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Potential Effectiveness of Quality Tools and Techniques to Introduce Total Quality Management (TQM) in Ready Made Garment (RMG) Manufacturing Industries in Bangladesh

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Abstract

This study is a research program on the implementation of Total Quality Management (TQM) framework in the readymade garments (RMG) manufacturing industries detailing the order in which quality tools and techniques should be implemented. The inclusive aim of this study is to implement TQM and determine whether and how the application of Total Quality Management (TQM) practices can improve organizational and quality performance in the readymade (RMG) garments manufacturing industries. The aim of this research study is to implement TQM framework so as to develop quality performances within the ready-made garments (RMG) industries in Bangladesh by applying and analysing, various quality tools, techniques and TQM approaches. In order to reach this particular aim, the objectives are- **1**) To determine the extent to which management commitment influences the implementation of TQM practice in ready-made garments industries in Bangladesh, **2**) To identify TQM factors, tools/techniques and practices which could influence quality performance within the ready-made garments sector (RMG), **3**) To ascertain issues, needs of quality on ready-made garment (RMG) industries to improve productivity and product quality by implementing TQM framework.

Quantitative data analysis is being adopted, following a questionnaire survey within RMG industries to collect primary data, in Dhaka, Bangladesh by self-designed questionnaires, and analysed through statistical software i.e. SPSS and AMOS (SEM). Secondary data is to be collected from articles, journals, various ministry website of Bangladesh and related online resources. The research study covers a wide range of various concepts of quality, TQM as defined and illustrated by various authors and scholars. Literature part also includes detail discussion, benefits, justification, and hindrances of TQM implementation. Researcher practices SPSS-25 & AMOS (for SEM) software to carry out various tests for data analysis, such as: reliability and validity, descriptive statistics, frequency distribution, p-test, chi-square, ordinal logistic method (OLM), confirmatory factor analysis (CFA), factor loading, average variance extracted (AVE), discriminant validity tests to find out proper findings for justifying the research study. The research findings are to establish the benefits that ensure the implementation of TQM. It seems that TQM is an indispensable strategic tool, RMG industries can employ in quest to remain competitive through quality performances.

Keywords
TQM (Total Quality Management), RMG (readymade garments) industries, Quality Performance, productivity, SPSS (Statistical Package for Social Science), AMOS for SEM (Structural Equation Modelling).

Biography

Md Mazharul Habib is an accomplished and experienced Mechanical Engineer with a major focus on manufacturing management, procurement, and tender process, and technical operations. Possess hands-on experience in highly competitive real pressure in a mechanical engineering and production-based environment with managerial skills. Capable of thriving under a high-pressure working environment to achieve uphill goals.

Well organized and result oriented individual with proven ability to implement standards. Interested in engaging Operations and Management, Sales purposes job. Mr. Habib joined as an Assistant Engineer, promoted Executive Engineer, now at the position of Additional Director. I had served at Production Control Department (PCD), Mold making shop and Machine & Tool shop in BITAC (Bangladesh Industrial Technical Assistance Center) Dhaka, a leading and pioneer mechanical based Industrial Engineering organization and an advanced training center. Mr. Habib has successfully completed few advance technical training. Mr. Habib had completed few trainings as 'Training of Trainers Program' based on Machine Shop Practice, NanYang Polytechnic Institute, Singapore. He also had taken technical training in India on Design of jigs & fixtures, Design of dies and molds, 'CNC manufacturing systems' held in CITD, Hyderabad, India. Mr. Habib also completed a training on human resources development in die and molds organized by AOTS, in Yokohama, Japan. Besides Md Mazharul Habib has also attended and successfully completed few trainings on Lean Six Sigma, Statistical Process Control, in UK.

Dr Michele Cano is Head of the Division of Engineering. She is a mechanical and manufacturing engineer specialising in quality engineering with over 20 years' experience within multidisciplinary environments. Her research interests include lean manufacturing, quality and project management. As founder and programme leader for the MScs in Quality and Project Management, her specialist areas of teaching include compliance and quality systems as well as lean manufacturing and lean six sigma. Michele has delivered academic and training programmes in quality and lean manufacturing world-wide including, Hong Kong, France, Germany, Spain, Italy, Greece, Slovakia, Hungary, Romania and Russia. She is a reviewer for The TQM Journal, the Journal of Cleaner Production and the International Journal for Six Sigma and Competitive Advantage, and sits on the scientific committees for three international conferences in the field of Quality. She is currently an external examiner for The University of Portsmouth. Michele's work with industry is in the areas of quality management, lean manufacturing, Lean Six Sigma and project management and includes delivering training, consultancy and Knowledge transfer to organisations including Aggreko and Diageo. Area of academic expertise: expertise in lean manufacturing and continuous improvement; project management including benefits management realisation and quality management and systems, lean in higher education and special interest in programme and project management of change projects. Desired research direction: linking programme and project management with continuous improvement approaches for sustainability.