English Summary

This thesis introduces a new perspective on how organizations in developing countries can improve their productivity, efficiency, and quality performance through Lean intervention. Currently, there is an ongoing debate in the literature regarding whether Lean is a success or failure in terms of productivity in developing countries. Besides, quality improvement due to Lean application is predominantly dependent on a particular development process, but the relationship remains ambiguous and unclear. This research intends to contribute to the understanding of what is required to ensure that the results of Lean intervention are applied sustainably and how management can design better Lean interventions in the garment sectors of developing nations. This thesis fills the gap by addressing the following research questions.

Q1. How can organizations with low operations management knowledge and limited access to resources simultaneously improve productivity and occupational safety and health (OSH) through Lean?

Q2. How can the application of SMED be managed to secure organizational sustainability, and how SMED methodology be adapted to the specific requirements of the garment industry in the context of a developing country?

Q3. What are the barriers to quality improvement in garment factories in developing countries and what organizational mechanisms can enable continuous improvement of quality?

This dissertation summarizes and analyses three sequential studies that were conducted to help address the following research topics. Each of these three studies is discussed in the paragraphs that follow.

First study reveals a clear and concise framework of organizational antecedents for positive Lean implementation, highlighting when organizational capacities need to be added and when they need to be removed. Translating generic mechanisms into specific contexts requires better analytical tools for designing small-scale intervention, which is also addressed in this study. When we realized that the in Myanmar garments industries were ‘too skinny rather than too fat to become

lean', we needed to establish organizational antecedents typically present in a high resource context.

The second study addressed the strategic question that how to adopt the SMED method to the specific needs of the garment industry in a developing country and how to manage the application of SMED to make sure that the use of the method is sustainable over time in the organization. To answer these questions, we decided about how to split and combine responsibilities to put Lean into place. The organizational setting is one of the things that makes it hard to use Lean in Myanmar's garment industry, which was found in the first study. In contrast, Bangladeshi worker and management has much better working skills and more experience in the industry than Myanmar. Second study showed that having the right skills and people is not enough to use Lean to improve productivity and occupational safety and health (OSH). The Toyota 4P model shows that organizational settings can help improve productivity and occupational safety and health (OSH). Nevertheless, a system cannot make things better by itself. Instead, the improvement system should be seen as the organization's toolbox for making things better. Still, each improvement activity will be different and affected by the people who lead it. With the action research method, the goal of this intervention-based study was to investigate how people were responsible for implementing a specific Lean tool (SMED) to see how improvement approaches affected the improvement of productivity and occupational safety and health

Third study contributes to understand how to implement quality control circle in garment industry focusing employee participation in solving problems and learning. It needed commitment from the top management, participation from the workers, training, tools and methods, and learning culture. The paper uses a design science research strategy to look at two quality control circles (QCC) cases in Bangladesh garment factories. It uses the context-intervention-mechanism-outcome (CIMO) framework to find explanatory mechanisms that can be used to design better interventions in the future. Poor analytical and technical skill makes it hard for people in developing countries to manage and solve problems in the garment industry. However, very few studies show how to fix this problem and train people to use Lean and other methods. Moreover, factory owners and top management do not want to give their middle-level and lower-level workers formal or informal training. Some factories see it as a waste of time and money, but Lean says improving management

skills can improve productivity and quality. In this study, we used the QCC method to include the learning process as the "hands-on, minds-on, and hearts-on method." The result showed an impressively positive effect on problem-solving, which led directly to a sharp improvement in quality and efficiency in the intervention factory. The study gives managers the information to understand how QCC can be practically put into practice. Essential mechanisms include R&D section integration, practical support from top management, worker participation, using quality tools, and learning lessons to use in the future.

In conclusion, the findings of this thesis add to the growing body of knowledge regarding the impact of better lean interventions on productivity, quality, and OHS outcomes. They do so by providing empirical findings on interventions and simple, long-lasting intervention mechanisms. Furthermore, this thesis demonstrates that Lean can be implemented without causing physical harm to employees. More importantly, this thesis demonstrates a systematic method for lean intervention in the RMG sector of developing countries, which will be helpful to academics and practitioners alike.