QUALITY MANAGEMENT SYSTEM IN MANUFACTURING ORGANIZATION Vs PROJECT ORGANIZATION.

A Comparative Case Study.

A Thesis

Presented To

The Department of Civil Engineering

University of Moratuwa,

Sri Lanka.

Submitted In Partial Fulfillment

of The Requirement For The Award of

MSc in Construction Project Management.

By

M.J.M.N. Marikkar

Thesis Supervisor - Dr. N.D. Gunewardena

September 2001.

ACKNOWLEDGEMENTS

I wish to express my appreciation and sincerely thank those who assisted and guided me in this study. This dissertation would not have been possible without their support and encouragement. Firstly, to my Supervisor, Dr. N.D. Gunewardena, whose guidance and insight was immeasurable throughout the research work. I am grateful to Mr. U.D. Jayawardena, CEO/GM of Lanka Transformers Ltd., for providing the opportunity to engage myself in a Masters Degree course and for his encouragement as always. My colleagues at Lanka Transformers Ltd., Mr. Narendra De Silva, Mr. Lasith Wimalasena and Mr. Chaminda whose assistance was main source of motivation. Most of all to my wife Zeena and two children, for their patience and understanding.

CONTENTS.

ABSTRACT

Quality Management Systems are now widely used by business enterprises of all the sectors such as Manufacturing, Service, Construction and Project Management. While Quality is expressed as "meeting customer expectations" the Quality Management can be referred to as "Continuos Improvement". Therefore every organization, irrespective of their size and nature of business needs to empathize on Quality Management within all the entire organization. ISO 9000 is implemented by Companies mainly for few reasons viz. to satisfy the demand by the customer, to survive in the market, to establish confidence in the customers by certification etc.

Lanka Transformers Ltd., (LTL) is a diversified company owning manufacturing facilities, service divisions and many subsidiaries. The manufacturing and service facilities of the company are already accredited with ISO 9000 series certification. The subsidiary for construction and Project Management, LTL Projects (Pvt.) Ltd., is now in the process of implementing ISO 9001 series.

This research is based on two case studies. One study was on the ISO 9001 certified Transformer Manufacturing plant and the other was on LTL Projects (PVT) Ltd. This study was aimed to ascertain the benefits of implementing ISO 9000 in the manufacturing plant and to examine the most suitable Quality Management aspects for the Construction and Project Management environment. The study was carried out by the analysis of past records, literature surveys, Questionnaire survey and interviews.

The implementation of ISO 9000 in the Transformer manufacturing plant has provided positive results. The employees in the plant work with satisfaction and motivation in their work situations and are willing to contribute for further continual improvement. Overall performance of the plant has improved in quantum of production, quality of product, service to the customers, human resource development etc. However the introduction of ISO 9000 in its basic form in the Project division of the company was not successful in its first attempt. One of the main reasons for this situation could be attributed to the distinct differences in manufacturing and project management.

Manufacturing is a repetitive process based on operational management principles, whereas Project management situations are unique in each case in many ways. Further studies revealed that the implementation of a Quality Management System to a Project Management organization should address the various issues in relation to specific project environment. This scenario

cannot be fully covered by ISO 9000 alone. It requires inputs from other Quality System principles. Thus it is identified that any, Project Management organization should develop a Quality Management System, which is blended with the concepts of ISO 9000, the guidance from ISO 10006 and it should also fall within the TQM philosophy in order to achieve the maximum benefits of Quality System implementation.

The study provided an opportunity to the company to identify the status and employee behavior in relation to the Quality management System for the manufacturing plant since its certification. Further the study provided guidance to review the implementation approach of ISO 9000 to Project management situations, by incorporating the solutions for issues pertaining to the project division of the company.

It is suggested that further studies be carried out, to identify common issues that are specific to construction and project management companies to develop a Quality Management System that will be more suitable for such organizations.

ABBREVIATIONS

BOO	–	Build Own Operate
BOT	–	Build Own Transfer
COQ	–	Cost of Quality
CEB	–	Ceylon Electricity Board
IPP	-	Independent Power Producer
ISO	-	International Organization for Standardization
kVA	-	kilo Volt Ampere
LTL	–	Lanka Transformers Ltd.,
LECO	–	Lanka Electricity Co Ltd.,
MW	–	Mega Watt
PM	-	Project management
QA	–	Quality Assurance
QC	–	Quality control
QM	-	Quality Management
QMS	–	Quality management system
SAARC	–	South Asian Association of Regional cooperation
TQM	–	Total Quality Management