

**The building and implementation cost variable of
hospital information system: a systematic review**



**ALMIRA DYAH PUSPITARINI
20171030002**

**DISCIPLINE OF HOSPITAL MANAGEMENT
POSTGRADUATE PROGRAM
MUHAMMADIYAH UNIVERSITY OF YOGYAKARTA**

2019

**The building and implementation cost variable of
hospital information system: a systematic review**

THESIS

This thesis is submitted in partial fulfillment of the requirements for
the degree of Master in Hospital Management (MMR)

Discipline of Hospital Management



Almira Dyah Puspitarini
20171030002

POSTGRADUATE PROGRAM
MUHAMMADIYAH UNIVERSITY OF YOGYAKARTA

2019

SUPERVISOR'S APPROVAL

**The building and implementation cost variable of
hospital information system: a systematic review**

THESIS

Almira Dyah Puspitarini

20171030002

Main Supervisor,



Dr. dr. Sri Sundari, M. Kes

Associate Supervisor,



Winny Setyonugroho, Ph.D.




TESIS

THE BUILDING AND IMPLEMENTATION COST VARIABLE
OF HOSPITAL INFORMATION SYSTEM :
A SYSTEMATIC REVIEW


Diajukan Oleh
Almira Dyah Puspitarini
20171030002

Tesis ini telah dipertahankan dan disahkan di depan
Dewan Penguji Program Studi Manajemen Rumah Sakit
Program Pascasarjana
Universitas Muhammadiyah Yogyakarta
tanggal 19 Oktober 2019


Yang terdiri dari



Dr. dr. Arlina Dewi, M.Kes., AAK.
Ketua Tim Penguji



Dr. dr. Sri Sundari, M.Kes.
Anggota Tim Penguji



Winny Setyonugroho, S.Ked., M.T., Ph.D.
Anggota Tim Penguji

Mengetahui,
Ketua Program Studi Manajemen Rumah Sakit
Program Pascasarjana
Universitas Muhammadiyah Yogyakarta



Dr. dr. Arlina Dewi, M.Kes., AAK.

PLAGIARISM STATEMENT

Dengan ini saya menyatakan bahwa Tesis ini bukan merupakan plagiat dari hasil karya orang lain tetapi merupakan hasil karya saya sendiri. Tesis ini juga belum pernah dimuat dan diajukan dalam bentuk apapun kepada perguruan tinggi manapun. Sumber informasi yang berasal atau dikutip dalam Tesis ini telah disebutkan dalam teks dan telah dicantumkan dalam Daftar Pustaka dibagian akhir Tesis ini.

Demikian pernyataan ini saya buat dengan sebenar-benarnya, apabila dikemudian hari terdapat klaim bahwa karya ini adalah milik orang lain dan dibenarkan secara hukum, maka saya bersedia dituntut sesuai hukum yang berlaku di Indonesia.

Yogyakarta, 19 Oktober 2019
Yang membuat pernyataan:



Almira Dyah Puspitarini
20171030002

TABLE OF CONTENTS

TITLE PAGE	i
SUPERVISOR’S APPROVAL.....	ii
LEGAL STATEMENT	iii
PLAGIARISM STATEMENT.....	iv
TABLE OF CONTENTS	v
LIST OF TABLE	vii
LIST OF FIGURE.....	viii
ABSTRACT	ix
CHAPTER I INTRODUCTION	1
A. Background of the study	1
B. Problem statement	4
C. Research Aims.....	5
CHAPTER II LITERATURE REVIEW.....	6
A. Hospital Information Systems	6
B. Hospital Information Systems Cost Evaluation	17
1. Hospital Information Systems Investment Cost.....	17
2. Hospital Information Systems Evaluation.....	19
CHAPTER III METHOD.....	23
A. Inclusion exclusion criteria for considering studies for this review	23
B. Search strategies for identification of studies	24
C. Data collection and analysis.....	27
CHAPTER IV RESULTS AND DISCUSSIONS.....	29
A. Results	29
1. Prisma Flow Diagram.....	29
2. Search Result.....	30
3. Study timing	35
4. Study Setting	35
5. Implementation of Hospital Information System.....	36
6. Cost of Implementing Hospital Information System	38
7. Cost of Software and Hardware	43
8. Cost of Personnel	45
9. Cost of Maintenance.....	47
10. Barriers in Implementing HIS	48
11. Benefits of HIS Implementation	50
12. Return on Investment (ROI).....	51
13. Cost-effectiveness (CE).....	51
14. Failure of implementation	52
B. Discussion	53

CHAPTER V CONCLUSIONS, LIMITATIONS AND SUGGESTIONS OF THE STUDY	62
A. Conclusions	62
B. Limitations	62
C. Suggestions.....	62
REFERENCES.....	63
Appendix	69

LIST OF TABLE

Table 1. Keywords that will be use in this systematic review using Boolean search strategy.....	26
Table 2. Summary of the reviewed paper (n=35).....	31

LIST OF FIGURE

Figure 1. A system is a set of inputs and outputs that internally consist of a set of subsystems	7
Figure 2. Elements inside information systems	7
Figure 3. Classification of economic evaluation	21
Figure 4. Modified Prisma Flow Diagram	29
Figure 5. Incremental model of SDLC	54