

Zelalem Ejigu

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❖ Education

Master of Science (MSc.), Industrial Engineering,

July 16, 2020

Addis Ababa University, Ethiopia

Advisor, Dr. kassu Jilcha

Thesis: Evaluation and optimization of weaving process parameters using Grey-Taguchi method

Overview

- The booming textile and garment industry in Ethiopia require continuous research and technical improvement. In this sector, sizing is a crucial unit operation in the weaving process which can strongly affect the efficiency of the loom machine. However, there is a dearth of knowledge to quantitatively trade off the sizing process parameter and the response variables such as warp yarn strength and loom efficiency. Here, we synchronized Grey relation and Taguchi L18 (mixed 3-6 level) techniques to precisely optimize the multiple performance characteristic. As a result, the optimization of the sizing process parameter proportionally increases the warp yarn strength and the loom efficiency. This demonstrated that an optimized loom efficiency has a potential to bring an extra fabric and better product quality in the weaving process.

Bachelor of Science (BSc.), Industrial Engineering,

June 29, 2012

Bahir Dar University, Ethiopia

Advisor, Assi.Prof Tesema Belai

Thesis: Application of statistical process control tool in textile yarn manufacturing process

Overview

- Textile industry has an immense contribution for the growth and prosperity to the developing countries, such as Ethiopia. To successfully utilize the sector, it needs intensive research and development on the textile processes and its quality characteristics. In textile yarn manufacturing, quality control at multiple processes points is not successful and it brings inconsistent result. To overcome this problem, we optimized the sampling interval at the entire yarn production using Duncan's economic and statistical X and R control chart. Eventually, the optimized result has provided consistent quality control data which able to reduce working time and operating costs.

❖ Professional Experience

Lecturer and Researcher

August 7, 2015 - Present

Bahir Dar University, Mechanical and Industrial Faculty

Bahir Dar, Ethiopia

- Lectured undergraduate courses such as Total Quality Management, Quality and Reliability Engineering and Lean Manufacturing, Production planning and control, supply chain management and logistics
- Assisted undergraduate courses such as Operation research, Industrial management and engineering economics, Facility layout design and material handling, Manufacturing Process II etc.
- Worked to create research collaboration between the University and local industries
- Involved in a holistic exam committee and developed a holistic exam to undergraduate Industrial Engineering students
- Supervising research projects for students annually
- Participate in long term research projects and give short term training to the industry

Research and System Development Team Leader

December 12, 2013 - May 08, 2015

Bahir Dar Textile Share Company, Bahir Dar, Ethiopia

- Responsible for research, planning, monitoring and implementing new improvement techniques and philosophies into the company
- Lead training and development process for each R&D team member and over all team
- Participate in and develop external networks
- Involved in a project to substitute polyvinyl alcohol (PVA) sizing agent by a novel, cheap and locally modified starch chemical
- Participated in a steering committee member during ISO 9001, 2008 quality management system implementation
- Worked as internal auditor during ISO19011:2011 environmental management system implementation

- Served as internal quality system auditor and determined the effectiveness of the systems and procedures to meet the expected quality
- Supervised KAIZEN implementation, evaluated KAIZEN activities and followed up continuously the improvements in the factory
- Report R&D results (benchmarks, goal attainment, budgets) on weekly, monthly, quarterly and annual basis

Quality Inspection Officer

December 26, 2012- October 01,2013

Ministry of Trade and Industry, Addis Ababa, Ethiopia

- Served as government quality inspector on the front line between the local industries and the market
- Supervised different factory works including quantity measurement, quality variation and correction against the state and local regulatory standards during follow up inspection
- Carried out the testing of products to check their compliance with the expected requirements

❖ Language skills

- **Native language:** Amharic
- **Other language skills:** Fluent in English. English was a medium of instruction in all my education.

❖ Training and Certifications

- Upper intermediate 1 course at level B2.1 certificate from *British council* Ethiopia teaching center at August 31,2018
- Supplementary training on quality management systems held from February 20,2018 to April 25,2018 and prepared by *Higher Education Relevancy and Quality Agency of Ethiopia (HERQA)*
- Quality management system development and implementation based on ISO 9001,2008 certificate from Ethiopian standards agency at March 30, 214
- Environmental management system development and implementation based on ISO 14001:2004 certificate from Ethiopian standards agency at March 30, 214
- Management system audit based on ISO19011:2011 certificate from Ethiopian standards agency at March 30, 214

❖ Computer and software Skills

- Minitab, POM, LINDO, Arena, ANOVA, MATLAB and Microsoft Office suite

❖ References

- **Kassu Jilcha Sileyewu, PHD**
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