

**AMERICAN UNIVERSITY**

# **Building the Thai Binh International Maternity Hospital in Thai Binh Province, Vietnam**

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**Kien T. Bui  
Honors Capstone Submission  
Supervisor: Professor Richard Linowes  
Fall 2011**

## MEMORANDUM

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Date: October 19, 2010

To: Dr. Richard Linowes  
Mr. Ngo Van Toan, Chairman of NGO & Co

From: Kien T. Bui, President of Bui Brothers & Company

Re: The Thai Binh International Maternity Hospital Project

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### Executive Summary

Vietnam is facing great challenges in the healthcare market. Existing maternity hospitals, concentrated mainly in big cities and mostly public, cannot meet the demand in the market. The challenges also present an opportunity for a healthcare investment—building a modern maternity hospital that focuses not only on promoting the best medical care but also excellent customer service and sustainable infrastructure. With current healthcare development plan in Thai Binh Province, the second-largest healthcare market in Northern Vietnam, and our commitment to such plan, and the Thai Binh Medical University and Thai Binh Medical College, we conclude that building a maternity hospital in Thai Binh is a financially sound investment that has great contribution to the healthcare development of Province.

### Vision

Our vision is to develop Thai Binh International Maternity Hospital (TBIMH) into a leading national maternity hospital known for:

- Excellence in medical care
- Attentive and engaged customer service
- Modern sustainable building design
- Safety
- Efficiency
- Reasonable prices

### Mission

- Our missions are:
  - To provide the best maternity services to our customers with the best customer service
  - To contribute to the development of Thai Binh City into an excellent healthcare city of the country and the region
- All employees and staff members, both full-time and part-time, must go through a careful recruiting process and rigorous training to ensure high-standard customer service and are given competitive compensation packages.

- All medical and administrative processes must be customer-focused and standardized with high international standard to facilitate supervision and ensure our commitment to best medical care and customer service.
- We will ensure our information and data are transparent, processed through a modern web-based informational technology hospital management system that allows immediate update and response in our performance.

## **Market Overview**

### ***Overview of Vietnam Market***

Vietnam's biggest cities are facing a major problem—too many people in too little space. The two biggest cities, Hanoi and Ho Chi Minh City, have a combined population of 20 million, accounting for more than 20% of the nation's population and about 40% of the national gross domestic product.<sup>1</sup> That does not include thousands of visitors from other provinces and cities who come just for healthcare services. Hospitals in Hanoi and HCMC are under capacity as the number of beds cannot sufficiently serve the demand. There are still circumstances in which 3 patients are assigned to one bed and their relatives have to sleep on the floor. These hospitals lack the basic services for patients and their relatives.

Recently, His Excellency Pham Quang Nghi, Hanoi's Party Secretary, said that one of the disappointments of Hanoi was that no new hospitals were built in the past five years. The reason is obvious—it's too costly to build a hospital in a major city that can provide high-quality healthcare and supplemental services at low costs.

The healthcare market presents an opportunity for hospital investment only seen in developing countries, especially Vietnam where the overall economic growth has surpassed the growth in healthcare services. Also, the national government is encouraging investment in healthcare by omitting corporate income taxes and providing loan guarantees at low interest rates.

### ***Specialty***

Among medical services, a general hospital and specialties such as cancers, cardiology, or complicated care would require an enormous investment and the shortage of highly qualified doctors and physicians are key challenges. All qualified doctors in these areas are either working in public hospitals or having committed to other private hospitals and concentrating in big cities like Hanoi and Saigon where the two biggest medical schools, Hanoi Medical University and Ho Chi Minh Medical and Pharmaceutical University, are located.

Maternity does not, however, require a large investment and medical complication while the training is usually shorter. Therefore, we conclude that maternity is the best medical field for our hospital.

### ***Location***

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<sup>1</sup> For more information, go to General Statistics Office of Vietnam <http://www.gso.gov.vn/>

The location of the hospital must be in a smaller city or province with a considerable healthcare market and great access to human capital from medical schools and researching institutions. We therefore conclude that Thai Binh Province, an emerging healthcare market that houses the Thai Binh Medical University—the fourth largest medical university in the country—and Thai Binh Medical College—a nursing and maternity school, is the best location to build the hospital.

### ***Overview of Thai Binh Market***

Thai Binh Province is considered the second largest healthcare market in Northern Vietnam. The Province's population is over 1.8 million people. 200,000 people live in Thai Binh city, the province's capital city, with a GDP per capital of \$2,000. Thai Binh also attracts a large number of patients from surrounding provinces such as Nam Dinh, Ninh Binh, and Hai Phong.

Thai Binh has 25 hospitals with a total of more than 2,500 hospital beds, and nearly 1,100 doctors and nurses but only one public maternity hospital with 120 beds and several private maternity clinics. These places always operate over capacity and lack high levels of safety and customer service.

Moreover, Thai Binh province is implementing its strategic plan to become a national healthcare city. The provincial government is promoting investment in healthcare via incentive government policies such as land, property taxes, and loans.

The two medical schools – Thai Binh Medical University and Thai Binh Medical College—enroll about more than 10,000 students and each year supply more than 1,000 doctors, pharmacists, nurses each year to hospitals across Northern Vietnam. In recent years, these two schools have developed partnership with prominent medical schools and teaching hospitals in Asia such as Osaka University in Japan and Parkway Healthcare Group in Singapore. These schools can sufficiently supply trained maternity doctors to our hospital.

## **The Thai Binh International Maternity Hospital**

### ***Location***

Thai Binh International Maternity Hospital will be located in a 2.5-hectare property in the upcoming healthcare complex in Thai Binh:

- In downtown Thai Binh City
- Great access to major existing and upcoming highways and national roads such as Road 10 (Nam Dinh-Thai Binh-Hai Phong), Road 39B (Hung Yen-Thai Binh to the National Coastal Economic Zone and Tien Hai Industrial Park), and Thai Binh-Hanoi highway.
- Within 1 mile from the Thai Binh Medical University and the 17-story 5-star PetroVietnam Twin Towers, 1.5 miles from the Thai Binh Medical College
- 10 miles from Nam Dinh Province, 40 miles from Hai Phong City, the second-largest city in Northern Vietnam.

### ***Scale***

- 100 beds, 60 rooms
- Rooms include:
  - Examination
  - Delivery
  - Nursing and Family Waiting Room
  - Infant pediatrics
  - Sterilization
  - Surgery
  - Emergency
  - Testing
  - Administrative

### ***Target markets***

- Our main target customers are middle to upper income customers in Thai Binh city, industrial districts in the Province, and surrounding provinces lacking high-quality healthcare services.
- We understand that when it comes to pregnancy and child birth, most families should already have financial preparation. We are providing an affordable service, ranging from \$450 per ordinary birth-giving case to \$700 for a case requiring surgery. And these prices are one-time fee.
- Besides, the hospital focuses on two main fertility specialties: (1) in vitro fertilization<sup>2</sup>, and (2) gynecologic oncology<sup>3</sup>

### ***Operational Strategy***

- The hospital's operation will be managed independently by Chief Medical Officer, who oversees medical operation and medical personnel training, and Chief Operating Officer, who oversees the administrative operation. Both Chief Medical officer and Chief Operating Officer report directly to the Chief Executive Officer.
- The hospital will implement a policy that offers employees and staff competitive compensation packages, well above the market.
- The hospital will employ a standardized management system that tie medical operation, customer service, human resources, and operational performance review. This linkage eliminates the separation between strategy and operations that is a weakness in other strategic planning process.

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<sup>2</sup> In vitro fertilization (IVF) is a major treatment in infertility when other assisted reproductive methods have failed.

<sup>3</sup> Gynecologic oncology includes cancers of female reproductive system, including ovarian cancer, uterine cancer, and endometrial cancer.

## ***Marketing Strategy***

- The hospital will implement mainly “word-of-mouth” marketing strategy with focus on the existing reputation of our medical officers team, especially of the Chief Medical Officer Dr. Vu Dinh Hong, professionalism, and excellent customer service.
- Other marketing channels include advertisement in print media and television.
- The hospital will organize free consultation for future customers, medical conferences for doctors from other hospitals to participate in sharing their experiences
- Partnership with the Thai Binh Medical University, the Thai Binh Medical College, and the Emergency Services.

## ***Workforce Strategy***

- The Director of Human Resources oversees recruiting policy and process and develops strategic plan for overall staff training.
- The Chief Medical Officer oversees criteria for medical staff positions and develops strategic plan for medical staff training. The Hospital will also partner with the Thai Binh Medical University and the Thai Binh Medical College for the supply of doctors and nurses.
- Proposed personnel plan:

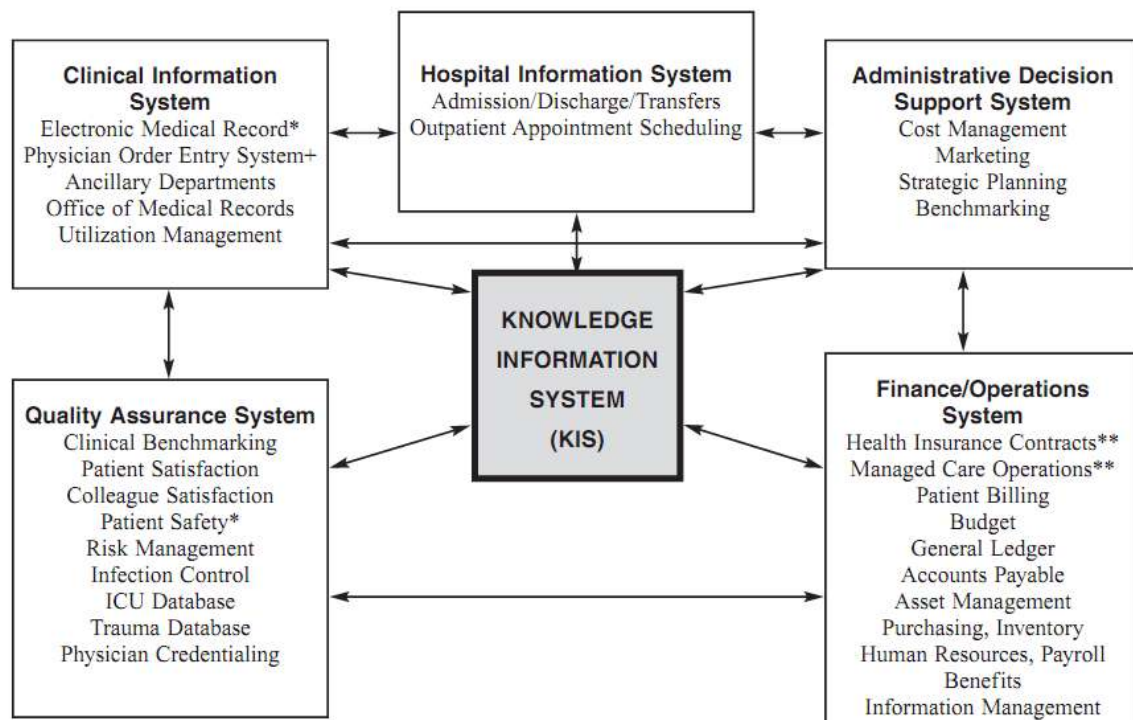
<b>Description</b>	<b>Y1</b>	<b>Y2</b>	<b>Y3</b>	<b>Y4</b>	<b>Y5</b>
<b>Headcount</b>	<b>55</b>	<b>77</b>	<b>112</b>	<b>127</b>	<b>140</b>
Doctors	13	20	30	34	37
Nurses	14	22	33	37	40
Administrative	28	35	49	56	63

### *Sample training courses:*

<b>Key area</b>	<b>Training courses</b>
Health, Safety, Wellness	Basic safety, First Aid, Ergonomics at the Bedside, Establishing a culture of safety, Preventing lower back injury
Documentation and Reporting	Medication Error Reporting, Computer Training (MS Office Suite, Email, Database)
Management and Leadership	Supervisory training (How to coach, mentor, support on-the-job training), time management
Customer Service	Listening and Learning skills—how to hear your customer, Conducting patient/family member focus groups
Orientation and organizational culture	New colleague orientation, Ethics in healthcare, SPIRIT values, Cultural diversity and awareness, Teamwork
Quality Improvement	Process Improvement—basic and advanced levels
Clinical Excellence	Clinical Excellence Series
Communication and Negotiation	Communication skills for MDs/MD Executives, Communication skills for non-MD

- The hospital will use the Performance Evaluation Plan for each employee as a template for career development, personal growth, and performance expectations linked to reward system.

### ***Knowledge System and Performance Criteria***



### ***Proposed Management Team***

#### **Dr. Nguyen Nhu Chien, Chief Executive Officer**

Dr. Chien has 20 years of experience in hospital management, serving as President of Thai Binh General Hospital from 2001 to 2010, and Senior Vice President from 1995 to 2001. Before that he served as Department Chair of Intensive Care Units. Dr. Chien also served as Vice President of the Thai Binh Medical University from 2005 to 2010. He graduated from Hanoi Medical University.

#### **Dr. Vu Dinh Hong, Chief Medical Officer**

Dr. Hong is a leading maternity doctor in Vietnam with more than 40 years of experience in medical practice and teaching. He served as Maternity Department Chair at the Thai Binh Medical University. He co-authored a textbook that has been used as an official textbook in 8 medical universities in Vietnam.

#### **Dr. Vu Thi Thuy, Chief Operating Officer**

Dr. Thuy has served Senior Vice President of Administration and Community Outreach at the Thai Binh General Hospital since 2005. She graduated from Hanoi Medical University.

## Financial Analyses

- Total capital expenditures: \$6,025,000
- Investment Structure
  - Investors: \$3,525,000
  - Loan \$2,500,000
- Initial Project Cost Highlights:

	Total	Y0	Y1	Y2
<b>Total Capex</b>	<b>\$ 6,025,000</b>	<b>\$ 3,925,000</b>	<b>\$ 1,650,000</b>	<b>\$ 450,000</b>
Project Development Expense	\$ 300,000	\$ 300,000		
Hospital Building Expense	\$ 3,800,000	\$ 3,000,000	\$ 800,000	
Machinery Equipment	\$ 1,000,000	\$ 300,000	\$ 400,000	\$ 300,000
Other medical supplies	\$ 250,000	\$ 50,000	\$ 150,000	\$ 50,000
Office Supplies	\$ 225,000	\$ 75,000	\$ 100,000	\$ 50,000
Information system	\$ 200,000	\$ 100,000	\$ 100,000	
Transports	\$ 250,000	\$ 100,000	\$ 100,000	\$ 50,000

- Investment Valuation:
  - Net Present Value (at 20%): \$1,388,000
  - Internal Rate of Return: 34%
  - Payback Period 2.7 years

BASECASE	Y0	Y1	Y2	Y3	Y4	Y5
<i>Amounts are in \$ '000</i>						
Inflation Index @ 10%	1.0	1.1	1.2	1.3	1.5	1.6
Capital Expenditure	(3,925)	(1,650)	(450)	-	-	-
Profit after tax	-	866	1,056	2,358	2,856	3,755
Working Capital Movement	-	140	29	62	39	51
Add back Depreciation	-	1,115	1,205	1,205	1,205	1,205
Cashflow (Const.)	(3,925)	429	1,521	2,723	2,801	3,111
Cumulative Cashflow	(3,925)	(3,496)	(1,976)	748	3,548	6,660
<b>NPV @20%</b>	<b>1,388</b>					
<b>IRR (%)</b>	<b>34%</b>					
<b>Payback period (years)</b>	<b>2.7</b>					



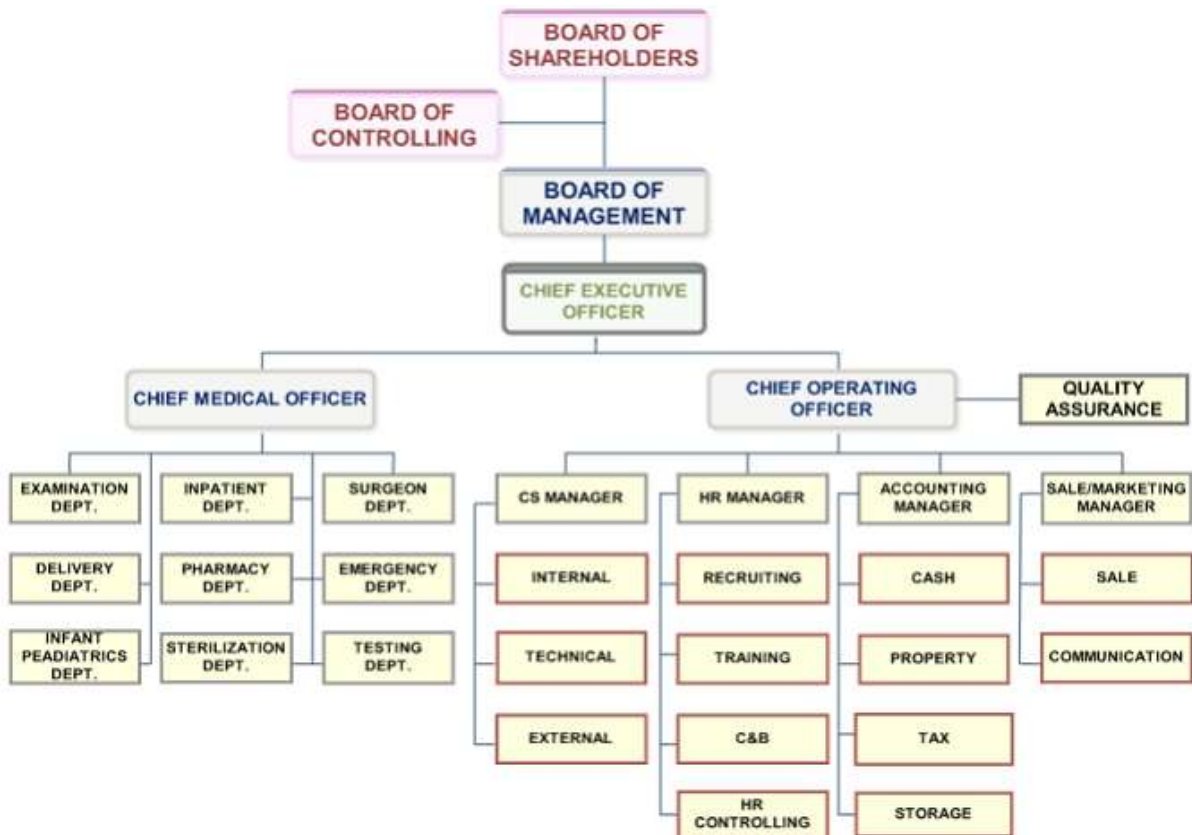
## APPENDIX A

### Location of Thai Binh Province



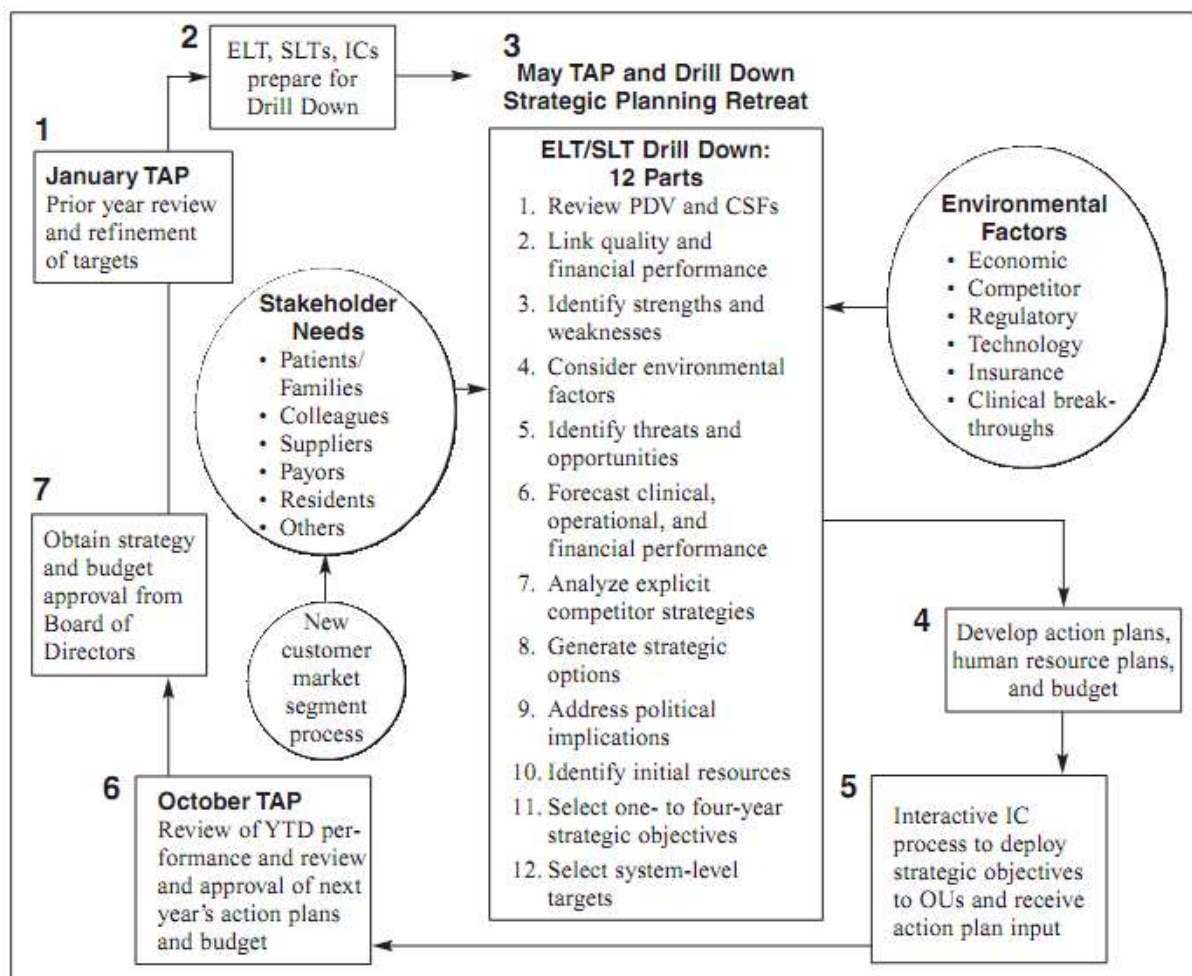
## APPENDIX B

### Organizational Chart



## APPENDIX C

### Strategic Planning Process

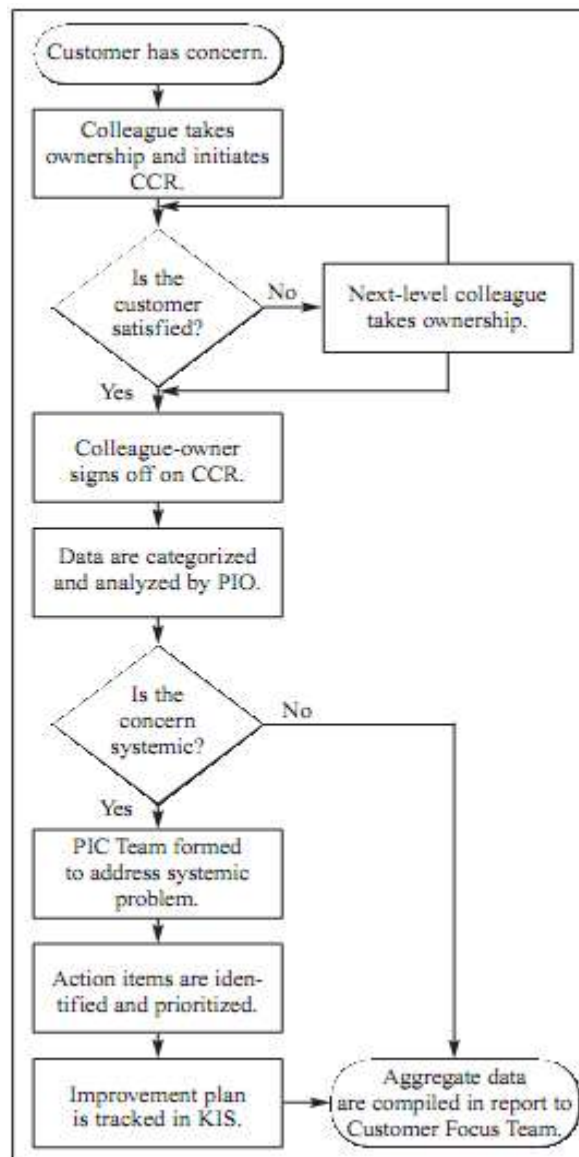


#### Acronyms:

ELT	Executive Leadership Team
IC	Interlocking Committee
SLT	Senior Leadership Team
TAP	Triannual Action Process
YTD	Year To Date
OU	Operating Unit

## APPENDIX D

### Customer Concern and Recovery Process



## APPENDIX E

### Key Business Processes

Key Business Processes	Key related sub-processes	Key operational requirements	Key performance measures
Technology acquisition	Technology research Technology analysis Contracting	State-of-the-art capabilities Affordable technologies	Return on assets Currency of technologies (age of technology assets) Funds expended
Knowledge Management	Information system Data gathering Systems integration	Integrated information systems Proactive data gathering Pertinent patient and supplier access Data reliability Reliable suppliers	User satisfaction Accuracy of data
Supply Chain Management	Supplier Selection Supplier Performance	Capable suppliers Low inventory costs	Supplier effectiveness Inventory accuracy Order fulfillment
Nonclinical Revenue Activities	Investment Income Charitable Gifts	Funding for operational and infrastructure improvements	Investment income per budget Gifts in dollars
Community outreach		Admissions by physicians (insurance vs. self-paying)	Physician referral rate Local usage rate Community involvement
Successful Business Growth	Physician Relationship Management	Outreach to physicians	Physician recommendation rate

## APPENDIX F

### Thai Binh International Maternity Hospital Project P&L Projection

Amounts are in US\$ '000

Thai Binh International Maternity Hospital Project							
	Y1	Y2	Y3	Y4	Y5	Total	% Revenue
<b>Gross Revenue</b>	<b>4,105</b>	<b>4,885</b>	<b>7,094</b>	<b>8,177</b>	<b>9,723</b>	<b>33,983</b>	
Less VAT	-	-	-	-	-	-	
<b>Net Revenue</b>	<b>4,105</b>	<b>4,885</b>	<b>7,094</b>	<b>8,177</b>	<b>9,723</b>	<b>33,983</b>	<b>100.0%</b>
<b>Salary</b>	<b>467</b>	<b>766</b>	<b>1,254</b>	<b>1,565</b>	<b>1,859</b>	<b>5,910</b>	<b>17.4%</b>
Doctors	338	572	944	1,177	1,389	4,420	13.0%
Nurses	56	94	156	194	229	729	2.1%
Nurses' aids	73	100	154	194	240	761	2.2%
<b>Medical-related expenses</b>	<b>164</b>	<b>195</b>	<b>284</b>	<b>327</b>	<b>389</b>	<b>1,359</b>	<b>4.0%</b>
<b>Utility Expenses</b>	<b>82</b>	<b>98</b>	<b>142</b>	<b>164</b>	<b>194</b>	<b>680</b>	<b>2.0%</b>
<b>Property tax</b>	<b>781</b>	<b>844</b>	<b>844</b>	<b>844</b>	<b>844</b>	<b>4,155</b>	<b>12.2%</b>
<b>Machine Maintainance Expense</b>	<b>41</b>	<b>49</b>	<b>71</b>	<b>82</b>	<b>97</b>	<b>340</b>	<b>1.0%</b>
<b>Other Expenses</b>	<b>41</b>	<b>49</b>	<b>71</b>	<b>82</b>	<b>97</b>	<b>340</b>	<b>1.0%</b>
<b>Cost of Good Sold</b>	<b>1,575</b>	<b>2,001</b>	<b>2,665</b>	<b>3,062</b>	<b>3,480</b>	<b>12,783</b>	<b>37.6%</b>
<b>Gross Profit</b>	<b>2,529</b>	<b>2,884</b>	<b>4,429</b>	<b>5,114</b>	<b>6,243</b>	<b>21,200</b>	<b>62.4%</b>
<b>Gross Profit % Net Revenue</b>	<b>61.6%</b>	<b>59.0%</b>	<b>62.4%</b>	<b>62.5%</b>	<b>64.2%</b>	<b>62.4%</b>	
<b>Interest income (expenses)</b>	<b>(279)</b>	<b>(230)</b>	<b>(174)</b>	<b>(112)</b>	<b>(41)</b>	<b>(837)</b>	
<b>SG &amp; A</b>							
Indirect Personnel Costs	338	372	409	450	495	2,064	6.1%
Meal allowance	76	101	142	171	202	693	2.0%
Uniform	6	8	12	14	17	57	0.2%
Recruitment	16	23	33	40	47	159	0.5%
Training	82	98	142	164	194	680	2.0%

Sales & Marketing	251	300	366	436	522	1,875	5.5%
Communications (Network, Phones, Postal)	120	144	173	207	249	893	2.6%
Travel & Entertainment	41	49	71	82	97	340	1.0%
Office supplies	24	29	35	41	50	179	0.5%
Professional fees & taxes	30	36	43	52	62	223	0.7%
Depreciation	335	362	362	362	362	1,781	5.2%
Insurance	5	6	7	9	10	37	0.1%
Bank charges	18	22	32	37	44	153	0.5%
Other SG&A	41	49	71	82	97	340	1.0%
<b>Total SG&amp;A</b>	<b>1,384</b>	<b>1,598</b>	<b>1,897</b>	<b>2,146</b>	<b>2,447</b>	<b>9,472</b>	<b>27.9%</b>
<b>SG&amp;A % of Net Revenue</b>	<b>33.7%</b>	<b>32.7%</b>	<b>26.7%</b>	<b>26.2%</b>	<b>25.2%</b>	<b>27.9%</b>	
<b>EBIT</b>	<b>866</b>	<b>1,056</b>	<b>2,358</b>	<b>2,856</b>	<b>3,755</b>	<b>11,728</b>	<b>34.5%</b>
<b>EBIT % of Net Revenue</b>	<b>21.1%</b>	<b>21.6%</b>	<b>33.2%</b>	<b>34.9%</b>	<b>38.6%</b>	<b>34.5%</b>	
<b>Income Tax</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>0.0%</b>
<b>PROFIT AFTER TAX</b>	<b>866</b>	<b>1,056</b>	<b>2,358</b>	<b>2,856</b>	<b>3,755</b>	<b>8,796</b>	<b>25.9%</b>
<b>Dividend</b>	<b>520</b>	<b>634</b>	<b>1,415</b>	<b>1,714</b>	<b>2,253</b>	<b>6,597</b>	<b>19.4%</b>
<b>Retained Earnings &amp; Reserve Funds</b>	<b>347</b>	<b>422</b>	<b>943</b>	<b>1,143</b>	<b>1,502</b>	<b>4,948</b>	<b>14.6%</b>

## APPENDIX G

### Thai Binh International Maternity Hospital Project Cash Flows Projection

Amounts are in US\$ '000

Description 1	Description 2	Y1	Y2	Y3	Y4	Y5
<b>Cash Flows from Operating Activities</b>						
	Profit before Tax	866	1,056	2,358	2,856	3,755
	Adjust for					
	Depreciation & Amortisation	1,115	1,205	1,205	1,205	1,205
	Working Capital Changes					
	(Inc)/Dec in Trade Receivables	-	-	-	-	-
	(Inc)/Dec in Inventories	(13)	(3)	(7)	(4)	(5)
	Inc/(Dec) in Trade Payables	128	27	54	36	47
	Inc/(Dec) in VAT Payable	26	5	15	7	10
	Income Tax Paid	-	-	-	-	-
	<b>Net Cash from Operating Activities</b>	<b>2,122</b>	<b>2,290</b>	<b>3,625</b>	<b>4,101</b>	<b>5,011</b>
<b>Cash Flows from Investing Activities</b>						
	Asset Additions	(5,575)	(450)	-	-	-
	Fixed Assets Disposal	-	-	-	-	-
	<b>Net Cash from Investing Activities</b>	<b>(5,575)</b>	<b>(450)</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Cash Flows from Financing Activities</b>						
	Capital Contribution	5,000	-	-	-	-
	Dividends Payment	(520)	(634)	(1,415)	(1,714)	(2,253)
	Proceed from Loan	1,425	-	-	-	-
	Repayment of Loan	(388)	(437)	(493)	(555)	(626)
		-	-	-	-	-
	<b>Net Cash from Financing Activities</b>	<b>5,517</b>	<b>(1,071)</b>	<b>(1,908)</b>	<b>(2,269)</b>	<b>(2,879)</b>
<b>Increase (Decrease) in Cash &amp; Equivalents</b>		<b>2,064</b>	<b>769</b>	<b>1,717</b>	<b>1,831</b>	<b>2,132</b>
<b>Cash at the Beginning of Year</b>		<b>-</b>	<b>2,064</b>	<b>2,832</b>	<b>4,549</b>	<b>6,381</b>
<b>Total Cash at the End of Year</b>		<b>2,064</b>	<b>2,832</b>	<b>4,549</b>	<b>6,381</b>	<b>8,513</b>



## APPENDIX H

### Thai Binh International Maternity Hospital Project Balance Sheet

Amounts are in US\$ '000

BS Item	Description	Y1	Y2	Y3	Y4	Y5
<b>Current Assets</b>						
	Cash and Equivalents	2,064	2,832	4,549	6,381	8,513
	Trade Receivables	-	-	-	-	-
	Inventories	13	16	23	27	32
	<b>Total Current Assets</b>	<b>2,077</b>	<b>2,848</b>	<b>4,572</b>	<b>6,407</b>	<b>8,545</b>
<b>Fixed Assets</b>						
	Cost	5,575	6,025	6,025	6,025	6,025
	Accumulated Depreciation	(1,115)	(2,320)	(3,525)	(4,730)	(5,935)
	<b>Total Fixed Assets</b>	<b>4,460</b>	<b>3,705</b>	<b>2,500</b>	<b>1,295</b>	<b>90</b>
<b>Total Assets</b>		<b>6,537</b>	<b>6,553</b>	<b>7,072</b>	<b>7,702</b>	<b>8,635</b>
<b>Current Liabilities</b>						
	Trade Payables	128	155	209	245	292
	VAT Payable	26	30	45	52	61
	Accrued Income Tax	-	-	-	-	-
	<b>Total Current Liabilities</b>	<b>154</b>	<b>185</b>	<b>254</b>	<b>297</b>	<b>353</b>
<b>Long-term Liabilities</b>						
	Long-term Loan	2,112	1,674	1,181	626	(0)
	Long-term Liabilities	-	-	-	-	-
	<b>Total Long-term Liabilities</b>	<b>2,112</b>	<b>1,674</b>	<b>1,181</b>	<b>626</b>	<b>(0)</b>
<b>Shareholder's Equity</b>						
	Owner Equity	5,000	5,000	5,000	5,000	5,000
	Retained Earnings	347	769	1,712	2,855	4,357
	<b>Total Shareholder's Equity</b>	<b>5,347</b>	<b>5,769</b>	<b>6,712</b>	<b>7,855</b>	<b>9,357</b>
<b>Total Liabilities &amp; Equity</b>		<b>7,612</b>	<b>7,628</b>	<b>8,147</b>	<b>8,777</b>	<b>9,710</b>
	<i>Checking</i>	(1,075)	(1,075)	(1,075)	(1,075)	(1,075)