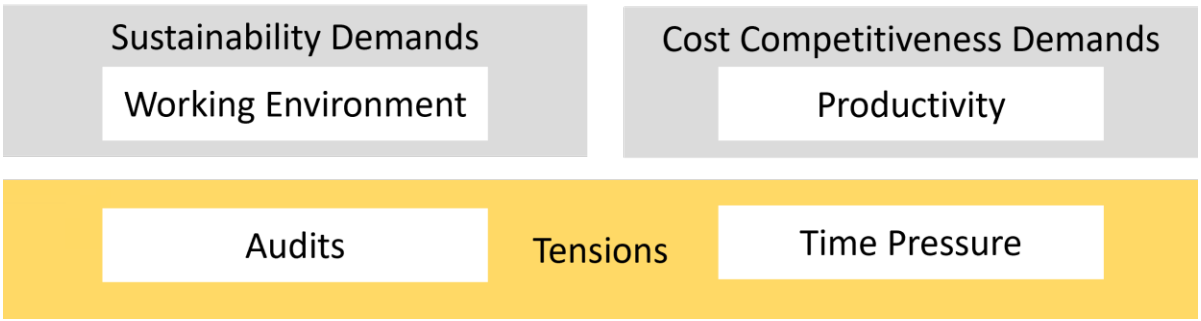

Figure 15: Model: Existing Tensions

6.2 Productivity Intervention

The key feature distinguishing FIT from other productivity interventions is its facilitation-based approach. Rather than an external trainer intervening in the factory to teach, the facilitation-based approach provided the space for a conversation between the team members for them to themselves find the solutions. This thesis finds that three key elements were essential for the facilitation and that this made it easier for the participants to achieve their goals (Kitson et al., 1998). These elements were ensuring a safe environment, having context adapted material, and using an activity-based approach. It further found six elements that created challenges for the facilitation-based productivity intervention: time pressure, compliance requirements and audits, adaptation to the role, interruptions, abruption in production and top management support.

As found in the analysis of the existing context in the factories before the intervention, the communication in the factory was characterized by hierarchical boundaries and the perception of workers as incompetent. It was not normal for the workers to communicate with the higher management professionals. Consequently, it was observed during the intervention implementation that workers considered it less easy, appropriate and comfortable to speak up about their ideas, ask questions or raise concerns than for instance supervisors and managers. For many workers, it was also their first time participating in such training.

Ensuring that the workers felt safe and that there would be no repercussions for them to share was essential for the workers to dare speak up. These findings can be argued to be connected to the term psychological safety, understood as "the feeling to be able to show and employ oneself without fearing the risk of negative consequences for instance career" (Khan, 1990, p. 708). Furthermore, psychological safety is highlighted to be particularly important in this study setting, due to the participants belonging to different hierarchical levels in the factory (Nembhard & Edmondson, 2006). Thus, this study claims that creating a psychologically safe environment is key for a facilitation-based approach to function, as the approach depends on the participation of all to optimize its methodology.

The findings further show that having the material adapted to the local context, both related to the everyday operations, but also the cultural context, was key for ensuring the active participation of all participants in the FIT sessions. In the pilot, the materials were adapted specifically to the garment industry and included real examples of issues common to the different departments of production in the factory. This adaptation of the material made the content relatable, more interesting, and easier to engage with for participants from all professional levels. Arguably, for the facilitation-based approach to be successful, the participation of all individuals is essential, and adapting the material to the context was argued to be essential by the informants.

This study also finds that using an activity-based approach, as opposed to normal class-room training, assisted in increasing the participation in the sessions. Even in situations where getting the attention of the team was difficult, the integrated activities in the modules prompted the participants into engaging with the material. Arguably, engaging people through activities is a way to make it easier to connect to the material, and easier to learn new things, thus supporting the objectives of facilitation (Kitson et al., 1998). Engaging the participants through activity-based dialogues assisted the participants in FIT in exploring new solutions in thought,

but also in action through the conversations with other team members, as argued by Raelin (2012).

The facilitation-based approach arguably also impacted the level of employee engagement in the factory, understood as "the level of commitment and involvement towards its organization and its values" (Anitha, 2014). Findings show that when attention was paid to ensuring psychological safety, active participation during productivity intervention motivated the workers. They got recognition for their high level of contribution to the factory improvement processes by the management, something also observed by Ali et al. (2019) to positively impact employee engagement in the garment industry. Furthermore, the workers went beyond their responsibilities to find solutions to existing productivity problems along with their working conditions, which is argued by Holbeche and Springett (2003), to be a sign of increased employee engagement. The active participation also appeared to increase workers' ownership of the change processes, as proposed by Hasle and Vang (2021).

Psychological safety, context adapted material, and using an activity-based approach, aided the facilitator in creating a platform for joint problem solving across hierarchical levels in the factories. The facilitation-based approach assisted in building trust and removing barriers between the factory employees and management, throughout the activities in the group sessions. Thus, one can claim that the intervention functioned as a boundary spanner within the factory (Colman & Rouzies, 2019). In the case of FIT, the group sessions allowed for information promotion from the workers to the management, as well as a platform for the workers to raise their concerns, both elements that can be described as boundary-spanning activities (Colman & Rouzies, 2019; Dollinger, 1984).

Consequently, this thesis finds that designing the productivity interventions based on facilitation, with careful attention given to three key elements: psychological safety, context adapted material and an activity-based approach impacts employee engagement and function as a boundary spanner within the factory. This relationship is illustrated in Figure 16, and constitutes part two of the model.

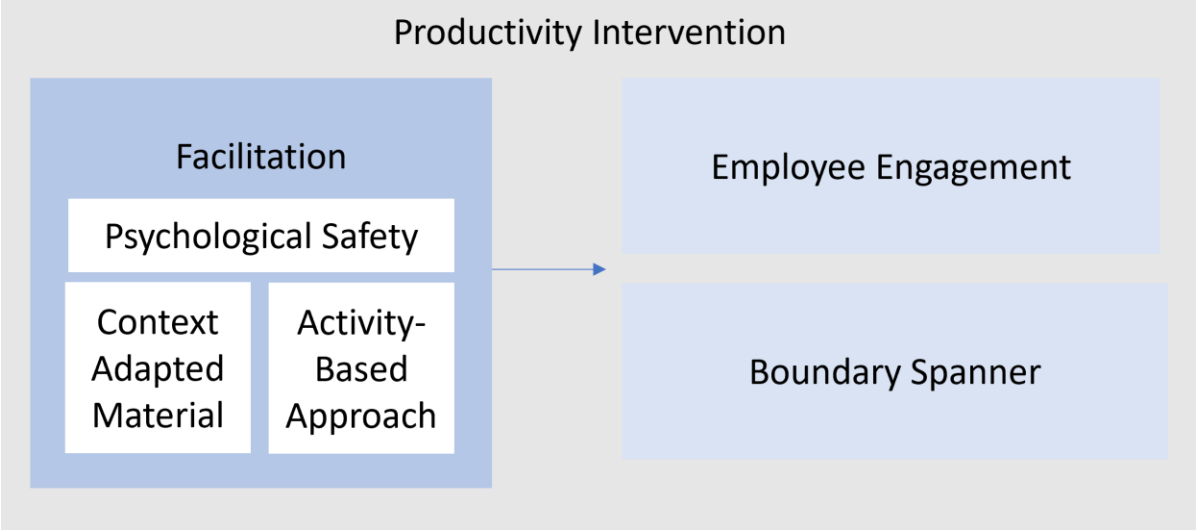

Figure 16: Model: Key elements of the facilitation-based productivity intervention

The findings show how there were several challenges during the implementation of the FIT. First, constant interruptions and calling of team members to assist at the production floor in relation to the daily operations created challenges for the implementation of the sessions. Such interruptions can be argued to be limiting for a facilitation-based productivity intervention that requires active participation like the FIT. Continuous interruptions and team members leaving the room often might negatively impact the facilitated sessions and become a barrier for such approaches to achieve their aims.

Also, the findings illustrate that for some facilitators and participants, it was challenging to adapt to the facilitator role. Facilitators were used to operating as trainers who visit factories to teach. It was challenging for both facilitators and participants who are not used to such exercises. As the role of the facilitator is key in the FIT methodology, one can argue that the outcome of the sessions to a notable extent depends on the service provider's ability to adapt the facilitator approach. If the service provider does not manage to adopt the facilitator role, this might fail the FIT approach. Thus, arguably the facilitation-based approach is sensitive to individual differences in adopting the role of a facilitator.

Furthermore, this study claims the importance of top management support for the intervention. This can be attained to by top management ensuring decision-making authority to someone in the team, thus the direct participation of top management is not needed. However, involving the owners in some way seems particularly important due to the existence of a strong top-down culture, as was also argued by Hamja et al. (2019), when they researched factories in

Bangladesh. Additionally, many managers and owners in the garment industry have lost faith in training programs giving them anything of value. Thus, arguably ensuring their support is even more crucial. This lack of faith might impact the resources and people that the top management decides to invest in the training, and through this become a barrier. Thus, this argues that ensuring top management support is essential for ensuring a successful implementation of a facilitation-based approach. As such, it supports the general argumentation within change management that highlights top management support as the most crucial element for the success of interventions inspired by lean manufacturing (Hamja et al., 2021).

Based on the findings, one can further infer that the productivity intervention is operating in a dynamic relationship with the existing tensions. First, one can see how the existing tensions are impacting negatively the productivity intervention. For instance, the time pressure related to approaching deadlines for shipment created challenges for the delivery of the FIT sessions. This was seen both in how some facilitators experienced challenges organizing the sessions in the first place, and at times, it also hindered the workers from participating in the sessions.

Also, the compliance requirements manifested through the in-factory audits impacted the FIT intervention. In many factories, there was a continuous presence of audits by different customers throughout the pilot period. At times when audits were happening in the pilot factories, some facilitators experienced challenges in the implementation of FIT. The findings show how audits take away precious time from trainers and employees, particularly since the people involved in training are often busy in audits, such as compliance personnel. The study suggests that audits can act as a major hindrance to the delivery of training and implementation of initiatives.

However, it also seems like the facilitation-based productivity intervention itself directly impacted the factories negatively and contributed to intensifying the existing tensions. The abruption in production caused by spending time on training instead of operational activities arguably increased the time pressure for the workers, as most of the Pakistani garment workers are hired on piece rate contracts. Thus, work lost during training had to be done afterwards. Moreover, being paid by piece rate, the time workers spent on training directly led them to lose money. Thus, one can argue that the FIT sessions through taking time away from the production floor contributed to intensifying the existing tensions.

Consequently, this thesis finds that the facilitation-based productivity intervention operates in a dynamic relationship with the existing tensions in the factory. It was both negatively impacted by the existing tensions and was contributing to intensifying the tensions. This is illustrated by the red arrows between the two components of the model in Figure 17

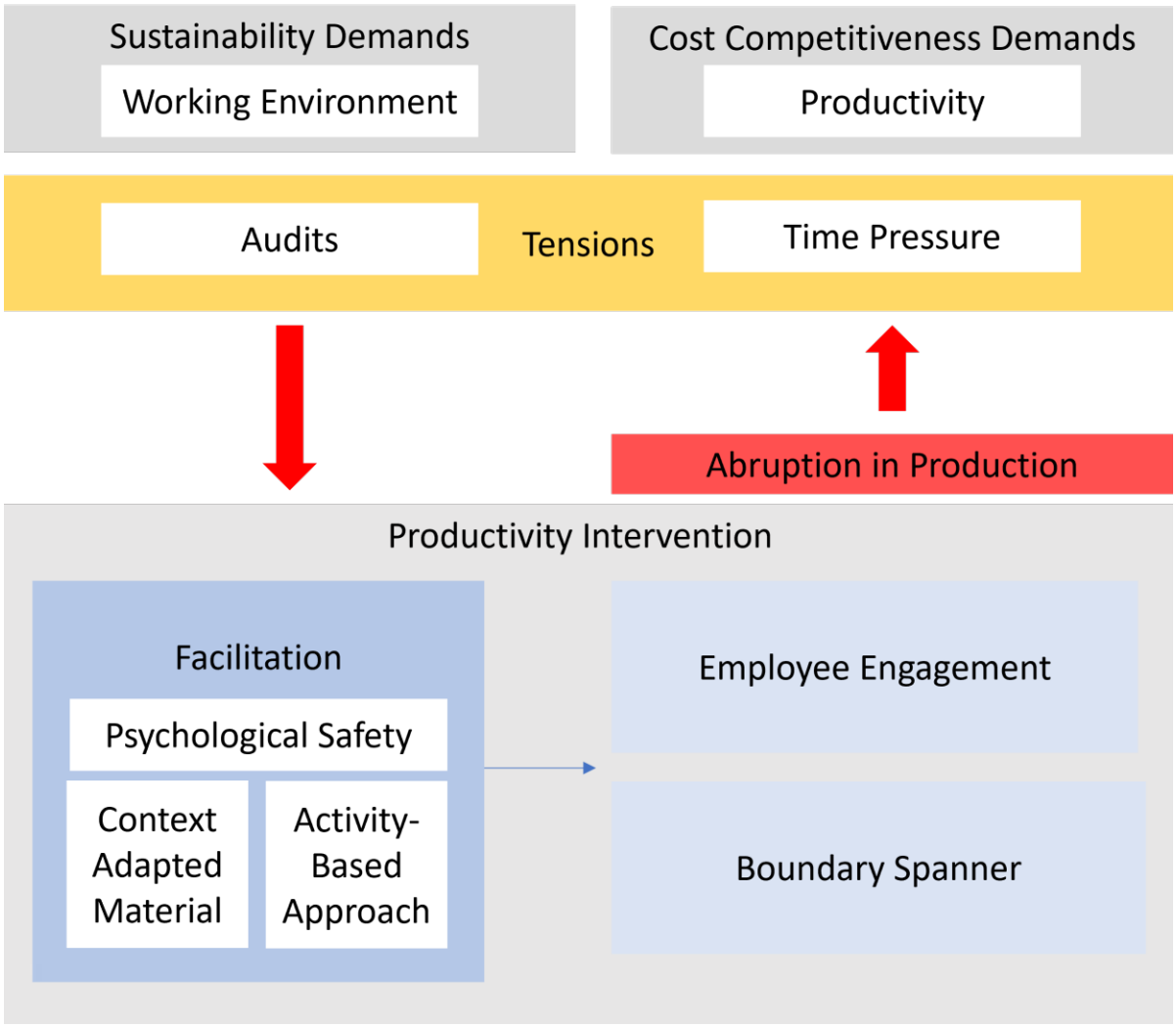

Figure 17: Model: Dynamics between the productivity intervention and existing tensions

6.3 Impact

The quantitative data shows how most departments subject to the FIT pilot implementation experience improvements in several KPIs after the pilot process. The impact of the FIT pilot on the KPIs is inconsistent, sometimes negligible in some rooms. However, the quantitative results indicate that positive changes in productivity happen after the FIT pilot. Particularly, the decrease in average material retrieval time by 70,87% indicates that the store rooms on

average are better organized. Because the average material retrieval time is significantly reduced, the storeroom worker can focus on other operational responsibilities instead of retrieving material. In effect, this means that the overall productivity increases, without the workers having to work longer hours.

Moreover, the decrease in defects per hundred units by 18,58% shows that the factory has reduced its defect rates. This indicates that the quality of the sewing room has increased. The findings further indicate a notable increase in efficiency concerning resource use in the factories, as seen in the decrease of water consumption by 41,04%, energy consumption by 7,26% and material wastage by 10,6%. This indicated that the departments are using fewer resources in their production processes, which might both reduce cost and environmental impact. Also, KPIs related to the staff and management systems showed positive results, as the turnover rate, absenteeism and overtime as a share of total hours decreased. Although there might be several factors impacting these numbers, it indicates that there were positive changes in working environment related KPIs after the FIT pilot.

All things considered, the quantitative data from the FIT pilot indicates positive changes in the departments, both related to productivity-enhancing measures and with respect to the working environment. These positive changes in important KPIs signal that the change process was successful. It is important to note that it is impossible to isolate the initiatives from the FIT pilot from exogenous factors in the factory that might have played a role. Nonetheless, the results are convincing in that the FIT pilot increased productivity in the factories since the results are positive in multiple factories and have only been measured over a short time frame. It is important to note that since we are measuring different types of factories, averages might not give the full picture. Nevertheless, the numbers in the different factories were always showing the same sign, being either positive or negative.

This study further presents a variety of initiatives implemented during the FIT pilot that might have positively impacted the KPIs and finds that the majority were quite simple in nature. This was illustrated through the two examples of the no parking sign and the inspection procedures. At first, these initiatives appear to be so simple that one might question why they have not been attended to earlier. This can be argued to be due to several reasons. First, being characterized as a fast-paced environment with a strong focus on delivering on tight deadlines with limited time available for training, such initiatives might be easily overlooked. Second, knowing that the industry has for a long time mostly relied on the supply of low-cost labor

(Andersson et al., 2019; ILO, 2021), productivity-increasing measures have not been recognized as a factor in competitiveness until recent years.

Lastly, these initiatives were solutions to concerns raised by workers, related to their daily operations. Thus, in an environment where workers are not usually invited to participate in discussions related to factory improvements, such issues might be overlooked. Inviting the workers to participate in a facilitation-based productivity intervention arguably provided the platform for their concerns to be heard, and solutions to be developed for these concerns.

This finding provides a particularly intriguing implication. It arguably shows that relatively easy-to-implement initiatives have the potential to contribute to increasing productivity and the working environment in the factories. Thus, assisting the factories in exploring and discovering such initiatives may assist the factory in factory improvements without significant investments and cost increases.

The findings further illustrate three emerging areas that were impacted by the facilitation-based approach in FIT, and thus provide insights into the processes behind the numbers and initiatives: the ability to identify root causes and create solutions, the communication flow and the worker motivation and commitment. From the findings, one can see how all these three can be argued to be results of the FIT methodology and design.

Employee engagement and boundary spanning activities translated into the ability to identify the root causes and develop solutions. The productivity intervention helped employees to raise awareness of the problems regarding their working environment. The facilitation-based approach, therefore, indirectly resulted in resolving numerous open points related to productivity and discovering and fixing working environment related issues. Despite the existing tensions between the two demands, this study finds that the intervention provided a platform to attain to them both, and through this identifying some initiatives who provided clear synergies, but also others who required balancing the tensions (Hasle & Vang, 2021).

The informants said that the impact on the communication flow derived from providing the platform for the workers, supervisor and managers to work together. Arguably, this is connected to the element of the intervention that performed boundary spanning activities. In an industry where there exist hierarchical barriers, the facilitation-based productivity intervention assists in building trust and removing barriers between the factory employees and management by triggering boundary spanning activities such as information exchange.

Through this, some factories even reported that the norm of communication between workers, supervisors and managers had changed completely after they had implemented FIT.

The impact on the worker motivation and commitment derived from the workers' experiences of being listened to, and that their suggestions were taken into account in the factory improvement processes. As Locke and Romis (2007) suggested, the active participation in decisions related to the working process through the FIT sessions, seems to have had a positive impact on the work climate. The findings further suggest that the workers became more committed to the initiatives, due to their active role in developing the solutions. This is in line with the argumentation by Reinecke & Donaghey (2020) that by giving the workers an active role in the enforcement of decent work initiatives, one can ensure stronger accountability towards the intended beneficiaries of those initiatives.

However, it is essential to note that the positive impacts of the facilitation-based productivity intervention arguably depend to a great extent on how the specific case has dealt with the potential challenges of such an approach. Attaining to the difficulties experienced with adopting the role, ensuring top management support, and limiting interruptions is critical for the success. Also, paying attention to the negative dynamics between the productivity intervention and existing tensions is important to facilitate optimal implementation. This is particularly true for the need to ensure compensation for workers for their participation in the intervention. If this is not attended to, the intervention might become yet another element of negative pressure on the workers.

The dynamics at play allowing for this platform for handling tensions, including the potential barriers, are illustrated in Figure 18.

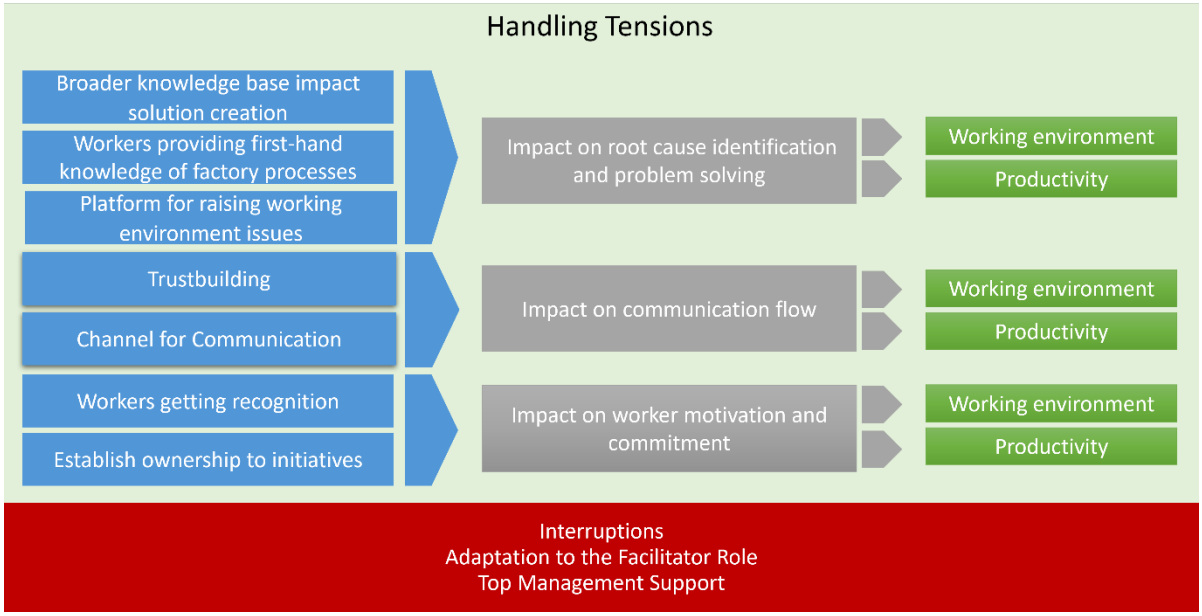

Figure 18: Model: How the intervention assists in handling tensions, and potential barriers and challenges

If these concerns are attended to, the findings show how the facilitation-based productivity intervention appeared to impact the factories' ability to identify root causes and create solutions, its communication flow and the worker motivation and commitment. It also led to positive changes in KPIs related to both productivity and the working environment. The findings further show how informants highlighted that the impact on the ability to identify root causes and create solutions, the communication flow and the worker motivation and commitment, were all connected to both working environment and productivity. Thus, one can infer that the facilitation-based productivity intervention provided a platform for the factory to attend to concerns related to both areas, and thus a platform for handling tensions between cost competitiveness and social sustainability. This relationship is illustrated in Figure 19.

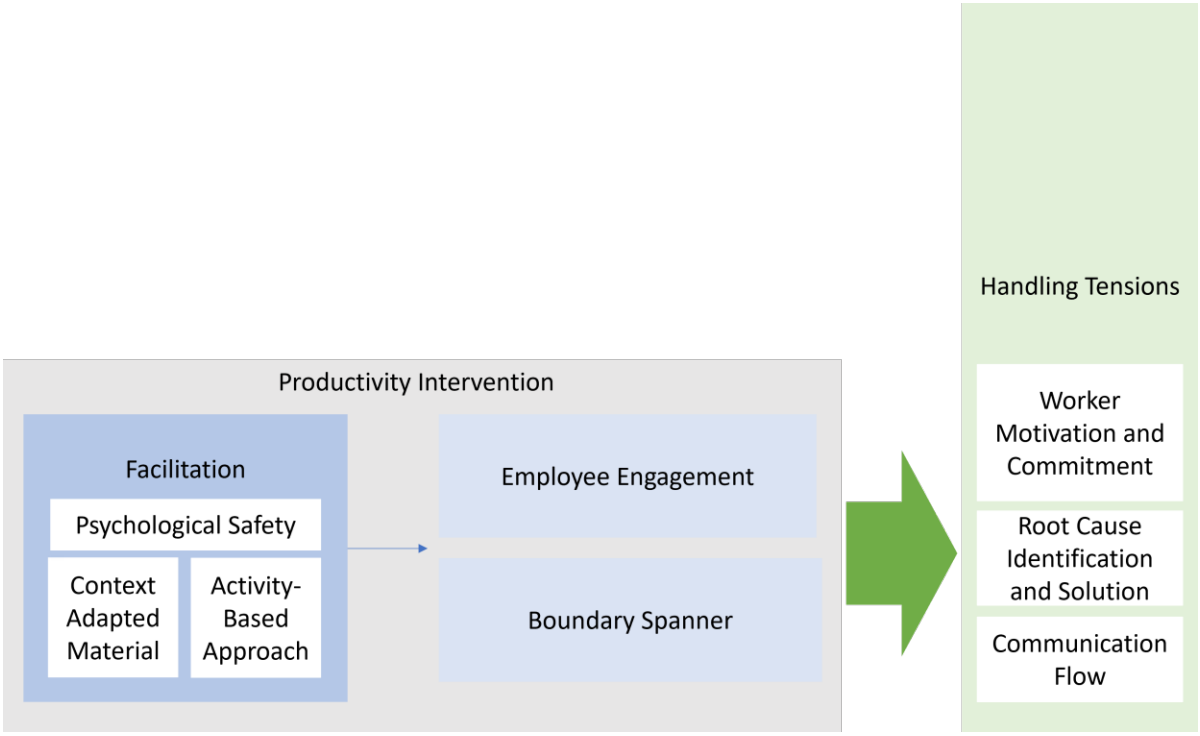

Figure 19: Model: The facilitation-based productivity intervention creates a platform for handling tensions between cost competitiveness and social sustainability.

6.4 Model Summary

In this study, I have developed a model that provides a visual outlook of how a facilitation-based productivity interventions like the FIT, has the potential to play a role in handling tensions between social sustainability and cost competitiveness. I found that tensions exist between social sustainability and cost competitiveness in the factories, manifested through time pressure and in-factory audits. A facilitation-based productivity intervention operates in a dynamic relationship with these existing tensions. By carefully giving attention to ensuring psychological safety, having context adapted material and using an activity-based approach, the facilitation-based productivity intervention impacts positively the employee engagement and functions as a boundary spanner within the factory.

Through this, facilitation-based productivity intervention appeared to impact three key areas in the factories: its ability to identify root causes and create solutions, its communication flow and the worker motivation and commitment. By providing a platform for the participants to engage in self-discovery related to both productivity and the working environment, the facilitation-based productivity intervention had the potential to assist the factory in handling

existing tensions between cost competitiveness and social sustainability. The model is presented in Figure 20.

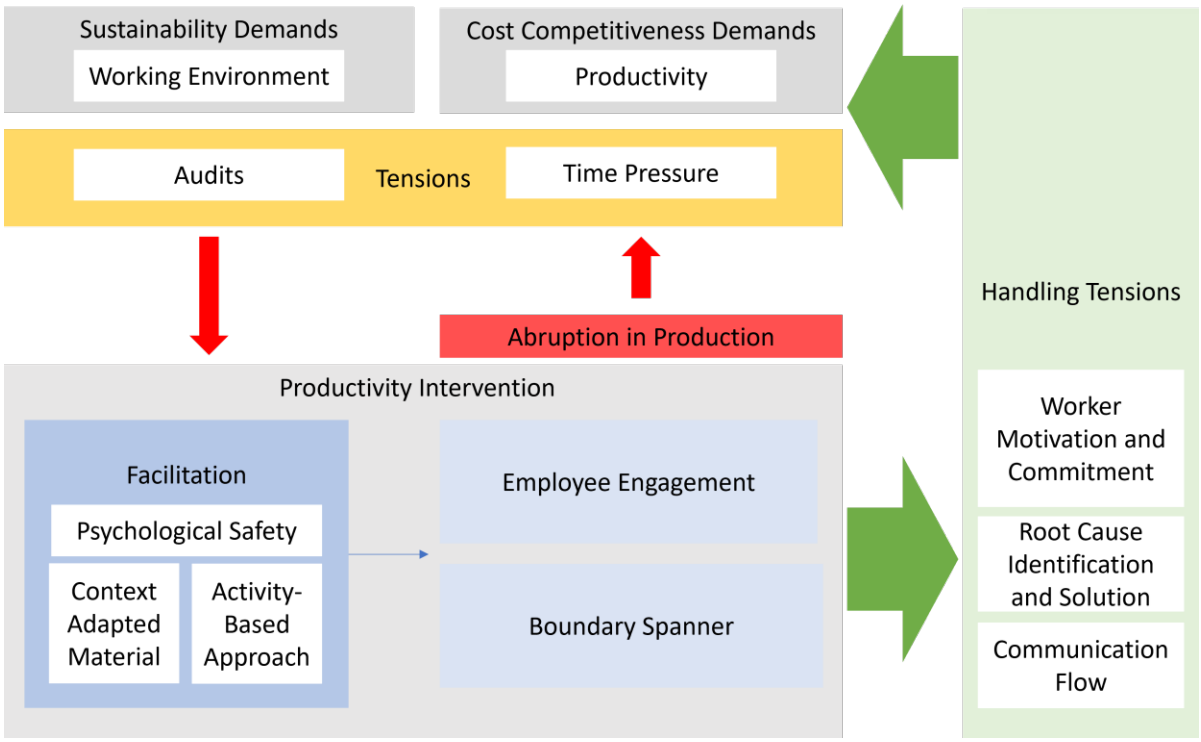

Figure 20: How a facilitation-based productivity intervention might play a role in handling tensions between Social Sustainability and Cost Competitiveness

6.5 Theoretical Contributions

The purpose of this thesis was to explore how a facilitation-based productivity intervention might play a role in handling tensions between social sustainability and cost competitiveness. To do this, three research questions were proposed. This section will answer these questions and relate them to existing literature, to highlight where this research is confirming, contributing to and expanding current literature.

RQ1: What are the tensions between social sustainability and cost competitiveness?

Responding to gaps in the literature, this study has addressed sustainability-related tensions in multi-tier supply chains (Govindan et al., 2021). First, the findings of this thesis support the findings by Huq et al. (2014), Lund-Thomsen & Lindegreen (2014) and Xiao et al. (2019) that tensions are arising in global supply chains out of customer demands for both cost competitiveness and sustainability. Facing the need to increase its efficiency, while assuring compliance with sustainability standards (Andersson et al., 2019; Hamja et al., 2021; ILO,

2021), the factories studied in this thesis mostly did experience tensions when trying to balance these competing demands.

In this study, these tensions manifested in mainly two ways. First, the time pressure related to demands for delivering on strict deadlines sometimes leads to social sustainability concerns being overlooked. Second, sustainability requirements from customers, manifested through the presence of in-factory audits, sometimes lead to increased levels of stress for the factory workers. While the first finding is commonly referred to in literature, the observations related to how audits might add another layer of pressure that enhances the tensions are not adequately addressed.

In this study, the in-factory audits appeared to add an additional layer of stress on the factory workers, due to the preparations initiated ahead of audits to ensure compliance on the audit day. This confirms the findings by Islam et al., (2018), that the in-factory audits create additional tensions in the factories. This study expands on Islam et al. (2018) by identifying how audits can act as a major hindrance to the delivery of training and implementation of initiatives. This was experienced both in the scheduling of the training sessions, but also during the implementation of the training. The latter occurred since the people involved in training are often busy with audits, such as compliance personnel. Consequently, in-factory audits themselves can take away precious time from trainers and employees, which can limit the factories' chances to improve productivity and attend to concerns related to social sustainability.

Consequently, this study claims that audits to ensure compliance with sustainability requirements are not an efficient tool to overcome tensions, but rather a precedent of tensions, and a barrier to training. Thus, the study extends current knowledge of sustainability requirement-based audits and contributes to the literature by addressing tensions in multi-tier supply chains (Govindan et al., 2021).

RQ2: What elements constitute a facilitation-based productivity intervention?

This study provides an empirical exploration of a facilitation-based productivity intervention, as proposed by Hasle and Vang (2021). It finds that designing productivity interventions based on facilitation, paying attention to psychological safety, context adapted material and using an activity-based approach, impacts the employee engagement and functions as a boundary-spanning activity within the factory. Thus, it provides a theoretical contribution to what

constitutes a facilitation-based approach in the context of productivity interventions, and what is important to pay attention to in such approaches. It also highlights challenges for such an intervention and highlights that for it to function optimally, certain conditions need to be in place.

Concerning the establishment of psychological safety, this study emphasizes the need to pay particular attention to existing hierarchical structures within the factory. Existing communication norms in the factory, together with common perceptions of workers as being incompetent in participating in other processes than their daily responsibilities, might create challenges for the facilitation-based approach if not considered carefully. These findings are in line with Nembhard and Edmondson (2006), who stressed the importance of paying attention to the impact of professions in cross-disciplinary teams to ensure psychological safety. If this is not attended to, bringing workers, supervisors and managers might be experienced negatively by the workers, if they fear that their opinion could be taken as criticism towards superiors. Thus, this study stresses the importance of ensuring a psychologically safe environment and supports Nembhard and Edmondson (2006) proposal to not only train workers to speak up but to train the managers to show respect and appreciate their contribution.

Having context adapted material, both related to the everyday operations, but also the cultural context, was key for ensuring the active participation of all participants throughout the FIT sessions. Arguably, ensuring that the material is easily understandable and relatable for everyone involved, is in line with the overall aim of facilitation, which as defined by Kitson et al. (1998) is “to make something easier for others” (p. 152).

Engaging the participants through activity-based dialogues assisted the participants in exploring new solutions in thought, but also in action, through conversations with other team members from different hierarchical levels and departments. This supports the proposal by Raelin (2012), who argued dialogue to be an effective modality to be used by facilitators, as this can lead to exploration, decision making and collaborative action.

The facilitation-based approach can be argued to enhance employee engagement. Findings show that active participation during the productivity intervention motivated the workers. This was particularly because they got recognition for their high level of contribution to the factory improvement processes by the management. This supports the findings by Ali et al. (2019),

that recognition from management positively impacts employee engagement in manufacturing industries like garment. Holbeche and Springett (2003) explain that experiencing contributing to a role beyond the boundary of responsibilities is a sign of high employee engagement, as this was arguably observed during the FIT pilot. Active participation also appeared to increase workers' ownership of change processes. Thus, the findings support the suggestion by Hasle and Vang (2021) that a facilitation-based approach might contribute to enhancing the local ownership of productivity interventions.

The facilitation-based productivity intervention allowed the blurring of boundaries of the hierarchy within the factory, by facilitating for workers, supervisors and management to raise concerns, discuss and reflect together. Thus, one can claim that the facilitation-based approach facilitated boundary-spanning actions across intra-organizational boundaries, as specified by Colman and Rouzies (2019). The facilitation-based productivity intervention assisted in building trust and removing barriers between the factory employees and management. Anitha (2014) argues that relationships between co-workers are one main factor in impacting employee engagement, and such boundary-spanning activities seemed to positively impact the employee engagement and the working environment in the factories. These boundary-spanning activities were also found to impact the internal communication flow in the factories, something that is another main factor concerning improving employee engagement (Ali et al., 2019).

Consequently, this thesis extends the knowledge on productivity interventions by spotting three main elements of facilitation-based productivity interventions that might lead to successful results both with respect to cost competitiveness and social sustainability: ensuring psychological safety, having context adapted material and using an activity-based approach. It also outlines several potential barriers and challenges to consider carefully for a successful approach.

RQ3: How might a facilitation based-productivity intervention play a role in handling tensions between social sustainability and cost competitiveness?

By researching a facilitation-based productivity intervention, this thesis provides insights on new strategies for the development of suppliers and improving the working environment. Thus, it responds to the call from scholars for research on supply chains to engage more in intervention research (Hasle & Vang, 2021; Touboulic et al., 2020). It further provides

empirical evidence to the suggestion by Hasle and Vang (2021), to explore how facilitation of the participants' own problem and solution journey could assist in a self-discovery related to the integration of the logic of cost competitiveness and working environment.

In this study, the facilitation-based productivity intervention appeared to impact three key areas in the factories: its ability to identify root causes and create simple and non-costly solutions, its communication flow and the worker motivation and commitment. By providing a platform for the participants to attend to both productivity and the working environment, the facilitation-based productivity intervention arguably became an arena that assisted the factory in handling existing tensions between cost competitiveness and social sustainability.

This thesis contributes to the debate on the impact of productivity interventions on OHS, by claiming that productivity interventions with elements from lean production might have positive effects on OHS and the working environment if using a facilitation-based design. By inviting the workers to actively participate in factory improvement processes through the facilitation-based approach, the factories managed to both increase productivity and fix working conditions related issues. It also supports Locke and Romis (2007), who suggested that active participation in decisions related to the working process might have a positive impact on the work climate (Locke & Romis, 2007). Thus, this study claims that the intervention managed to achieve integration of the two demands through its design. These findings expand the findings by Hamja et al. (2019), by highlighting the importance of intervention design. Hence, this study supports the overall arguments by Pagell et al (2015) that how one manages the priorities between OHS and operations matters for how their mutual impact turns out. These findings provide empirical evidence to the recommendations in current literature that interventions should be designed for the *integration* of productivity-enhancing measures and measures of improving the working environment (Hamja et al., 2021; Hasle & Vang, 2021; Pagell et al., 2015), while simultaneously addressing how to integrate the underlying conflicting logics underpinning the goals of the intervention (Hasle & Vang, 2021).

This thesis claims that a facilitation-based productivity intervention provides a way to look beyond the chase for ‘win-win’ solutions by establishing platforms to approach, explore and handle the tensions between social sustainability and cost competitiveness. Thus, this thesis contributes to filling the gap in the literature by explicitly addressing the tensions present between social sustainability and cost competitiveness (Margolis & Walsh, 2003; Smith & Lewis, 2011), by suggesting facilitation-based productivity interventions as a platform for

handling tensions. The facilitation-based productivity intervention allowed for exploration of the two demands and their tensions to find ways of handling them within the factory. Though it could not remove the time pressure or the in-factory audits, it could assist the factory in attending to both concerns by identifying quite simple and non-costly initiatives that led to a significant impact on the daily life of the factory workers. Through this platform, the factory was able to identify areas where there were positive synergies between productivity and the working environment, but also where there was a need to balance the two demands to deal with the tensions.

Furthermore, this finding supports the call for using inclusive approaches, which means ensuring a wide reach horizontally and vertically in the factory when designing productivity interventions (Andersson et al., 2019). It also supports the Reinecke & Donaghey (2020) argument for involving workers' voices from different levels in the factory. This study proposes a facilitation-based productivity intervention, like the FIT, to have the potential to provide an arena where workers are viewed as partners and encouraged to make local decisions. Following Marodin and Saurin (2013) and Hamja et al. (2021), this might support the intervention in overcoming resistance to change. Also, the facilitation-based productivity intervention provides an alternative that supports Hopp's (2018) call for productivity interventions to bring more about the people behind the tools, and their knowledge, instead of over-relying on tools.

6.6 Managerial Implications

The practical implications of this thesis are relevant to different actors. In particular, managers of international brands operating in global supply chains, management of manufacturing supplying firms and developing partners might gain valuable insights through this research.

The research provides insights for managers of international brands in the textile and garment industry about the tensions experienced by their suppliers as a result of their demands for both cost competitiveness and sustainability compliance. This study further suggests that international brands should consider ways of handling these tensions when designing their sustainability strategies and proposes facilitation-based productivity intervention to be a relevant tool in this strategy.

Through this, international brands can support their suppliers in developing platforms to find ways to handle the demand to increase productivity and comply with sustainability compliance simultaneously. This might assist the companies in refining their supply chain management strategies and ultimately increase the impact of their social sustainability initiatives and reduce the risk of reputation damage due to the discovery of bad working conditions. Ultimately, this study provides insights into how international brands can move beyond the limited focus from the 'win-win' approach to explicitly address the tensions arising between material issues. This might be of high value for the future of sustainable business.

For factory management, this study shows how a facilitation-based productivity intervention might assist the manufacturers to increase productivity and improve the working environment with very simple and non-costly solutions. It also shows how this has the potential to positively impact employee engagement and the communication flow in the factory. Thus, the factory management might use these insights to refine their HR systems and training procedures.

Finally, development partners offering training to manufacturing firms in global supply chains might gain insights into how they can design interventions that embrace the tensions faced by the sector, through the use of facilitation. It also provides insights into potential challenges and important conditions for such an approach, which might be of assistance in designing future interventions for this sector.

7. Conclusion

In the final section of this thesis, the findings in relation to relevant research streams in literature are summarized. Furthermore, suggestions for future research are mentioned and the limitations of the study are discussed.

This study aimed to explore how a facilitation-based productivity intervention might play a role in handling tensions between social sustainability and cost competitiveness and. To achieve this, I proposed three research questions. To answer these questions, a productivity intervention pilot in the Pakistani garment industry called the Factory Improvement Toolset (FIT) from the International Labour Organization (ILO) was examined. Based on primary data from semi-structured interviews with actors in the pilot, primary observational data from several bi-weekly meetings with the facilitators and coordinators, together with supplementing secondary data, I was able to gain in-depth insights into the three questions and the overarching purpose.

This study contributes to the literature by providing empirical evidence from a facilitation-based productivity intervention. It suggests that such an intervention design has the potential to represent a new strategy for the development of suppliers and improvement of the working environment in global supply chains. By developing a model, this study shows how the intervention operates in a dynamic relationship with existing tensions and provides a platform for the factories to handle tensions between social sustainability and cost competitiveness within the factory. This study also extends the knowledge on productivity interventions by claiming the need to ensure psychological safety, having context adapted material and using an activity-based approach to achieve successful results in facilitation. It also identifies potential barriers to such an approach and stresses the importance of paying attention to these barriers while planning for a facilitation-based intervention.

By facilitating for the workers to actively participate in factory improvement processes, the factories managed to both increase productivity and fix working condition related issues. This study claims that the intervention managed to achieve integration of the two logics through its specific design. Furthermore, though the intervention could not eliminate the pressure from competing demands, the facilitation-based productivity intervention assisted the factory in attending to both concerns by identifying quite simple and non-costly initiatives that had a significant impact on the daily life of the factory workers. Ultimately, this study suggests

facilitation-based productivity intervention as an alternative to the traditional approaches used by international brands for ensuring compliance and cost competitiveness in their global supply chains. It also suggests this approach for factory improvement for managers of manufacturing firms. Thus, this study creates value for practitioners in sustainability both from the perspectives of international brands, manufacturers, and development agencies.

This study also implies potential future topics of research on facilitation-based productivity interventions. Further research can conduct a multi-case study and compare the processes and outcomes across factories. It is also of interest to compare the experience of several workers, supervisors, and managers through in-depth interviews, combined with observations of the group dynamics in real-time. Furthermore, future research would benefit from a longitudinal study researching the sustainability of the impact three and six months after the intervention. Lastly, further research could also explore similar interventions in different developing country contexts, as well as in different industries.

There are certain limitations to this study. First, only 16 interviews were conducted, and although they were representing ten different factories, this makes generalizations to a wider population impossible. Moreover, due to travel restrictions and an uncertain security situation in Europe, I was unable to travel to Pakistan for on-site observations of the factory results. Furthermore, most of the informants were facilitators hired by the ILO. This might have impacted their views and reflections about the intervention. Though some factory representatives were interviewed, the time restriction of this thesis limited the opportunity for conducting more interviews. Another consequence of the time restriction was that this study did not examine the sustainability of the initiatives in the longer term. Future research would, as mentioned, benefit from a longitudinal study researching the sustainability of the impact three and six months after the intervention.

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9. Appendix

Appendix A – Consent Form

Informed Consent Form

Norwegian School of Economics

Case study of the Factory Improvement Toolset (FIT) pilots

This letter invites you to participate in a research project. The aim of the project is to investigate the role of productivity interventions in increasing productivity and improving working conditions in the ready-made garment sector. To do this, the research project will study the Factory Improvement Toolset (FIT), a program created by the International Labour Organisation (ILO).

Purpose of the Project

The research is part of the master thesis of Ingvild Farstad at Norwegian School of Economics with project end in May 2022, with Sveinung Jørgensen as academic supervisor. *Norwegian School of Economics* is the institution responsible for the project. In addition, the collected data will be used to conduct a case study for the ILO.

The purpose of this project is to investigate the role of productivity interventions in increasing productivity and improving working conditions in the ready-made garment sector, by studying the FIT pilots. In detail, the project aims to reflect the potential effects linked to social dialogue and industrial relations systems improvements, advancement of gender equality; enhancement of productivity and competitiveness; and reduction of environmental impact where applicable depending on the enterprise module selection. To do this, the experiences from different actors involved in the FIT pilots are studied.

Your participation

You are being asked to participate due to your involvement in the FIT pilots. Through this, you inhabit observations and experiences which will be valuable for research purposes.

If you decide to take part in this project, it will involve that you participate in an interview. It will take approximately 1 hour. The interview will include questions about your experience with the FIT pilots, including challenges, advantages, and general observations. Your answers will be recorded electronically, and notes will be taken during the interview. The interview will then be transcribed. The insights gathered during the interview may be published. Any information that could identify individuals will be removed and substituted with a code.

Deciding to take part in this project will also involve that you consent to the researcher taking part in progress review meetings. Here the researcher will observe the sessions and write notes during the meetings. Any information that could identify the individuals will be removed.

Participation is voluntary

Participation in the project is **voluntary.** If you chose to participate, you can withdraw your consent at any time without giving a reason by contacting the researcher by e-mail or phone. You will be given the opportunity to check your quotations. This is to secure the experience that the reproduction of your answer was correct and in the correct context with regards to the intention of the quesiton. There will be no negative consequences for you if you chose not to participate or later decide to withdraw. It will not affect your relationship with your employer.

Your personal privacy – how we will store and use your personal data
We will only use your personal data for the purpose(s) specified in this information letter. We will process your personal data confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act).

- Access to personal data will only be granted to the student responsible for the thesis and the academic supervisor.
- Measures taken to ensure that no unauthorized persons can access the personal data is the following: Your name and contact details will be replaced with a code. The list of names, contact details and respective codes will be stored separately from the rest of the collected data. The data will be stored behind two-factor certifications.
- All personal data will be made anonymous. If your answers are used in the final paper, they will be reproduced in a way that will assure it is not possible to identify who has responded. In other words, you as a participant will not be recognizable in publications.

The project is scheduled to end 27.05.22. At the end of the research project, digital recordings will be deleted, and any collected data will be anonymised.

Your rights
So long as you can be identified in the collected data, you have the right to:
- access the personal data that is being processed about you
- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Data Protection Officer or The Norwegian Data Protection Authority regarding the processing of your personal data

What gives us the right to process your personal data?
We will process your personal data based on your consent.

Based on an agreement with Norwegian School of Economics, NSD – The Norwegian Centre for Research Data AS has assessed that the processing of personal data in this project is in accordance with data protection legislation. If you have questions about the project, or want to exercise your rights, contact:
- *Norwegian School of Economics via Ingvild Farstad (student) and Sveinung Jørgensen (academic supervisor).*
- Our Data Protection Officer: personvernombud@nhh.no
- NSD – The Norwegian Centre for Research Data AS, by email: (personverntjenester@nsd.no) or by telephone: +47 53 21 15 00.

Kind regards,

Name of researcher:
E-mail:
Phone:
NHH Norwegian School of Economics

Consent form

I have received and understood information about the project *Case Study on Factory Improvement Toolset (FIT pilots* and have been given the opportunity to ask questions. I give consent:

- ☐ to participate in an interview
- ☐ to researcher's participation and documentation in progress review meetings where I am sharing my experiences

I give consent for my personal data to be processed until the end date of the project, approx. 25.05.22

(Signed by participant, date)

Appendix B

Meldeskjema / Masterthesis at Norges Handelshøyskole / Vurdering

Vurdering

Referansenummer
621995

Prosjekttittel
Masterthesis at Norges Handelshøyskole

Behandlingsansvarlig institusjon
Norges Handelshøyskole / Institutt for regnskap, revisjon og rettsvitenskap

Prosjektansvarlig
Sveinung Jørgensen

Student
Ingvild Farstad

Prosjektperiode
10.01.2022 - 27.05.2022

Meldeskjema

Dato	Type
06.01.2022	Standard

Kommentar
Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet med vedlegg den 06.01.2022. Behandlingen kan starte.

TYPE OPPLYSNINGER OG VARIGHET
Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til 27.05.2022.

LOVLIG GRUNNLAG
Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke tilbake.

Lovlig grunnlag for behandlingen vil dermed være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

PERSONVERNPRINSIPPER
Personverntjenester vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om:

- lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen
- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke behandles til nye, uforenlige formål
- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet
- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

DE REGISTRERTES RETTIGHETER
Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), og dataportabilitet (art. 20).

Personverntjenester vurderer at informasjonen om behandlingen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.
Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER
Personverntjenester legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).
Ved bruk av databehandler (spørreskjemaleverandør, skylagring eller videosamtale) må behandlingen oppfylle kravene til bruk av

databehandler, jf. art 28 og 29. Bruk leverandører som din institusjon har avtale med.
For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og/eller rådføre dere med behandlingsansvarlig institusjon.

MELD VESENTLIGE ENDRINGER
Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til Personverntjenester ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde: https://www.nsd.no/personverntjenester/fylle-ut-meldeskjema-for-personopplysninger/melde-endringer-i-meldeskjema
Du må vente på svar fra Personverntjenester før endringen gjennomføres.

OPPFØLGING AV PROSJEKTET
Personverntjenester vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.
Lykke til med prosjektet!

Appendix C: Interview Guide

General considerations

- ➢ The questions asked should be clear and open
- ➢ Make space for improvised follow up questions and comments
- ➢ Within the sample of people involved in the FIT pilots, there are different subsamples that inhabit different experiences and perspectives. As these perspectives are all relevant in answering the research question, the questions presented in this interview guide will be slightly adapted to the three different subsamples, but the main message persist.

Introduction

- ➢ Explain who I am and provide information about the master thesis and the pilot project.
- ➢ Explain the background for agreeing on this interview.
- ➢ Remind the participant of the right to withdraw their consent at any time and that they will be offered the opportunity to review quotations reproduced for thesis purposes.
- ➢ Remind the participant that the interview will be recorded but will only be used for purposes according to the informed consent and will be deleted afterwards.

Background

1. Can you briefly explain your professional background and current role?
   (Current role, former experience in the industry, years of experience)

2. How are you currently involved with the Factory Improvement Toolset (FIT) program?
   (Responsibilities, sample decisions, facilitators/participant/coordinator)

3. Have you been involved in another program to increase productivity before?
   (If so, which ones? How did you experience it?)

4. Have you been involved in another program to improve working conditions before?
   (If so, which ones? How did you experience it?)

5. Why did your organisation/factory decide to get involved with the FIT program?
   (What have you been told is the reason?)

FIT experience

6. Which modules of the FIT have you been involved in?

7. How did you experience the FIT program?
   (What did you dislike/like, and why? What was challenging, and why?)

8. How did you experience working in groups?
   (What did you dislike/like, and why? What was challenging, and why?)

9. How did you experience workers, managers and supervisors working together?
   (Why? Can you give an example?)

10. How did you experience the level of engagement during the group activities?

11. How would you compare the FIT to other programs you have been involved in?
(Main differences, similarities etc.)

12. How have you experienced the commitment from top management?
(Dialogue, follow-up, verbal/written expression)

13. What type of challenges, from your perspective, is the factory you are involved with currently facing?
(High number of orders, upcoming audits etc.)

14. To what extent did these challenges impact the implementation of the FIT?

FIT impact

15. Have you experienced any changes in productivity due to the FIT? If so, what were they?
(Can you provide an example? Why do you think this happened/did not happen?)

16. Have you experienced any changes in the working environment due to the FIT? If so, what were they?
(Can you provide an example? Why do you think this happened/did not happen?)

17. What could have been done differently to create a stronger impact?

18. Do you see any barriers to further implementation of the FIT, if so, what are these?

19. Is there anything else you would like to add?

Closing

- ➢ Thanking for the time spent by the interviewee.
- ➢ Reminding about contact information, and the chance to reach out for any type of questions.

Appendix D: Key Performance Indicators (KPI)

KPI	Definition	Calculation	Purpose
Space utilization rate*	The proportion of space (floor + shelf surface) that is occupied by materials and other items (carts, machines, etc.) in the factory's storerooms. Both very low and very high space utilization is inefficient	The proportion of space (floor + shelf surface) that is occupied by materials and other items (carts, machines, etc.) in the factory's storerooms	The purpose of this is to understand how efficiently space is used in the storerooms, and identify how one could improve storage efficiency while ensuring employees' safety.
Average material retrieval time (in minutes)	Average material retrieval time is defined as the average time (in minutes) that it takes for a storeroom worker to find, retrieve and prepare materials from the stores for issuing. This show how well-organized and orderly the stores are (ILO module ST4, ST1, 2021)	This KPI is calculated by taking the time of how long it takes for a worker to locate, retrieve and prepare all items for a specific requisition. This should be recorded for each requisition with trims and fabric separately	
Average Sample turnaround time	The average number of hours that it takes for the factory to produce a new sample for a new style (ILO Module SR4	It is calculated by recording the number of hours it takes to make each new sample for a new style and then calculate the average at the end of each month.	The purpose of this KPI is to understand how efficient the factories' sampling and pattern-making operations are.
Sample hit rate	The proportion of samples that you get right the first time, meaning that are accepted by the buyer the first time, over a period of time. This does not include style changes by buyers	It is calculated by taking the number samples right the first time divided by total number samples made, times 100%. The closed to 100% the better. (SR4)	The purpose of this is to understand the quality of the counter samples and pattern-making processes.
Target Achievement Rate (%)	The percentage of the daily production target that was achieved, meaning it was actually sewn in terms of good production.	It is calculated: (# pieces produced today / daily production target) x 100%. It can be calculated separately for each line, or for all lines together, and being as close to possible to 100% is the goal.	The purpose of this KPI is to understand how efficiently each sewing line operates and how realistic production targets are.
Work-in-Progress (WIP)	The amount of pieces that have not yet been completed, and are being sewn or waiting in	This can be calculated separately for each line, or for all the lines together.	The purpose of this KPI is to understand how efficiently the factories' sewing lines operate and

	between two different work stations.	Calculation Total # of pieces fed to the line – Total # of pieces sewn by the line Notes: Total # of pieces fed or sewn refers to the total # of pieces fed or sewn for one specific order, in one specific line.	how well the lines have been balanced. Both very high levels of WIP and very low levers are signed taht the lines are not well balanced.
Defect per hundred units	Defect per hundred units is defined as the number of defects that is found in average per 100 inspected garments or pieces.	It can be calculated the following way: total # defects found / total # of pieces or garments inspected) x 100%. The lower the DHU, the higher is the quality of the sewing room in the factory.	This KPI assist in understanding the quality of the sewing room.
Turnover rate (%)	The number of employees who leave the factory over a period of time, and thus must be replaces, as a percentage of the total amount of employees.	This is calculated the following way: (# of employees who left and must be replaced / average # of employees) x 100%, where # of employees = (# of employees at the start of the time period + # of employees at the end of the time period)	
Absenteeism rate (%)	Absenteeism rate is defined as the amount of time, often measured in days, the factory employees were absent over a period of time, as a proportion of the total amount of time (days) they worked during that time.	The calculation used is the following: (# days lost due to absences / total # of available days) x 100% Notes: Total # days worked = (total # employees) x (# working days during that month) # days lost due to absences = summation of all absences during the period of time (record all absences for all employees)	Absenteeism rate is defined as the amount of time, often measured in days, the factory employees were absent over a period of time, as a proportion of the total amount of time (days) they worked during that time.
Water consumption per unit of production / per employee	the amount of water used in the factory over a certain period of time to produce one piece of garment, or for each employee.	It is calculated the following way if you are a washing plant: Total water used in litres / total # of garments produced. If you are a garment manufacturer it is calculated the following way: Total water used in	The purpose of this KPI is to understand how efficiently water is used in the factory.

		litres / total # of workers in the factory.	
KPIs with no further description in module material			
Energy consumption per unit of production (in kWh) over the past month			
Material waste for the past month (in Kg)			
Average order cycle time /order lead time (days)			
the number of accidents and near-misses			
On-time delivery rate for the past month (%) were increased by 10%			
Factory piece per employee for the past month were increased by 0.008%			
Overtime as a percentage of total hours worked			

Appendix E: Initatives

Module	Identified Issue	Root Cause	Initiative	Results
ST-01 Receiving Material	Unnecessarily use of space and time, while searching for material.	Proper tagging is missing, material is being placed improperly which cover large area and time is being wasted in searching material which enhance worker stress and impact efficiency badly	Check Tag at time of material received and place tag if found missing	Retrieval time decrease, and space utilization increase as material is now stored properly with tags. Reduced risk of loss of material
HR9 – Critical Thinking & Reasoning in Factories	Inefficient daily operational meetings	Lack of structure and agendas	Introduction of meeting cards for daily operation meetings	Meeting efficiency improved due to clear structure and procedures.
SL3 – Sewing Line Planning	Low first-day efficiency rates despite advanced processes in place (Factory's own first day efficiency calculation = 20%)	Lack of overview of procedures makes line in-charge struggle to get things done.	Introduction of a check list to ensure all procedures are done appropriately prior to the start of new style.	Improved first day efficiency. New levels 29%.
1O2 – Solving problems in the factory	Limited capacity in the female prayer area	Lack of knowledge of available capacity and no schedule	Calculation of available capacity and introduction of new schedule for prayers line-wise and floor-wise. Schedule clearly visible in the factory spaces	Improved accessibility of female prayer area, ensuring a comfortable experience for the workers.
1O2 – Solving problems in the factory	High levels of material wastage	The materials are not inspected properly before it is relaxed and layered.	Hire a person to conduct an inspection before the relaxing and layering	Decrease in material wastage
SL6 – Stitching Garments	High rejection rate, customer rejecting pieces despite maintenance of machines carried out	Defects in sewing line not identified properly before sent for finishing	Transferring one worker to from finishing line to stitching line to inspect and identify the issues during in-line production	Decrease in defect rates
1O2 – Solving problems in the factory	Defects due to shade variation and knit wholes	The defect goes undetected to production	Introduction of a table to be used for an additional quality inspection before moving the piece to cutting etc.	Decreased defect rates

1O2 – Solving problems in the factory	Defects due to share variations	Lack of proper lighting at the inspection workstation	Investment in new lamps	Decreased defect rates
ST1 – Receiving materials	High material retrieval time	Workers carrying more than 200kg without equipment	Investment in trolleys	Reduced health risk and decrease in retrieval time
ST3 – Storing materials	High operational time and wastage of chemicals due to expiry data	Chemicals storage lack structure	Introduction of FIFO, first thing, first out.	Reduction in chemical wastage and improved operational time