

MINISTRY OF EDUCATION  
AND TRAINING

MINISTRY OF  
CONSTRUCTION

**HANOI ARCHITECTURAL UNIVERSITY**

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**NGUYEN THI THU HIEN**

**HEALTHCARE CONSTRUCTION INVESMENT  
MANAGEMENT IN HANOI CITY THROUGH THE  
PUBLIC-PRIVATE PARTNERSHIP METHOD**

**Field of Urban Management and Building**  
**Code: 9580106**

**ABSTRACT OF DOCTORAL THESIS**

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Academic Supervisors:

1. Assoc. Prof.Dr. Le Anh Dung
2. Dr. Nguyen Thi Binh Minh

Reviewer 1: Assoc. Prof.Dr. Dinh Dang Quang

Reviewer 2: Assoc. Prof.Dr. Bui Ngoc Toan

Reviewer 3: Dr. Nguyen Cong Khoi

The doctoral thesis will be defended at the examination Committee  
in the Hanoi Architectural University

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## INTRODUCTION

### 1. The necessity of dissertation

Currently, in Vietnam, the number and scale of public hospitals have not met the needs of medical examination and treatment. There is often overcrowding (especially serious at the central and provincial levels), the need for investment in the construction of hospitals in Hanoi city, Vietnam, to ensure the social security of the people is very large, but financial resources from the state budget are limited and difficult to meet.

In the world, healthcare construction investment management (HCIM), when implemented through the mode of public-private partnership (PPP), has helped the state mobilize private financial resources, increase access and efficiency in providing health services to people, contribute to improving the ability of medical examination and treatment, and improve people's health. From the practice of state management of healthcare construction investment (SMOHCI) through the PPP method in Vietnam in general and Hanoi city, there are some problems, such as the fact that the legal basis is not synchronous, the state management apparatus is lacking, construction investment management capacity is lacking, there are no detailed instructions on the management of construction investment when implementing PPP,... The hospitals invested and built through the PPP method quite successfully in the world have shown that this can be a feasible and effective solution to help Hanoi and Vietnam overcome the shortcomings and inadequacies in improving the efficiency of construction investment management.

Therefore, the thesis "*Healthcare construction investment management in Hanoi city through the public-private partnership*

*method*" will study and complete the theoretical basis of the construction of medical works when implemented under the PPP method, helping state management agencies, investors, and stakeholders find solutions suitable for the participation of the private sector in medical construction.

### 2. Research goal and objectives

#### 2.1. Research purpose

Study SMOHCI when implemented through the PPP method in order to clarify some theoretical and practical issues as a basis for proposing synchronous and effective management solutions for healthcare construction investment in Hanoi city.

#### 2.2. Objectives of the Study

05 objectives of the study: (i) systematize and supplement a number of theoretical issues related to the SMOHCI through the PPP method; (ii) research and summarize international experiences on HCIM through the PPP method as a basis for identifying and evaluating conditions and solutions that can be applied to improve the effectiveness of state management investment health. (iii) Analysis and assessment of factors affecting the SMOHCI through the PPP method; (iv) proposing and testing the form of investment in health construction (PPP project contract) in Hanoi city in the form of PPP; (v) proposing appropriate and feasible solutions to manage investment in health construction through PPP mode in Hanoi until 2030.

### 3. Research subject and scope

**3.1. Research Object:** the State management of investment in the hospital constructions (general hospitals, specialized hospitals) when implemented through the PPP method.

**3.2. Research Scope:** the SMOHCI when implemented according

to the PPP method in Hanoi city in accordance with Hanoi City's socio-economic development strategy to 2030, vision to 2050.

#### 4. Research approaches and methods

##### 4.1. Research approaches

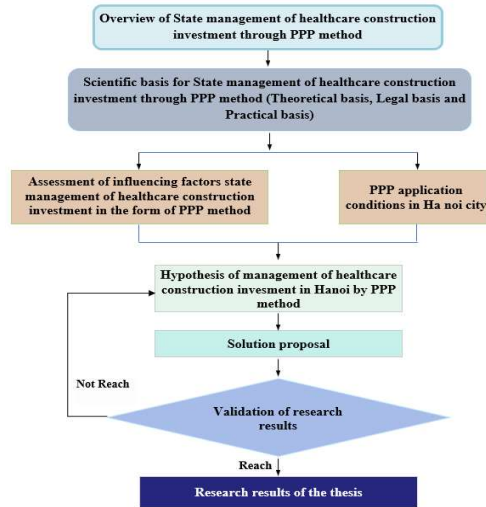


Figure MĐ.1: Research framework in the thesis

##### 4.2. Research methods

The thesis uses the following methods: statistical methods; methods of investigation; meta-analysis methods; methods of comparison and contrast; Legacy methods

#### 5. Research contents

The thesis focuses on the state managing investment in construction works in general, investment in the health constructions in the PPP method in particular. The dissertation identifies gaps in theory and inconsistencies in the management of construction investment projects using the PPP method, evaluates factors influencing state management of healthcare construction investment projects using the PPP method.

Within the scope of the dissertation, the author researches and proposes solutions for managing healthcare construction investment projects using the PPP method in Hanoi by competent state management agencies

#### 6. Research results

Systematize and supplement the theoretical and practical basis for SMOHCI through the PPP method. On that basis, propose synchronous and feasible management solutions and improve the efficiency of SMOHCI in PPP mode suitable to each development stage of Hanoi city.

#### 7. New contributions of the dissertation

The thesis has 03 new contributions: (1) Systematizing some theoretical and practical contents on SMOHCI through the PPP method. At the same time, identify and analyze factors affecting the SMOHCI under the mode of PPP; (2) Proposing the form of investment in health construction (PPP project contract) in Hanoi city in the form of PPP; (3) Proposing several synchronous, feasible management solutions and improving the efficiency of SMOHCI in the PPP mode suitable to each stage of development of Hanoi city.

#### 8. Scientific and practical significance

The thesis supplemented the methodology in researching and selecting state management solutions for healthcare construction investment through the PPP method in Hanoi city to address inadequacies and shortcomings in current practice, improving the efficiency of construction investment management in general.

The research results of the thesis are references for managers, investors, consulting organizations, and in teaching and learning at urban and construction management training institutions.

## 9. Structure of the thesis

The thesis consists of 4 main research chapters and an Introduction, Conclusion, Recommendations and research appendices, references and research works during the learning process.

### CHAPTER 1: OVERVIEW OF STATE MANAGEMENT OF HEALTHCARE CONSTRUCTION INVESTMENT THROUGH PPP METHOD

#### 1.1. General introduction to healthcare construction investment management according to the PPP method

HCIM includes activities that regulate the relationship between management agencies (subjects) with respect to the project (object) or between subjects related to the object. Ensuring efficiency when implementing projects under constraints on investment resources.

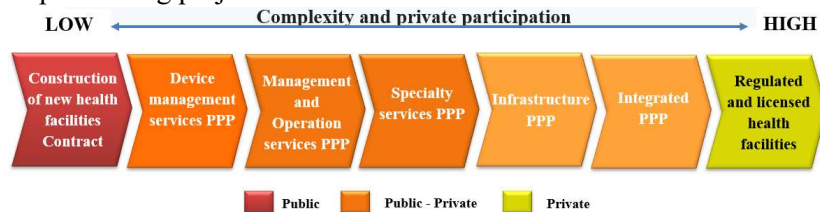


Figure 1.1: The PPP method is popular in the health sector

Depending on the phase or function of the project and according to the roles and responsibilities that the private sector assumes, PPPs in the health sector can be classified into five main types (as shown in Figure 1.1)

#### 1.2. Relevant scientific research projects

The thesis researches and synthesizes more than 30 scientific research works (doctoral thesis, scientific papers, specialized books at home and abroad) to identify gaps and research directions of the thesis.

## 1.3. Research gaps and research directions of the thesis

### 1.3.1. Research gaps

- Research contents: Healthcare facilities have unique characteristics in terms of social welfare, public health, and factors affecting construction investment management compared to other types of infrastructure. There is very little comprehensive research analyzing the three contents (state management of construction investment, healthcare facilities, and PPP), and most researchers approach from a qualitative perspective.

- Characteristics of the research area: Hanoi city is governed by the Capital Law with a legal framework that has some differences.

### 1.3.2. Research direction of the thesis

- Systematize and supplement some theoretical issues related to SMOHCI through the PPP method.

- Analyzing the factors influencing the SMOHCI through the PPP method.

- Proposing and testing the form of investment in health construction (PPP project contract) in Hanoi city in the form of PPP.

- Proposing a number of synchronous, feasible management solutions and improving the efficiency of SMOHCI in the PPP mode suitable to each stage of the development of Hanoi city.

## CHAPTER 2: THE THEORETICAL, LEGAL, AND PRACTICAL BASIS FOR STATE MANAGEMENT OF HEALTHCARE CONSTRUCTION THROUGH PPP METHOD

### 2.1. General theory on the state management of healthcare construction investment through PPP.

State management of investment in construction activities is the impact of the state apparatus on the investment process to ensure the

effective use of resources and achieve the economic and social objectives set.

The main characteristics of SMOHCI through PPP method are as follows: (i) Social aspects; (ii) Risk-sharing (and benefits); (iii) Equality; (iv) PPP project contracts; (v) Contribution of resources to PPP project implementation; (vi) Innovation and flexibility in investment management for PPP project implementation.

The SMOHCI through PPP method is the impact of the state apparatus on the investment process in healthcare construction projects through project contracts between the state and private investors in investing in hospital construction or providing healthcare services to improve the quality of medical treatment based on sharing benefits, responsibilities, costs, and risks.

## 2.2. The legal basis for the state management of healthcare construction investment through PPP method

### 2.2.1. General policy

Up to now, the Ministry of Health has not issued any legal documents (Circulars, Decisions) related to guiding the HCIM when applying the PPP method according to the specific characteristics of the healthcare sector.

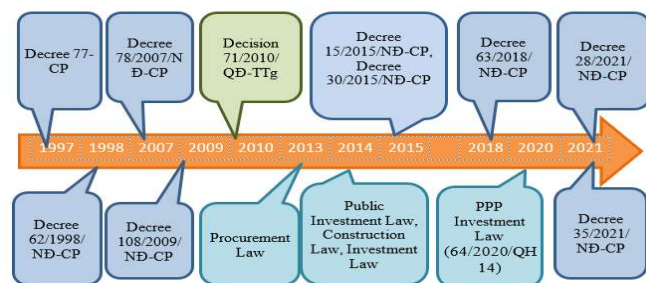


Figure 2.1: Systematizing legal documents directly related to PPP

### 2.2.2. Hanoi City Policy

The Capital Law of 2012 has had a significant impact on the construction investment activities in Hanoi, but there still exist some shortcomings due to certain provisions of the Capital Law mainly being of a principle nature, general orientation, lacking specific regulations on specialized mechanisms to manage construction investment projects, especially healthcare facilities, PPP.

## 2.3. Experience in state management of healthcare construction investment through PPP method in the world

The thesis summarizes and analyzes the experiences of Canada, Australia, India, Turkey, China, and the UK on SMOHCI through the PPP method:

- The common points in successful countries in terms of HCIM through the PPP method are the strict legal system, adequate state management apparatus, state management capacity, and good quality of medical examination and treatment.

- The state management apparatus for PPP plays an important role in managing investment in the construction of PPP projects. The management of construction investment is effective and economical, and the quality of work is ensured by the state management apparatus, the quality of human resources, and state management staff.

- The state will create a favorable investment environment and call for the participation of the private sector. There is no standard PPP method, and each country has its own strategy depending on the context, institutions, funding sources, and nature of the project.

- There is not much difference between developed and developing countries in terms of factors affecting the success of HCIM through the PPP method, namely: there must be an adequate and transparent legal framework; a centralized state management apparatus and specific responsibility for the implementation of PPP projects; the

selection of qualified private investor partners; maximizing benefits for partners; stabilizing the macro environment; and allocating risks effectively.

- The government plays an important role in promoting and developing the PPP method, demonstrating its role as the actor in creating the most favorable investment environment to free up resources and attract the participation of other sectors and forces in society.

### CHAPTER 3: ANALYZE AND EVALUATE THE CURRENT STATE MANAGEMENT OF HEALTHCARE CONSTRUCTION IN HANOI CITY THROUGH PPP METHOD

#### 3.1. Healthcare constructions in Hanoi city

In Hanoi city, large hospitals are only concentrated in the inner city area and are all overloaded.

Table 3.1: Statistics of medical facilities in Hanoi city

No.	Medical facilities	2016*	2017	2018	2019	2020	2021	2022
1	Hospital	94	74	74	77	80	81	81
2	Nursing and rehabilitation hospitals	-	1	1	1	1	1	1
3	Dermatology Hospital	-	1	1	1	1	1	1
4	Maternity home	4	4	4	4	4	4	4
5	Regional polyclinics	-	53	53	53	53	53	53
6	Commune and ward health stations	584	584	584	584	579	579	579
<b>Total</b>		<b>682</b>	<b>717</b>	<b>717</b>	<b>720</b>	<b>718</b>	<b>719</b>	<b>719</b>

Source: Compiled from Hanoi statistical yearbook for the years 2016-2022

#### 3.2. Current status of state management of healthcare construction investment through PPP method

##### 3.2.1. Investment projects on health care construction

According to the World Bank, between 2010 and 2019, there were 63 PPP projects in the health sector proposed [27].

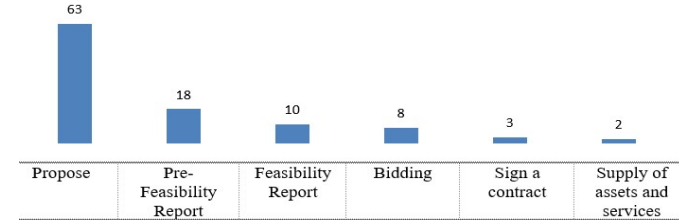


Figure 3.1: Number of PPP health projects in Viet Nam

Currently, there is very little information to report and evaluate the results of investment in hospital construction and provision of health services through the PPP method.

##### 3.2.2. State management apparatus for PPP

###### a. Central level

The Ministry of Health does not have a directly subordinate unit to directly manage PPP projects and only "indirectly" assigns tasks to the Department of Planning and Finance as the focal point for handling PPP projects in the field.

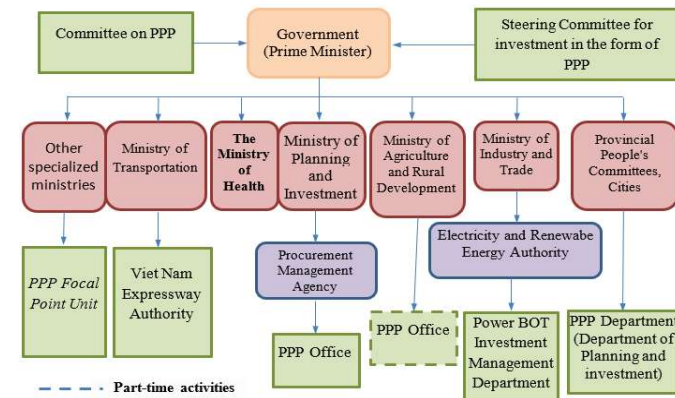


Figure 3.2: State management apparatus for PPP at the central level

###### b. Hanoi City Level

As directed by the Hanoi People's Committee, the Department of Planning and Investment is responsible for overall coordination in



implementing PPP projects. In addition, the Hanoi Department of Health manages the provision of public and private healthcare services in the city.

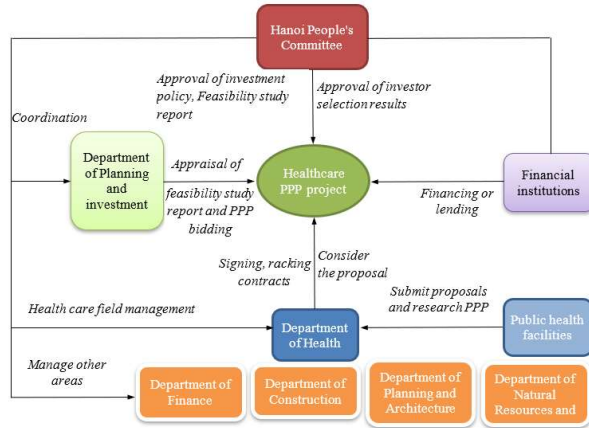


Figure 3.5:  
State  
management  
entities in Hanoi  
participating in  
PPP projects

### 3.2.3. Entities participating in construction investment management

The main entities involved in managing investment in construction projects include: Investors, Competent state authorities, Local People's Committees; Financial lenders; Project enterprises; Service users; Construction contractors; Operation contractors.

### 3.2.4. Healthcare construction investment management

HCIM through the PPP method has been indirectly used by public hospitals for a long time, according to different financial methods: (i) the joint venture method of supplying medical equipment; and (ii) the method of joint venture to provide services, in order to mobilize capital from the private sector to invest in the construction of new infrastructure, equipment, etc. to improve the quality of medical examination and treatment services. However, at a small level, investment cooperation in the construction of the entire hospital

project has not been implemented.

### 3.2.5. State management of construction investment in the form of PPP in Hanoi city

During the period of 2021–2025, the Hanoi People's Committee has 39 key projects planned for investment. In the healthcare sector, there are three projects to be invested in construction using the city's budget.

The Hanoi People's Committee has four project management boards under its authority, but only the Traffic Construction Investment Project Management Board has a specialized PPP project management department. The other project management boards do not have specialized units for PPP.

## 3.3. Factors affecting state management of healthcare construction investment according to the PPP method

**3.3.1. Political system:** Political will is a prerequisite to demonstrate the commitment of the State as well as motivate stakeholders to apply investment management to build health PPP projects.

**3.3.2. Project implementation environment:** Includes legal environment (state support policies, risk sharing, PPP project contracts) and macroeconomic environment.

**3.3.3. State management apparatus:** Public health agencies need a dedicated management apparatus with expertise in planning, financial and technical appraisal, bidding and contracting, and PPP project management. Specialized PPP management unit at central level (National Assembly, Government, Ministry of Planning & Investment,...)

**3.3.4. Project construction investment management capacity:** Managing project investment and construction according to the PPP

method requires good cooperation between the State and the private sector. This requires the management capacity of the State and Private sectors to be very important.

**3.3.5. The brand of healthcare facilities, medical examination, and treatment:** The brand of the state partner (quality of medical examination) and the private partner (quality of construction investment, operational organization) are very important, influencing the decision to choose medical examination and treatment for the people.

### 3.4. Assessment of influencing factors state management of healthcare construction investment in the form of PPP method

The thesis uses a questionnaire consisting of 5 independent observation variables with 25 dependent observation variables in accordance with the theory and practice of SMOHCI when implemented under PPP method in Hanoi. The thesis investigated and interviewed 138 experts and scientists and used SPSS application to evaluate and quantify the impact of factors affecting SMOHCI when implemented according to the PPP method.

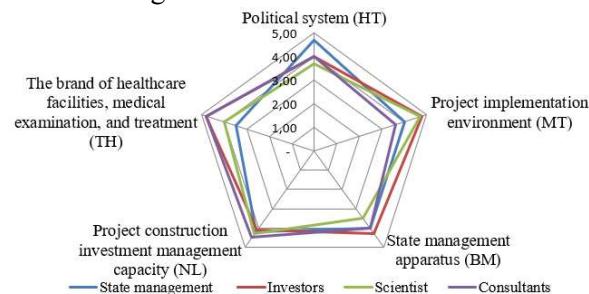


Figure 3.12: The influence level of factors on SMOHCI

The results of the standardized regression equation are as follows:

$$QLDTXD = 0,266*MT + 0,237*BM + 0,205TH + 0,166*NL + 0,121*CT + \varepsilon$$

### 3.5. Limitations and causes affecting the SMOHCI through PPP method in Hanoi city

#### 3.5.1. Restrict

First, the PPP concept is often associated with infrastructure development PPP projects with little focus on the health sector and health service provision sector like in other countries. The PPP concept also does not address the definition of long-term contracts, the transfer of risk and management responsibility from the public to the private sector, or performance-based payments.

Secondly, regulations and technical guidelines for the health sector have not been fully issued for the HCIM through PPP method.

Third, legal documents applied to medical construction investment projects using the PPP method do not ensure completeness and consistency (especially the draft Circular compiled by the Ministry of Health which has not been approved yet). The PPP project implementation process (from start to finish) is carried out according to different Laws and regulations, sometimes there is overlap in the regulatory system.

#### 3.5.2. Reason

- Objective reasons: the legal system regulating HCIM using the PPP method is incomplete; there is no state management unit in charge of PPP; staff capacity is limited; and the quality of medical treatment is still inadequate. Due to the characteristics of medical projects that have social security elements, affecting people's health and lives, projects have low profitability, a low level of readiness in the private sector, and low resources. Capital to support investment in PPP projects in the health sector from the state is still limited. People's awareness of the benefits of PPP is still unclear.



- Subjective reason: PPP development orientations in the health sector have not been specified or expressed in planning strategies and master plans for health system development.

## **CHAPTER 4: STATE MANAGEMENT OF HEALTHCARE CONSTRUCTION INVESTMENT SOLUTIONS IN HANOI CITY THROUGH THE PPP METHOD**

### **4.1. Viewpoints and principles of state management of healthcare construction investment through the PPP method**

Principles of SMOHCI when implemented successfully using the PPP method in the world all have certain common principles as follows: (i) *The principle of efficiency*, (ii) *the principle of profit*, (iii) *the principle of risk*, (iv) *the principle of equality* and (v) *the principle of competition*.

### **4.2. Orientation for state management of healthcare construction investment through the PPP method**

#### **4.2.1. Orientation for construction investment management**

According to the provisions of the Construction Law, four orientations on construction investment management include: (1) construction investment projects are managed according to investment plans and policies, meeting the requirements specified in Article 51 of the 2014 Construction Law and in accordance with relevant laws; (2) clearly define the responsibilities and powers of state management agencies, investment decision makers, investors, and related organizations and individuals; (3) suitable to the type of capital source used for construction investment; and (4) management of construction investment activities of the project.

#### **4.2.2. Health system development orientation**

- *National health facility network planning*: thesis synthesizing and using the draft contents of the master plan on the network of health facilities in the period of 2021-2030, vision to 2050.

- *Planning of Hanoi health facility network*: thesis synthesizing and using contents of planning the system of health facilities in Hanoi to 2030, vision to 2050.

### **4.3. Group of state management of healthcare construction investment through PPP method solutions**

#### **4.3.1. Project implementation environment solution**

##### *4.3.1.1. General legal policy*

The thesis proposes 06 solutions on content, orientation to complete legal policies on the Investment Law, policies under the competence of the Ministry of Health, Hanoi People's Committee.

##### *4.3.1.2. Criteria policy for evaluating and selecting investment projects to build medical facilities according to the PPP method*

SMOHCI through the PPP method must be in line with the project contract form, the investment management objectives of each stage of project development. The thesis proposes evaluation criteria for selecting healthcare construction investment projects under the PPP method, outlining a decision-making framework for selecting a PPP model that fits the characteristics of Hanoi city. Additionally, healthcare facilities have their own characteristics, so when managing construction investment through the PPP method, a comprehensive assessment should be conducted, and various contract forms can be considered based on models such as Operation & Maintenance (O&M), Build-Operate-Transfer (BOT, BTO), Build-Transfer-Lease (BTL, BLT), and Build-Own-Operate (BOO).

#### 4.3.1.3. Management and allocation risk policies for healthcare construction investment projects

Policy proposals on the allocation of responsibilities and risk management between the public and private sectors in managing construction investment using the PPP method, must be specified in the PPP project contract.

#### 4.3.1.4. Policies under the jurisdiction of the city of Hanoi

- Complete and supplement regulations when amending the Capital Law
- Adding content on the PPP method to the Hanoi Medical Facility Network Planning Project to 2030, with a vision to 2050.

### 4.3.2. Management solutions

#### 4.3.2.1. Central management apparatus (Ministry of Health)

The thesis proposes solutions to complete the structure and organization of the Ministry of Health (MOH).

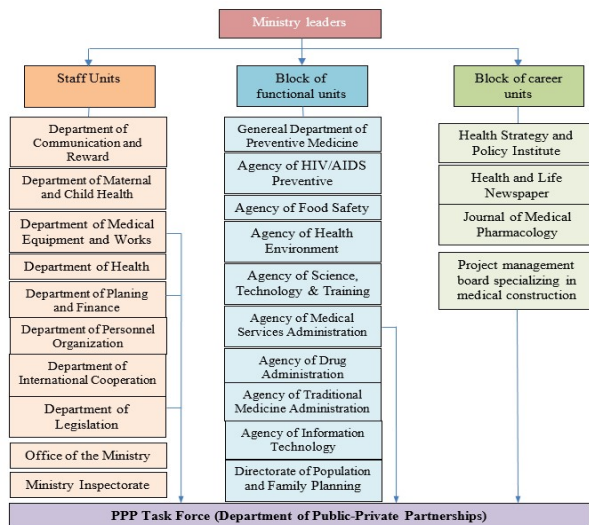


Figure 4.1:  
State management apparatus of the MOH on PPP projects

Within MOH, the government and leaders of MOH should establish

a unit with a specialized function for PPP. The solution to complete the state management apparatus on PPP at the MOH is to establish a PPP Working Group (in the short term) and proceed to establish the Department of Public-Private Cooperation (in the long term). The PPP Working Group will consist of representatives from four main units: the Department of Medical Equipment and Works, the Department of Legal Affairs, the Administration of Medical Examination and Treatment, and the Management Board, which specializes in medical construction. The PPP Working Group will be established under the Department of Planning and Finance to promote the preparation, implementation, and supervision of PPP projects in the health sector.

#### 4.3.2.2. Management apparatus in Hanoi city

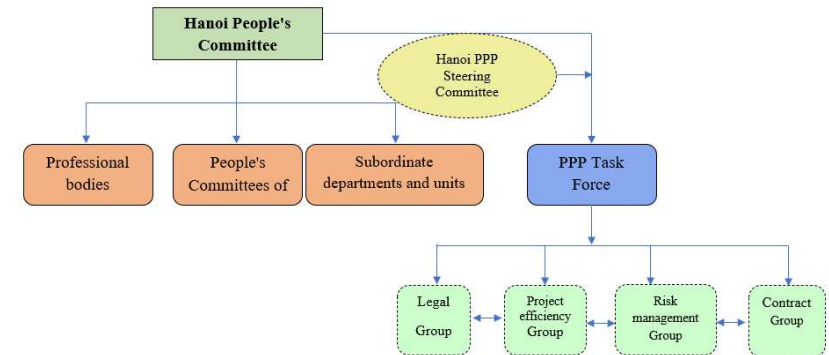


Figure 4.2: Specialized PPP agency in Hanoi

With the characteristics of the capital, the thesis proposes solutions for PPP specialized units to be established under the Hanoi People's Committee on the basis of restructuring and rearranging personnel from project management boards in the area. The PPP specialized unit has the function of advising the city government, evaluating PPP projects in general, HCIM through the PPP method in particular, and is also an organization with the task of training, guiding, and

strengthening PPP capacity for agencies, relevant organizations, including the state, local authorities, and private investors.

#### 4.3.3. Medical brand quality solutions

Hospital branding is one of the solutions to help manage and operate medical buildings effectively, ensuring financial and revenue factors when implementing PPP projects. The MOH and Hanoi People's Committee should develop a system of well-branded public health facilities in each specialized or general field to serve as a basis for cooperation with private partners in the form of integrated PPP as above.

#### 4.3.4. Human resource solutions for project construction investment management in the form of PPP

State managers in the health sector in general and in Hanoi in particular must be trained to be capable of managing, preparing, and implementing PPP projects, especially HCIM. The MOH coordinates with the Ministry of Construction to develop a training program to improve the awareness, knowledge, and capacity of managers about investment in PPP medical construction in Hanoi. The thesis proposes a training program on HCIM through the PPP method at different levels: beginner, intermediate, and advanced, depending on the responsibilities of the training subjects.

#### 4.4. Check research results with financial performance analysis

The thesis builds a model for testing research results by the method of economic and financial analysis of PPP projects according to the research hypotheses:

The franchise model is implemented on the basis of the State partner (Hanoi Department of Health/Civil and Industrial Management Board) in cooperation with private investors (companies/enterprises) to invest in projects under PPP method.

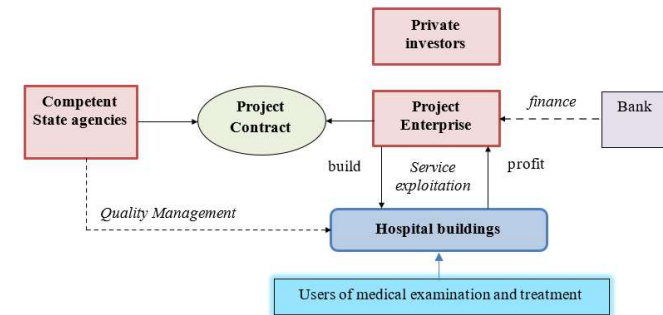


Figure 4.7: Construction investment management according to the operating franchise model

The thesis uses the Value for money (VFM) method to compare financial performance in the case of PPP compared to traditional investment.

No.	Criteria	Analysis plan		
		State implements the whole (PA1)	Private implements the whole (PA2)	State and Private implement together (PA3)
1	Investment capital (billion VND)	935,112	935,112	935,112
a	State Capital	935,112	-	140,266
b	Private Capital	-	935,112	794,845
	Own capital	-	140,266	140,266
	Commercial loans	-	794,845	654,578
3	Loan interest	-	116,556	95,987
4	Net present value indicator - NPV (billion VND)	336,527	-109,309	7,230 (break-even point)
5	Indicators of intrinsic profitability, % (IRR) / Discount coefficient (r)	8,81 / 6	5,23 / 6	6,05 / 6
6	Repayment period (years)	-	14	18
7	Payback period, without taking into account discounts, years (T <sub>nam</sub> )	13	17	19
8	Time for analytical calculations (years)	30 years	30 years	30 years

Table 4.1: Economic and financial indicators according to investment plans

From the analysis results, in order to HCIM in an effective and sustainable PPP manner with the operating franchise model (BOT or BTO), the State only needs to contribute capital (greater than 15%) or with the ownership franchise model (BOO), the State allows an increase in medical examination and treatment costs higher than 6.55% to be possible be the project.

#### **4.5. Discuss the research issues in the thesis**

##### ***4.5.1. Environmental policies for construction investment management***

The policy solutions researched and proposed related to legal policies in the thesis both meet the short-term and long-term stages of the HCIM when implemented through the PPP method. In addition, it is necessary to create a legal corridor for the HCIM when implementing the PPP method in the Health Network Infrastructure Plan with a vision to 2050 to create an investment environment, ensuring legality when implementing it consistent.

##### ***4.5.2. State management of healthcare construction investment in works apparatus in the form of PPP.***

The establishment of the HCIM Agency at the MOH and Hanoi People's Committee is an important solution to affirm the role of state management. Construction investment management includes many contents related to different fields managed by state agencies, so private investors cannot solve all legal procedures, conflicts, and problems with state agencies in the process of managing project construction investment. Therefore, the HCIM Agency at the MOH and the Hanoi People's Committee will act as a focal point for management from the state to solve shortcomings and improve the efficiency of state management of construction investment.

##### ***4.5.3. Medical facility branding***

The brand of medical facilities is one of the inevitable trends of competitive factors in the period of market economy. The brand not only helps public health facilities attract people to medical examination and treatment but also affirms the position of quality and services in the medical field. Therefore, the brand name is an indispensable condition for private investors to choose and evaluate

the feasibility of cooperating in investment in the construction of medical works under the PPP method. Although the brand of medical facilities is not directly related to the content of management investment in the construction of medical works, it is a factor that greatly affects the efficiency of construction investment and the efficiency of the project.

##### ***4.5.4. Building human resources for construction investment management in the form of PPP***

All solutions to policies, state management apparatus, and the brand of health facilities can be solved directly or indirectly by the quality of human resources. Civil servants and public employees in different positions, if they have good capacity, professional sense, and good skills, will contribute to improving the efficiency of HCIM in different aspects. When the quality of human resources is improved, the state management of construction investment in general and investment in construction works under the PPP method will be improved and have better quality.

##### ***4.5.5. Economic and financial benefits when managing construction investment in the form of PPP***

HCIM of PPP projects is one of the solutions not only to improve the efficiency of investment in construction works but also to share the financial burden, responsibility for investment in construction works, and provision of public services to the state. In addition, the research and proposal of synchronous solutions to improve the efficiency of SMOHCI on the basis of ensuring harmonious interests between investors, the state, and the people have achieved the research objectives. The assessment of the economic and financial benefits of the project also depends on many different objective factors, but

considering some important criteria (e-commerce, revenue, payback period, capital contribution rate, etc.) in the aspect of construction economics, it shows that the research product of the thesis has achieved practical results.

#### **4.6. Proposing further research directions**

Follow-up research, in-depth evaluation criteria, selection of some evaluation criteria, and selection of investment projects to build works under the PPP method for hospital buildings. In addition, in-depth research on the characteristics of "brands of medical examination and treatment facilities" is needed for the management and operation of PPP projects of medical works.

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **1. Conclusion**

The SMOHCI, when implemented through the PPP method in Hanoi city in particular and in Vietnam in general, is still in its infancy, and there are still many shortcomings and risks. The research thesis achieved the following results:

- Systematize and supplement a number of theoretical issues related to the SMOHCI through the PPP method.
- The study, summarized through more than 30 relevant scientific research works and experience in construction investment management from six countries around the world and compared and evaluated similar conditions, showed that HCIM in PPP construction in Hanoi is feasible and in line with the development orientation of Hanoi city and the development orientation of the health sector.
- Inheriting domestic and foreign research results and completing the research framework to evaluate and complete the five main factors affecting the SMOHCI through the PPP method suitable to the

characteristics of Hanoi city.

- Testing research results and economic and financial analysis of medical construction investment projects (according to the hypotheses of the investment project to build Xanh Pon Hospital Facility 2) to assess the feasibility of the project.

- The thesis proposes four groups of solutions based on shortcomings and quantitative analysis results of influencing factors in accordance with reality (policies, management apparatus, quality of medical examination and treatment, and human resources).

#### **2. Recommendations**

- For the government, it is necessary to soon complete the legal document system on HCIM through the PPP method.

- For the Ministry of Health, it is necessary to soon actively research and promulgate policies related to the planning of the hospital system across the country, specifically selecting the location, scale, and other technical indicators.

- For Hanoi City Government, it is necessary to proactively establish a specialized PPP unit under the City People's Committee, assigning specific departments to be responsible for investment, construction, and management of PPP projects in the area.

- For private investors, it is necessary to actively improve the organization of the business apparatus and the quality of human resources as well as the internal resources of enterprises when investing in the construction of medical works under the PPP method.

- For universities and research institutions, it is necessary to continue in-depth research on HCIM through the PPP method in order to perfect the theoretical and practical system of construction investment management.

## RESEARCH PAPERS

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3. Le Anh Dung, Nguyen Thi Thu Hien (2020), *Analysis of factors affecting the management of construction investment of healthcare works in the form of public-private partnerships in some countries around the world*, Construction and Urban Development Journal, No.71/2020, ISSN 1859-3119, pages 74-78.

4. Le Anh Dung, Nguyen Thi Thu Hien (2021), *Current situation and solutions to develop the investment construction of health projects under the PPP(Public-private partnership) model*, Construction Economics Journal, No.3/2021, ISSN 1859-4921, pages 20-29