EFFICIENCY OF REPAIR AND MAINTENANCE OF COMPUTERS AND PHOTOCOPY MACHINES IN THE UNIVERSITY OF SRI JAYEWARDENEPURA

A Thesis

By

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DECLARATION

I hereby certify that this project is my own work and it has never been submitted to any other university for a degree or diploma.

..... Date: 26-02-2004

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C O N T E N T S

CHAPTER 03 : FACTORS AFFECTING THE DOWNTIME OF PHOTOCOPY MACHINES

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Abstract

Main aim of this study is to analyze the efficiency of repair and maintenance of computers and photocopiers in the university of Sri Jayewardenepura. Downtime of the machine is the time loss due to breakdown. Therefore, efficiency of repair has been analyzed by considering the downtime of computers and photocopy machines and the cost incurred for repair. The other objective is to make suggestions to minimize the downtime as well as the cost of repair. Efficiency of maintenance has been analyzed by considering the preventive maintenance of the equipment and the maintenance records for breakdown.

Based on the data, we found that each supplier attends for breakdown differently to all 4 faculties. Based on the findings we suggested to **implement an in-house workshop** with the stocks of parts to minimize the downtime of the machine and the cost incurred for repair. We suggested a Works Engineer and 2 Technical Officers to the workshop. We found that maintenance work of the equipments are improper and maintenance of records for breakdowns are not reported properly. **Equipment Maintenance Package (EMP)** has been introduced to maintain the records for equipments properly. Various other suggestions have been made for the tender board to consider, at the time of evaluating suppliers.

Based on the conclusion of this study one can research on the opportunity cost based on the time wastage of academic and non-academic staff due to unavailability of equipments. We have studied the efficiency of repair and maintenance of computers and photocopiers only in the University of Sri Jayewardenepura. This research could be easily extended to other universities as well.

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CHAPTER 1 - INTRODUCTION

1.1 BACKGROUND

Smooth functioning of the day-to-day activities increases the productivity of any institution and the government universities are no exceptions. The broad areas which affect the smooth functioning of a university are,

- Academic staff and non academic staff
- Students
- Infrastructure facilities
- Equipments
- Furniture, Stationeries etc

Of the above factors, equipments play a major role in maintaining the smooth functioning of universities, as equipments are used to do the work efficiently and effectively. Therefore, breakdown of equipments have a direct impact on the efficiency of the outcome. When equipments are broken, the workload of the machine should be either stopped temporarily or diverted to another machine. As a result, users cannot achieve their targets on time.

1.2 INTRODUCTION

Universities use equipments to meet day-to-day requirements. Improper maintenance and handling of equipments increase the possibility of breakdown. Other than that, equipments breakdown continuously due to the condition of equipments. There is a direct impact on the time lapse between a breakdown and a repair. Therefore, the university is at loss due to several reasons when a breakdown takes place.

- Time loss due to inability to perform the operation using the equipment
- Time loss incurred in attending to get the repair work done by the relevant supplier
- Cost of repair

Activities of the university system are not like those of the private institutes. There is a specific process to purchase an equipment, to get the approval for repairs and expenses etc. Because of that, time taken to complete a repair may be considerable.

If we can take some preventive measures to minimize the number of repairs and to minimize the cost of repairs, the biggest portion of the problem is solved.

We should have a proper plan for purchasing, maintaining and repairing of equipments in an organization. This can be briefly outlined as follows,

- Purchase from reliable suppliers or vendors
- Proper maintenance and handling of equipment with preventive maintenance
- Proper plan to get the service for breakdown or repairs, from the supplier or the vendor

We intend to study about the procedures in procurement and the methods adopted in repairs and maintenance. We have selected University of Sri Jayewardenepura to collect data for this research. Photocopy machines and Computers have been considered as equipments.

1.3 OBJECTIVES

1. To check whether repairing due to breakdown of equipments are done within a reasonable time period and if not, find out the factors for delay. This is important because there is a direct impact on performance due to the time lapse between the breakdown and a repair.
2. To investigate the factors affecting the proper functioning of an equipment, such as the process of repairing of an equipment, the cost of the repair etc.
3. To study about the process of purchasing of equipments and plan to make suggestions, mainly on how to select a reliable vendor
4. To study about the prevailing procedures of repairs and maintenance and to discuss advantages and disadvantages of those procedures.

Our main objective is to suggest better procedures with scientific justifications.