PRIVATIZED FACILITIES MANAGEMENT AT GOVERNMENT HOSPITALS IN THE NORTHERN REGION OF MALAYSIA

MUHAMMAD NIZAR BIN SADDUM

UNIVERSITI SAINS MALAYSIA
2015
PRIVATIZED FACILITIES MANAGEMENT AT GOVERNMENT HOSPITALS IN THE NORTHERN REGION OF MALAYSIA

by

MUHAMMAD NIZAR BIN SADDUM

Thesis submitted in fulfillment of the requirements for the degree of

Master of Science

April 2015
ACKNOWLEDGEMENT

I would like to express my sincerest gratitude to my supervisor, Dr. Farid Ezanee Mohamed Ghazali and my co-supervisor Professor Sr. Dr. Wan Muhd Aminuddin Wan Hussin for their guidance and supervision of this research work. Your useful advice and assistance is very much appreciated. Without their guidance, I believe this research would not have been successfully completed.

I am very grateful to the staff of Faber Medi-Serve Sdn Bhd for their assistance in providing data for this research.

I am also grateful to the hospital staff for their contribution and cooperation during the questionnaires survey session.

Lastly, but certainly not the least, I am indebted to my friends and family for their endless support.
# TABLE OF CONTENTS

**ACKNOWLEDGEMENT** ................................................................. ii

**TABLE OF CONTENTS** ............................................................... iii

**LIST OF TABLES** ........................................................................ ix

**LIST OF FIGURES** ...................................................................... xii

**LIST OF ABBREVIATIONS** ......................................................... xiii

**LIST OF SYMBOLS** ................................................................. xiv

**ABSTRAK** ................................................................................ xv

**ABSTRACT** ................................................................................ xvi

## CHAPTER 1 - INTRODUCTION

1.1 Introduction .............................................................................. 1

1.2 Problem Statement .................................................................... 2

1.3 Objectives of the Study ............................................................ 3

1.4 Scope of Study .......................................................................... 4

1.5 General Structure of Thesis .................................................... 4

## CHAPTER 2 - THE KEY ELEMENTS IMPLEMENTED IN THE PRIVATIZATION POLICY IN MALAYSIA

2.1 Introduction .............................................................................. 6

2.2 Privatization ............................................................................ 6

2.3 Privatization Policy in Malaysia ............................................. 7

2.4 Objectives of Privatization Policy in Malaysia ....................... 10
2.4.1 Relieve the Financial and Administrative Burden of the Government ................................................................. 10
2.4.2 Improve the Efficiency and Productivity Level of the Country ................................................................. 10
2.4.3 Facilitate National Economic Growth ................................................................. 10
2.4.4 Reduce the Size and Presence of the Public Sector in the Economy ................................................................. 11
2.4.5 Promote Achievement of the New Economic Policy Targets................................................................. 11
2.5 Types of Privatization ................................................................................................................................. 11
2.5.1 Sale of Assets or Equity ................................................................................................................................. 11
2.5.2 Lease of Assets ................................................................................................................................................................. 12
2.5.3 Management Contracts ................................................................................................................................................................. 12
2.5.4 Build-Operate-Transfer (BOT) ................................................................................................................................. 12
2.5.5 Build-Lease-Transfer ................................................................................................................................................................. 12
2.5.6 Management-Buy-Out ................................................................................................................................................................. 13
2.5.7 Land Development/Land Swap ................................................................................................................................................................. 13
2.6 Privatization of Hospital Support Service ................................................................................................................................. 13
2.7 Chapter Summary ................................................................................................................................................................. 15

CHAPTER 3 - FACILITIES MANAGEMENT

3.1 Introduction ................................................................................................................................................................. 16
3.1 Facilities Management ................................................................................................................................................................. 16
3.3 Type of Facilities Management ................................................................................................................................................................. 17
3.4 Facilities Management Model ................................................................................................................................................................. 18
3.4.1 In-House Facility Management ................................................................................................................................................................. 18
3.4.2 Out-Tasked Service Contracts ................................................................................................................................................................. 19
3.4.3 Outsourced Managing Agent Facility Management Contract

3.4.4 Outsourced Managing Contractor Facility Management Contract

3.4.5 Total Facility Management Contract

3.5 Healthcare Facilities Management

3.5.1 Maintenance Management

3.5.2 Performance Management

3.5.3 Risk Management

3.5.4 Supply Services Management

3.5.5 Development

3.5.6 Information and Communication Technology (ICT)

3.6 Defects and Deterioration in Building

3.7 Objectives of Facilities Management at Government Hospitals

3.8 Chapter Summary

CHAPTER 4 - METHODOLOGY

4.1 Introduction

4.2 Research Methodology for the Case Study

4.2.1 Interviews

4.2.1.1 The Background of Facilities Management

4.2.1.2 Scope of works

4.2.1.3 The Differences Before Privatization and After Privatization

4.2.1.4 The Common Problems

4.2.1.5 Performance Evaluation
CHAPTER 7 - CONCLUSION

7.1 Introduction ........................................................................... 75

7.2 Review of Objectives ............................................................. 75

7.2.1 The Implementation of Privatization Facility Engineering

Maintenance Services at Selected Government Hospitals in

Perlis, Kedah and Pulau Pinang ........................................... 76

7.2.2 The Common Problems of Implementation of Facility

Engineering Maintenance Services in Government Hospitals

After Privatization ................................................................. 77
7.2.3 The satisfaction level of Stakeholders with Regards to FEMS
implemented at Government Hospitals in Perlis, Kedah and Pulau Pinang

7.3 Recommendations for Future Research

REFERENCES

APPENDICES A: Research Questionnaire

APPENDICES B: Questionnaire Results
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table 2.1</th>
<th>Privatization Projects Achievement 1983-2011</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 2.2</td>
<td>Distribution of Privatized Projects 1983-2011</td>
<td>9</td>
</tr>
<tr>
<td>Table 2.3</td>
<td>The Number of Government Hospitals</td>
<td>14</td>
</tr>
<tr>
<td>Table 2.4</td>
<td>The Concession Company Engaged by Ministry of Health</td>
<td>14</td>
</tr>
<tr>
<td>Table 2.5</td>
<td>Hospital Support Services Component</td>
<td>15</td>
</tr>
<tr>
<td>Table 3.1</td>
<td>Types of Facility Management Services</td>
<td>18</td>
</tr>
<tr>
<td>Table 3.2</td>
<td>Cause of Deteriorations in Building</td>
<td>27</td>
</tr>
<tr>
<td>Table 4.1</td>
<td>Questionnaire Scale in the Section 2</td>
<td>34</td>
</tr>
<tr>
<td>Table 4.2</td>
<td>Questionnaire Scale in the Section 3</td>
<td>34</td>
</tr>
<tr>
<td>Table 4.3</td>
<td>The Government Hospitals in Perlis Kedah and Pulau Pinang</td>
<td>36</td>
</tr>
<tr>
<td>Table 4.4</td>
<td>Average Index Rating Scale for Section 2</td>
<td>38</td>
</tr>
<tr>
<td>Table 4.5</td>
<td>Average Index Rating Scale for Section 3</td>
<td>38</td>
</tr>
<tr>
<td>Table 5.1</td>
<td>Comparison Before and After Privatization Facility Engineering Maintenance Services (FEMS) at Government Hospitals</td>
<td>48</td>
</tr>
<tr>
<td>Table 6.1</td>
<td>Questionnaires Distribution in Pilot Study</td>
<td>51</td>
</tr>
<tr>
<td>Table 6.2</td>
<td>Reliability Statistics for the Questionnaires in Pilot Study</td>
<td>51</td>
</tr>
<tr>
<td>Table 6.3</td>
<td>Questionnaires Distribution</td>
<td>52</td>
</tr>
<tr>
<td>Table 6.4</td>
<td>Reliability Statistics for the Questionnaires</td>
<td>52</td>
</tr>
<tr>
<td>Table 6.5</td>
<td>Demographic Information</td>
<td>53</td>
</tr>
<tr>
<td>Table 6.6</td>
<td>Frequency of Respondent’s Feedback on Common Problems Occurred at Government Hospitals in Perlis, Kedah, and Pulau Pinang</td>
<td>54</td>
</tr>
<tr>
<td>Table 6.7</td>
<td>Ranking of Common Problems Occurred at Government Hospitals in Perlis, Kedah and Pulau Pinang</td>
<td>56</td>
</tr>
<tr>
<td>Table 6.8</td>
<td>Frequency of Respondent’s Feedback on Customer Satisfaction Level at Government Hospitals in Perlis, Kedah and Pulau Pinang</td>
<td>59</td>
</tr>
<tr>
<td>Table 6.9</td>
<td>Ranking of customer satisfaction level at the selected Government Hospitals in Perilis, Kedah and Pulau Pinang</td>
<td>60</td>
</tr>
<tr>
<td>Table 6.10</td>
<td>Statistic Descriptive on the Effect of Respondent’s Gender to Questionnaires</td>
<td>63</td>
</tr>
<tr>
<td>Table 6.11</td>
<td>Independent Samples T-Test on the Effect of Respondent’s Gender to Questionnaires</td>
<td>63</td>
</tr>
<tr>
<td>Table 6.12</td>
<td>Statistic Descriptive on the Effect of Respondent’s Race to Questionnaires</td>
<td>65</td>
</tr>
<tr>
<td>Table 6.13</td>
<td>Independent Samples T-Test on the Effect of Respondent’s Race to Questionnaires</td>
<td>65</td>
</tr>
<tr>
<td>Table 6.14</td>
<td>Statistic Descriptive on the Effect of Respondent’s Marital Status to Questionnaires</td>
<td>67</td>
</tr>
<tr>
<td>Table 6.15</td>
<td>Independent Samples T-Test on the Effect of Respondent’s Marital Status to Questionnaires</td>
<td>67</td>
</tr>
<tr>
<td>Table 6.16</td>
<td>Statistic Descriptive on the Effect of Respondent’s Position to Questionnaires</td>
<td>69</td>
</tr>
</tbody>
</table>
Table 6.17 Independent Samples T-Test on the Effect of Respondent’s Position to Questionnaires

Table 6.18 One-Way ANOVA on Relation of Respondent’s Age to Common Problems at Government Hospitals in Perlis, Kedah and Pulau Pinang

Table 6.19 One-Way ANOVA on the Effect of Respondent’s Age to the Satisfaction Level of Facility Management at Government Hospitals in Perlis, Kedah and Pulau Pinang

Table 6.20 One-Way ANOVA on the Effect of Respondent’s Working Experience on Common Problems in Perlis, Kedah and Pulau Pinang

Table 6.21 One-Way ANOVA the Effect of Respondent’s Working Experience on Satisfaction Level of Facility Management in Perlis, Kedah and Pulau Pinang

Table 6.22 One-Way ANOVA on the Common Problems between General Hospitals in Perlis, Kedah and Pulau Pinang

Table 6.23 One-way ANOVA on the Satisfaction Level of Facilities Management between General Hospitals in Perlis, Kedah and Pulau Pinang
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>In-House Facility Management</td>
<td>19</td>
</tr>
<tr>
<td>3.2</td>
<td>Out-tasked Service Contracts</td>
<td>19</td>
</tr>
<tr>
<td>3.3</td>
<td>Outsourced Managing Agent Facility Management Contract</td>
<td>20</td>
</tr>
<tr>
<td>3.4</td>
<td>Total Facility Management Contract</td>
<td>22</td>
</tr>
<tr>
<td>3.5</td>
<td>Healthcare Facilities Management Core Domains</td>
<td>23</td>
</tr>
<tr>
<td>4.1</td>
<td>General Research Flow</td>
<td>30</td>
</tr>
<tr>
<td>4.2</td>
<td>The Structure of Interviews</td>
<td>32</td>
</tr>
<tr>
<td>5.1</td>
<td>Planned Maintenance</td>
<td>42</td>
</tr>
<tr>
<td>5.2</td>
<td>Unplanned Maintenance</td>
<td>44</td>
</tr>
<tr>
<td>5.3</td>
<td>Design of MIS</td>
<td>46</td>
</tr>
<tr>
<td>5.4</td>
<td>Service Request System Process Flow</td>
<td>47</td>
</tr>
</tbody>
</table>
## LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEMS</td>
<td>Facility Engineering Maintenance Services</td>
</tr>
<tr>
<td>CWMS</td>
<td>Clinical Waste Management Services</td>
</tr>
<tr>
<td>LLS</td>
<td>Linen and Laundry Services</td>
</tr>
<tr>
<td>BEMS</td>
<td>Biomedical Engineering Maintenance Services</td>
</tr>
<tr>
<td>CLS</td>
<td>Cleansing Services</td>
</tr>
<tr>
<td>PMP</td>
<td>Privatization Master Plan</td>
</tr>
<tr>
<td>KPIs</td>
<td>Key Performance Indicators</td>
</tr>
<tr>
<td>EPU</td>
<td>Economic Planning Unit</td>
</tr>
<tr>
<td>IFMA</td>
<td>International Facility Management Association</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Science</td>
</tr>
<tr>
<td>MIS</td>
<td>Management Information System</td>
</tr>
<tr>
<td>QAP</td>
<td>Quality Assurance Program</td>
</tr>
<tr>
<td>HSIP</td>
<td>Hospital Specific Implementation Plan</td>
</tr>
<tr>
<td>CMIS</td>
<td>Central Integrated Nationwide Management Information System</td>
</tr>
<tr>
<td>HEPPM</td>
<td>Hospital Engineering Plan Preventive Maintenance</td>
</tr>
<tr>
<td>PPM</td>
<td>Planned Preventive Maintenance</td>
</tr>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
</tr>
</tbody>
</table>
LIST OF SYMBOLS

\( a_i \)  Constant expressing the weightage

\( X_i \)  Variable expressing the number of the respondent

\( i \)  1, 2, 3, 4, 5 and 6

\( X_1 \)  The ‘most frequent/strongly dissatisfied’ response and corresponding to \( a_1 = 5 \)

\( X_2 \)  The ‘frequent/dissatisfied’ response and corresponding to \( a_2 = 4 \)

\( X_3 \)  The ‘fair/average’ response and corresponding to \( a_3 = 3 \)

\( X_4 \)  The ‘less frequent/satisfied’ response and corresponding to \( a_4 = 2 \)

\( X_5 \)  The ‘least frequent/strongly satisfied’ response and corresponding to \( a_5 = 1 \)

\( X_6 \)  The ‘not applicable’ response and corresponding to \( a_6 = 0 \)
PENSWASTAAN PENGURUSAN FASILITI HOSPITAL KERAJAAN DI WILAYAH UTARA MALAYSIA

ABSTRAK

PRIVATIZED FACILITIES MANAGEMENT AT GOVERNMENT HOSPITALS IN THE NORTHERN REGION OF MALAYSIA

ABSTRACT

The effectiveness and efficiency of facility management services at government hospitals in Perlis, Kedah and Pulau Pinang have not been assessed or verified since its privatization in 1997. This study overviews the privatization implementation of facility engineering maintenance services, investigate the common problems and determine the satisfaction level of hospital staffs in the study area. Several interview sessions have been conducted with key personnel from the concession company and the questionnaires were distributed in order to achieve the objective of this study. A Hospital Specific Implementation Plan (HSIP), deduction formula, Management Information System (MIS) and comprehensive facility maintenance program was set down to be applied to ensure the works carried out is satisfactory to technical requirements and standards of hospital operation. The result obtained from 472 hospital staff involved in this study shows that the most significant problems occurred were related to lift services with an average index of 2.37 and waterproofing leakages with an average index of 3.28. The average index rating scale in this study on the privatized of facilities management is satisfactory with an average index of 4.0. Thus, appropriate mitigation measures can be carried out by the Ministry of Health for future construction of government hospital projects and to improve the effectiveness and efficiency of facility engineering maintenance services.
1.1 Introduction

The privatization policy was first announced by the Government of Malaysia in 1983. This policy represents a new approach to expand the role of the private sector in the development of Malaysian economy (Economic Planning Unit, 1991). In 1997, the Government of Malaysia took the initiative to implement a privatization project for provision, maintenance and management of hospital support services at the government hospitals throughout the country (Nambiar, 2009). The privatization project involved 127 government hospitals in the earlier implementation and it has increased to 148 government hospitals to date. The idea of hospital privatization was to utilize the private sector's expertise to manage government assets and improve the quality of services in government hospitals.

Three private companies, Faber Medi-Serve Sdn. Bhd, Radicare (M) Sdn. Bhd, and Pantai Medivest Sdn. Bhd were involved in privatization projects for hospital support services in the government hospitals in Malaysia. These concession companies were tasked to provide various services to the hospital involved including Clinical Waste Management Services (CWMS), Cleansing Services (CLS), Linen and Laundry Services (LLS), Facility Engineering Maintenance Services (FEMS) and Biomedical Engineering Maintenance Services (BEMS).
1.2 Problem Statement

Generally, hospitals and healthcare facilities are among the most complex, costly and challenging buildings to manage and, as a result, the facilities management function is relatively well developed (Loosemore & Hsin, 2001). Essentially, the goal of the facilities management provider in a hospital environment is to achieve zero defects in the hospital’s physical operation, particularly in areas where small problems can lead to huge consequences and turn into a matter of life and death. One of the main challenges in managing hospital facilities is the highly diverse network and range of functions which are needed to maintain operations and the complexity of services which are required to support them (Loosemore & Hsin, 2001). Privatization of the health support services at the government hospitals was a part of the larger attempt to liberalize the healthcare sector with the objective to improve economic efficiency in the healthcare sector (Nambiar, 2009).

Thus, the Government of Malaysia took the initiative to implement a major privatization project for the provision, maintenance and management of Hospital Support Services (HSS) of public hospitals throughout the country in 1997. The project started in line with the following objectives to: (1) implement the government’s privatization policy, (2) improve the level of healthcare provision and the quality of service in public hospitals, (3) improve efficiency and reliability of the provision, maintenance and management of hospital support services, and (4) promote and improve the culture of comprehensive maintenance in public assets and facilities (Ali & Wan Mohamad, 2009). Faber Medi-Serve Sdn Bhd is one of the concessionaires appointed to provide management services to the government hospitals in Malaysia.
Facility Engineering Maintenance Services (FEMS) is one of five components involved in the privatization facilities management project at government hospitals. Generally, the scope of work under Facility Engineering Maintenance Services (FEMS) covers maintenance of all facilities including civil engineering works, mechanical and electrical engineering systems as well as plant and non-biomedical equipment.

Nevertheless, the effectiveness and efficiency of the privatized facilities management at government hospitals have not been assessed or justified since it was first implemented in 1997. Thus, this research aims to assess the effectiveness and efficiency of the Facility Engineering Maintenance Services (FEMS) implementation at thirteen government hospitals in the northern region of Malaysia particularly in Perlis, Kedah and Pulau Pinang.

1.3 The Objectives of Study

The aims of this research can be achieved successfully by addressing the following objectives:

1) To identify the type of Privatized Facility Engineering Maintenance Services (FEMS) being delivered at selected government hospitals in Perlis, Kedah and Pulau Pinang.

2) To identify common problems that occurred at the government hospitals involved as a result of FEMS privatization.

3) To determine the satisfaction level of the key stakeholders, particularly the hospital staff with regards to the FEMS provided at the selected government hospitals.
1.4 Scope of the Study

The scope of this study covers the privatization of Facility Engineering Maintenance Services (FEMS) at the selected government hospitals in the northern region of Malaysia which involves thirteen government hospitals within Perlis, Kedah and Pulau Pinang under Faber Medi-Serve Sdn Bhd as concessionaire to implement a privatization project for provision, maintenance and management of hospital support services at the government hospitals.

Interview sessions were carried out with the concession company’s personnel to gather relevant information on the Facility Engineering Maintenance Services. Furthermore, the questionnaires were distributed to the hospital staff only as the end user to investigate the common problems that occurred and to determine their satisfaction level of the facilities engineering maintenance services implemented at thirteen government hospitals in the northern region of Malaysia. All the information gathered for this study were obtained from 2010 to 2013.

1.5 General Structure of Thesis

Chapter 1 introduces the background of this research study that includes the objectives as well as scope and limitation on the privatization of FEMS at selected government hospitals in the northern region of Malaysia.

Chapter 2 outlines all the elements included in the privatized hospital support services in government hospitals in Malaysia such as the history, objectives and types of privatization policy in Malaysia.
Chapter 3 underlines a number of key facilities management aspects which are related to the types of facility management and building maintenance issues associated with this research.

Chapter 4 describes the key methodologies used to carry out this research study. The research methodology serves to explain the objectives of this research which have been achieved successfully via appropriate means of data acquisition and also data analysis.

Chapter 5 provides a detailed description of the FEMS privatization at selected government hospitals in the northern region of Malaysia, which includes Perlis, Kedah and Pulau Pinang. Most of the data have been acquired through three series of interview sessions conducted with selected key personnel from the concession company management such as the facility head of FEMS and facility managers.

Chapter 6 presents discussion on data obtained from the questionnaires which was designed in three sections such as demographic of the respondents particularly the hospital staffs, common problem that occurred at the selected government hospitals and user satisfaction level of the facilities management at the government hospitals in Perlis, Kedah and Pulau Pinang. All the data were analyzed by using Microsoft Excel and Statistical Package for Social Science (SPSS) Version 17.0 to examine the frequency and reliability of each variable in the questionnaires. Furthermore, the average index has been used to identify the most critical factor for evaluating the questionnaire items as well as to gather the level of importance of the data.

Chapter 7 provides the conclusion of this research that determined the effectiveness and efficiency of privatized FEMS.
CHAPTER 2
THE KEY ELEMENTS IMPLEMENTED IN THE PRIVATIZATION POLICY IN MALAYSIA

2.1 Introduction

This chapter discusses the key elements included in the privatized hospital support services throughout the government hospitals in Malaysia since 1997. Issues that are discussed in this chapter are related to the characteristics of privatization, objectives and types of privatization policy in Malaysia.

2.2 Privatization

Privatization is defined in terms of the transfer of enterprise ownership from public to private sector. Generally, privatization refers to changing the status of a business, service or industry from state, government or public to private ownership or control. The term also refers to the use of private contractors to provide services previously provided by the public sector. Privatization can be strictly defined to include only cases of the sale of 100 percent, or at least a majority share of a state owned, or its assets, to private shareholders (Jomo & Tan, 1997).

In the USA, privatization mainly refers to the government’s contracting out of local public services to public providers. A city or county government may contract with a private company to pick up garbage, to keep city parks clean, to manage its hospitals, to provide ambulance services, to run school and airport or even to provide police and fire protection (Erez, 2009).

Privatization involves handing over control of public functions to private companies. The privatization contracts are divided into two categories (1) Service
privatization, where the government pays a contractor to provide public services, and (2) Asset privatization, where the government receives money for the building, long-term lease, or purchase of revenue-producing infrastructure, facilities or other assets (In the Public Interest, 2012).

2.3 Privatization Policy in Malaysia

The privatization policy was first announced by the Government of Malaysia in 1983. It represents a new approach in the National Development Policy and complements other national policies such as the Malaysia Incorporated Policy, developed to underscore the increased role of the private sector in the development of the Malaysian economy. This approach aims to (1) facilitate the country’s economic growth, (2) reduce financial and administration burden of the government, (3) reduce government's presence in the economy, (4) lower the level and scope of public spending, and (5) allow market forces to govern economic activities and improve efficiency and productivity in line with the National Development Policy (Economic Planning Unit, 2012).

In 1991, the Government published the Privatization Master Plan (PMP) which was intended to optimize the impact implementation of the policy and to achieve the Privatization Policy objectives. Several laws such as Pension Act 1980, Telecommunication Act 1950, Port Act 1963, and Electricity Act 1949 have been amended to facilitate the implementation of privatization (Economic Planning Unit, 1991).

In the Ninth Malaysia Plan (2006-2010), the implementation of the privatization programme is further streamlined. The maintenance of facilities is included in the concession agreements of privatized infrastructure projects approved