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STUDIES IN THE EFFECT OF HUMAN FACTORS IN QUALITY CONTROL

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IN
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SUBMITTED
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AIN SHAMS UNIVERSITY

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بسم الله الرحمن الرحيم

وما اوتيتم من العلم الا قليلا

" صدق الله العظيم "



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A. S. Chirif
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**DEDICATED TO
MY BELOVED WIFE**

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** ** *

INTRODUCTION

INTRODUCTION

No doubt that the main objective of the various organizations is to produce products or services which are satisfactory from the standpoint of specifications and costs. This requires to operate under efficient and effective systems for controlling the quality.

In fact, the responsibility of quality is widely scattered among different personnel in different departments with various targets and objectives. Each one of these departments contributes with a part or share of the quality responsibility which fits its activities' nature. Quality, thus, takes many meanings and expresses different considerations.

Usually, marketing personnel contact the users to identify the qualities needed. Specialists of research and development create the product concept which fulfills all quality requirements. Designers then prepare the product design and materials specifications embodying the needed qualities. Industrial engineers specify the processes, methods, and instruments capable of manufacturing and controlling the specified qualities. Purchasing personnel procure the materials and supplies possessing the appropriate qualities. Factory floor workforce are trained to produce and control the product having the specified qualities. Salesmen urge people to buy the product owning their required qualities. Experience of use suggests product improvement, and so another development cycle starts.

Actually in order to carry out the above activities efficiently, man has to make myriad decisions and take several actions. These may define the major important responsibilities of the human factor toward the quality mission which include:

1. Defining the quality policies and objectives.
2. Establishing the right vendor relations.
3. Manufacturing products within the prescribed specifications limits.
4. Auditing the quality produced.
5. Discovering and analyzing market opportunities.
6. Developing schemes for controlling and improving field performance.
7. Applying the breakthrough techniques to attain better quality levels.
8. Initiating the required training programs.
9. Designing the appropriate motivational programs.

10. Supervising the activities of creating and using quality information optimally.
11. Analyzing the quality data for economical justification.
12. Designing the proper work environment.

However, it was believed that quality control is some sort of statistical techniques, inspection plans, technological methods, etc. As a consequence, nearly most of the efforts was directed to develop and improve these tools in order to achieve better quality levels. But quality is, actually, a combination of these means initiated, processed and governed by the human factor. Man does have the major part in building quality and in the associated control procedures. He is the key element in attaining and realizing the quality requirements. He plays the vital and decisive role as quality maker.

Therefore, recently most studies and researches have been shifted from other fields of improvements and focused on the human factor as the real contributor for quality improvement. But more efforts have to be done to formulize and supplement the role of the human factor to achieve and maintain better quality levels.

This is the main objective of our research which is devoted to investigate the vital and decisive role of the human factor in controlling the quality regardless of the job he carries out and the department he belongs to, i.e.; to emphasize that quality is everybody's business and responsibility. This makes it necessary to study the quality activities in the different departments into the organization for both the quality and non-quality control personnel.

Therefore, it may be reasonable to organize this thesis into three main parts including thirteen chapters.

Part I is concerned with the various human activities performed by the quality control personnel. This part ensures the major role of the quality control personnel in assisting and advising the other personnel in the organization to achieve their quality objectives. This part contains five chapters; from chapter one to chapter five.

Chapter 1, "Quality Planning", which includes the main quality aspects