HIGHER TECHNICAL INSTITUTE
MECHANICAL ENGINEERING DEPARTMENT

INVENTORY MANAGEMENT

by
PANAYIOTOU PANOS

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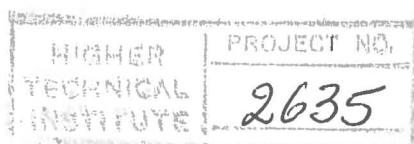## MECHANICAL ENGINEERING DEPARTMENT

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Just passed
Not for future
consulting.

B.Petsantis

28/1/97.

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INTRODUCTION

As a start of this project in order to cover the five objectives the following procedure has to take place.

1. The first objective was to study the existing inventory control system of a spare parts store and collect data describing the system.

    First of all a questionnaire was prepared which is shown in Appendix A. After that, I had visited the company where I saw the three store rooms. There the sale managers answer the questionnaire and by discussion that I had with them I realised how the existing work is proceed. In fact I had study the storage, the inventory control system, and the way that the company makes its orders. These are shown in chapter 1.

2. The second objective was to identify problems and deficiencies of the existing system.
    From the questionnaire in Appendix A and from the discussion that I had with the sale managers some problems and deficiencies were found of the existing system. These problems and deficiencies are shown in Chapter 2.

3. The third objective it was to use modern inventory control techniques, to present suggestions and solutions together with an implementation plan, for eliminating the above deficiencies.

For the organisation of an inventory control system on ABC analysis has to be used in order to have a classification of all spare parts according to there annual inventory cost (Appendix D No.1). After ABC classification various techniques have been used in order to have control or a good stock counting for all, spare parts.

A cycle counting method can be used in order to control the stock and this is shown in Chapter 3.2.

As it can be seen in Chapter 3.3 forecasting method can be used with some changes for all classes. For A class a short - range forecasting can be used and for classes B and C, medium range forecasting. Of course, there are other methods for the orderings but due to the reason that I mentioned in Chapter 3.6 these methods cannot be used.

After that, according to the ABC analysis we have to use methods in order to have a safety stock of spare parts due to the reason that the lead time is usually 3 months. For class A, a reorder point method can be used and for classes B and C a kanban method. The reason why two different methods must be applied is shown in Appendix D No. 1.

Also for safety stock there are other methods but again due to some reasons these methods cannot be used. Inventory cost, holding cost, set up cost, are not given by the company and also due to some assumptions that these methods use, make these methods to be unsuitable.

4. The fourth objective was to present a cost appraisal analysis for the above suggestions.

The company in order to use these suggestions has to buy extra equipment or to employ an extra worker. All these cost money where we have to identify. We can say that there will be two categories of costs. The first one is the cost that the company will pay once, for example a computer program. The second one which is more important is the cost per year where the company has in order to use the suggestions as given in Chapter 3. This cost is more important due to the reason that has to be much less, than the losses to be saved. If for example with the system that the company uses the losses per year are 2000 pounds, and the inventory

system that we suggest costs 3000 pounds per year, its obvious that these suggestions cannot be used. This cost appraisal is shown in Chapter 4.

5) The fifth and the last objective of the report was to state the main conclusions and to specify recommendations for any further work.

Here, some conclusions can be seen by comparing the suggestions of Chapter 3, with the inventory system that company uses (Chapter 2). Also some conclusions of costs appraisal analysis of Chapter 4 can be seen, comparing with the losses that company has.