Ain Shams University
Faculty of Engineering
Department of Design & Production Engineering

Design of an integrated Quality Assurance System through one of the Egyptian Service Industries

A Thesis
By
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Submitted in Partial Fullfilment of the Requirements for the Degree of Doctor of Philosophy in Mechanical Engineering
(Production Engineering)

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تصميم نظام متكامل لتوكيد الجودة خلال أحد الصناعات الخدمية في مصر

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Statement

This dissertation is submitted to Ain Shams University for the degree of Doctor of Philosophy in Mechanical Engineering (Production Engineering). The work included in this thesis was carried out by the author in the department of Design & production engineering, Ain Shams University, from 2006 to 2011. No Part of this thesis has been submitted for a degree or qualification at any other university or institution.

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Abstract

The Quality of Service (QoS) is described in terms of a set of features and characteristics that are observable and subject to customer evaluation.

Healthcare industry is one of the fastest growing service industries of most countries including Egypt. Governments invest in it increasingly large amount of money, either directly or indirectly, and expect in return high quality services. The reality, however, is often different: long waiting times, inefficiency, low productivity, stressed medical staff and less than satisfied patients.

Hence, the objective of this thesis is to design a model for implementing total quality management system that uses a straight forward approach for managing and controlling work processes in healthcare services. The model is based on the following seven basic pillars:

1. Dissemination of a comprehensive definition of healthcare quality and its related attributes.
2. Customer focus.
3. Enhancing management and leadership roles.
4. Creating an appropriate culture.
5. Focus on human component.
6. Promoting Measuring practices.
7. Emphasizing the role of quality improvement.

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Yasmin Adel

Nomenclature

ADR	Adverse Drug Reactions
ASQ	American Society for Quality
BSI	British Standard Institution
CAHPS	Consumer Assessment of Health plan Survey
CEO	Chief Executive Officer
CI	Continuous Improvement
COPD	Chronic Obstructive Pulmonary Disease
CQI	Continuous Quality Improvement
CSFS	Critical Success Factors
DMAIC	Define, Measure, Analyze, Improve and Control
EBM	Evidence Based Medicine
EFQM	European Foundation for Quality Management
EMS	Emergency Medical Service
EQA	European Quality Award
FADE	Focus, Analyze, Develop, Execute
FOCUS	Find, Organize, Clarify, Understand, Select.
GP	General Practitioner
HCA	Hospital Corporation of America
HEDIS	Health plan Employer Data and Information Set
HIS	Healthcare Information Systems
HMO	Health Maintenance Organization
IOM	Institute of Medicine
IS	Information System
ISO	International Standard Organization
JCAHO	Joint Commission on Accreditation of Healthcare Organization
JCI	Joint Commission International
KBEM	Kanji's Business Excellence Model
KBEMS	Kanji Business Excellence Measurement System
KBS	Kanji's Business Scorecard
MBNQA	Malcolm Baldrige National Quality Award
MBWA	Management By Walking Around
NHS	National Health Service

NIST	National Institute of Standard and Technology
ODI	Organizational dynamics Inc
OJT	On-the-Job Training
PATH	Performance Assessment Tool for Quality in Hospitals
PEI	Performance Excellence Index
PEP	Performance Evaluation Procedure
QA	Quality Assurance
QC	Quality Control
QFD	Quality Function Deployment
QI	Quality Improvement
QOS	Quality of Service
SES	Socio-Economic Status
SPC	Statistical Quality Control
TQ	Total Quality
TQM	Total Quality Management
WHO	World Health Organization

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Part II

The Proposed Model