

DEVELOPMENT OF COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM FOR IMPROVING MAINTENANCE SERVICES OF MEDICAL EQUIPMENT IN HOSPITAL: The case of Muhimbili Orthopaedic Institute.

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ABSTRACT

Medical Equipment(ME) are the facilities used to help medical doctors during medical treatment of patients at the hospital, such as; doing diagnostic tests, performing operating procedures, and patients care services. Although ME provides greater assistance on facilitating treatments to human, but when not well maintained, may fail to operate in the proper standards, and its effects can be obtained on improper diagnostic results of the patients, or even may cause death when equipment fail during treatment procedure.failure of ME can be caused by insufficient maintenance services provided by Maintenance Management System, as results of inability tracking maintenance work status, inefficient in work scheduling, and inefficient in record keeping of spare parts.

The aim of this research study is to eliminate challenges expressed above, causes insufficient maintenance services on ME. This has been done by developing Computerized Maintenance Management System (CMMS), which intends to improve maintenance services on ME have not been performed efficiently in the current Maintenance Management System. A CMMS has been developed to increase ability on tracking maintenance work status, performing good inventory management of spare parts, and facilitate record keeping on maintenance services activities performed.

This study research has achieved its objectives of assessment of current Maintenance Management System on maintenance of ME, Development of Maintenance Management Model for improving maintenance service of ME. The study has used questionnaires, observations, interviews, and document reviews methods for data collection. Also, existing standards of Maintenance Management System, SPSS software version 26, and CMMS program methods have been used as data analysis methods. A qualitative study design has been used during investigation of specific objectives, while a quantitative study design has been used during data analysis.

Five major factors for improving maintenance services of ME such as; Skills Improvement, Quality Medical Equipment, Material Requirements, Budget Requirements, and Maintenance Information Sharing System and literature reviews. Also,programs which will be implemented in the CMMS software such as; program for attending training, work request program, work planning program, work scheduling program, etc. Have been developed.

Due to benefit obtained on implementation of CMMS, such as reduces paper work, loss of data, and time on work allocation. Therefore, it is advisable to implement CMMS in all health care organizations in order to improve maintenance services of ME due to its higher performance and ability in Maintenance Management solutions, and also will helps to sustain the health care services safely an easily.

M.Eng.(Maintenance Management) Dissertation.