



De La Salle University - Dasmariñas

**AN INVENTORY POLICY MODEL OF DE LA SALLE UNIVERSITY
MEDICAL CENTER EMERGENCY ROOM'S MEDICAL SUPPLIES**

An Undergraduate Research Presented to
the Mathematics Department
College of Science and Computer Studies
De La Salle University–Dasmariñas

In Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science in
Applied Mathematics

Albert Niño M. Gamino
Erika M. Tiongco

October 2013



TABLE OF CONTENTS

TITLE PAGE i

APPROVAL SHEET ii

ACKNOWLEDGEMENT iii

TABLE OF CONTENTS v

LIST OF TABLES viii

LIST OF FIGURE ix

ABSTRACT x

CHAPTER 1 INTRODUCTION

 1.1 Background of the Study 1

 1.2 Conceptual Framework 6

 1.3 Statement of the Problem 7

 1.4 Significance of the Study 7

 1.5 Scope and Limitation 9

 1.6 Definition of Terms 10

CHAPTER 2 REVIEW OF RELATED LITERATURE

 2.1 Theoretical Literature 14

 2.2 Conceptual Literature 22

CHAPTER 3 METHODOLOGY

 3.1 Research Method/Procedure 28

 3.1.1 Formula Used for the Computation of EOQ model 29



3.2 Time and Place of the Study	30
3.2.1 DLSUMC Emergency Room Inventory	30
CHAPTER 4 PRESENTATION/INTERPRETATION AND ANALYSIS OF DATA	
4.1 Presentation of Data	33
4.1.1 ER Inventory Profile	35
4.1.2 Emergency Room Inventory Policy Model	36
4.1.3 Inventory Scheme of DLSUMC ER	38
4.2 Data Analysis	
4.2.1 Relative Analysis	39
4.2.2 Cost Analysis	42
CHAPTER 5 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	
5.1 Summary	46
5.2 Conclusions	47
5.3 Recommendations	48
BIBLIOGRAPHY	50
APPENDICES	
A. Letter of Request to the Nursing Service Administrator	53
B. Letter of Request to the Central Supplies Department	55
C. Letter of Request to the Central Services Room	57
D. Summary of Consumption of DLSUMC Emergency Room Medical Equipments in 2012	59



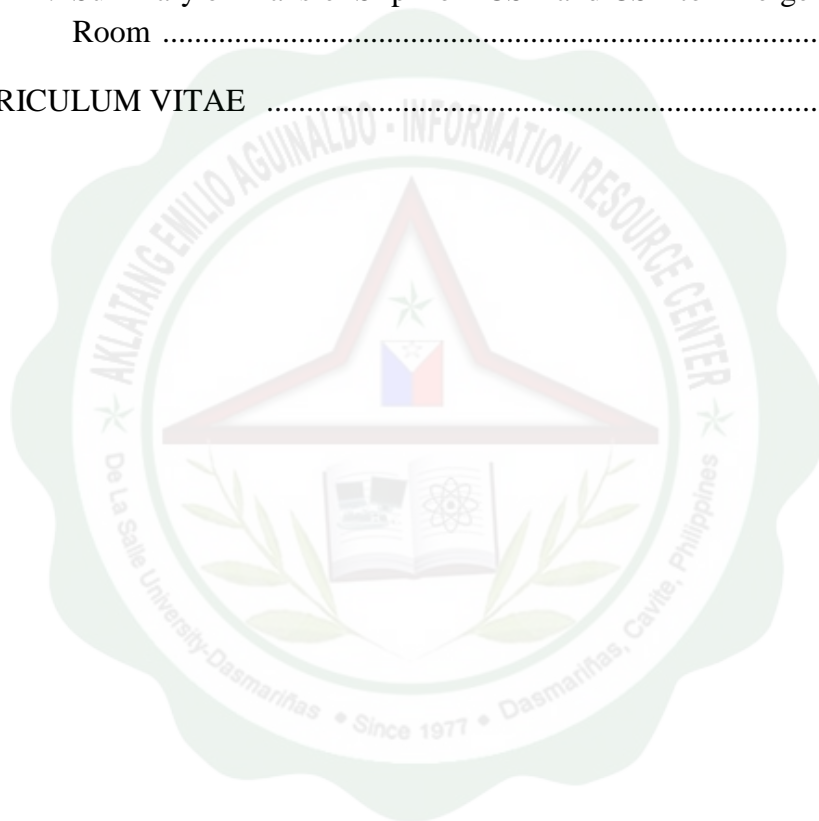
E. ABC Analysis 65

F. Summary of Annual Consumption at DLSUMC Emergency Room 72

G. Summary of Selling and Purchasing Cost of DLSUMC Emergency Room 73

H. Summary of Transfer Slip from CSD and CSR to Emergency Room 74

CURRICULUM VITAE 78





LIST OF TABLES

Table 4.1 Emergency Room’s Top 24 Equipments 34

Table 4.2 Purchasing Costs of 24 Equipments 35

Table 4.3 Monthly and Daily Average Demand of 24 Equipments 36

Table 4.4 Equipment’s Average Amount of Order for a Specific Month..... 37

Table 4.5 Allotted Numbers of Safe Stocks per Equipment 38

Table 4.6 Computation of (Q) Order Quantity 38

Table 4.7 Computation for the Value of k 39

Table 4.8 Computation of New value for Q and Order Cycle 40

Table 4.9 Summary and Comparison of Model 41

Table 4.10 Total Annual Cost of the Present Model of DLSUMC’s ER 42

Table 4.11 Total Annual Cost of the New Model of DLSUMC’s ER 43

Table 4.12 Comparison of Cost of Each Item per Order 44



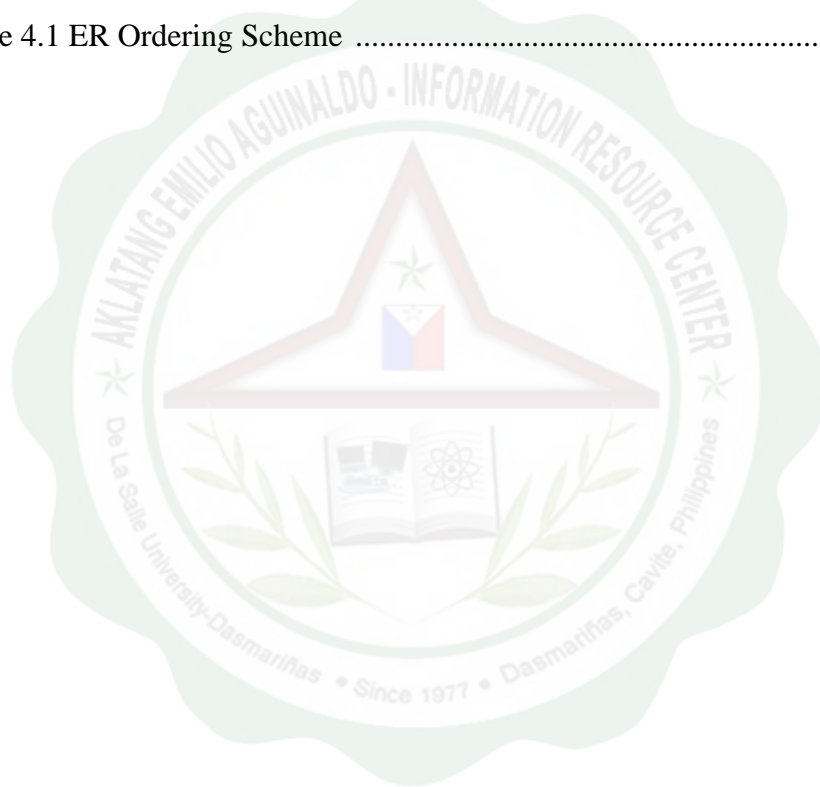
LIST OF FIGURES

Figure 1.1 Paradigm of the Study 6

Figure 2.2 EOQ model 25

Figure 3.1 Research Procedure Flow Chart 28

Figure 4.1 ER Ordering Scheme 32





ABSTRACT

Inventory is one of the vital components in handling businesses. Several models have been utilized in various forms of industry depending on the needs or focus of the company. This paper specifically aims to assess and describe the inventory policy model existing inside the De La Salle University Medical Center Emergency Room and to recommend a model without changing or altering any factor for them if their policy is not optimal.

The concept of ABC analysis was used in the study in order to limit the number of items to be observed. Only the 50% of the A list of the said concept was considered, composing of 24 items. Since the De La Salle University Medical Center Emergency Room does not have any carrying cost and ordering cost, the researchers decided to use Economic Order Quantity model with unknown cost to check the optimality of their existing inventory model.

Also, this paper deals with the cost analysis to be able to know if the Emergency Room can minimize their existing cost. Based from the result, the Emergency Room's current policy can still be improved to meet the demands of the patients as well as to minimize other existing costs.