

BUSINESS PLAN

**LAURA INTERNATIONAL HOSPITAL LABORATORY
SERVICES CENTER (LIHL+)**



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EXECUTIVE SUMMARY

The business plan of Laura International Hospital Laboratory Services Center (LIHL+) is the feasibility study to expand Laura International hospital laboratory department services to external customers. The purpose of this business plan is to present new market channels that assist Laura hospital brands to increase their market share in laboratory industry. This business plan provides information on how to increase laboratories unit sales for Laura hospital laboratory services. The plan focuses on new customers; 36 alliance hospitals in Thailand and new business model which targets on business to business (B2B). The business plan consist of the analysis of laboratory industry, competitors analysis, brand positioning, provide new business description, marketing plan, operation plan and financial plan.

Laura hospital laboratory brand is the strong brand image in the health care industry. The strong selling points over other competitors are; offer high quality and advance laboratory tests, case oriented strategy and specialty advisory service provided. The management team of LIHL+ is the professional team which has recognizes as the leader in laboratory quality in Thailand. This team is a part of Laboratory Department management team, so they have the accurate information to make decision in the effective way. These strength factors differentiate LIHL+ brand from others and very difficult to imitate.

For startup this new model, LIHL+ was supported budget from Laboratory Department about 2,850,000 baht. LIHL+ has determined sale forecast to achieve revenue at 22,700,000 bath/ profit 3,048,000 baht in the first year of service. LIHL+ will achieve revenue at 33,440,000/ profit 5,553,600 baht, revenue 43,424,000/profit 7,875,600 baht in the second and third year respectively.

LIHL+ business plan is compact and convenient services model, which strongly supports customer needs by helping them to increase efficiency in laboratory test services and also support their brand image too. In addition, Laura International hospital can get more benefits of using this new laboratory business model.

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CHAPTER 1

INTRODUCTION

In the health care industry, there are many crucial factors that have an effect on the success of business, since it has a big difference from other businesses. The health care industry such as private hospital has to balance in humanity and profit. Medical laboratory department is a crucial department which attached with hospital, and laboratory result plays a key role to support medical decision making. Thus laboratory industry is a big sector that affects the success of hospital, in both quality and profit.

In the hospital industry there are many laws and regulations to follow to ensure the safety for customers and all staffs. In the past decade, laboratory only served internal customer or the customer of hospital. In globalization world, high technologies support research and development sector to create new special and advance tests. However, each laboratory has limitations that cannot acquire new technologies to perform all of tests or special tests for support that physician or patient requirement. To meet the requirement, laboratory department have to send out some of their patient's specimens to other potential referral laboratories for special test examination. Since this limitation, many private laboratories were established to serve for this demand. With the same purpose, most of high ability laboratory departments in hospital expand their service to receive specimens from other hospitals to gain high profit by economic of scale strategy.

A medical laboratory is the unit which analyses and examines clinical specimens to provide the health information. The main objective is to diagnose, treat and prevent diseases. Medical laboratory In Thailand can be known as clinical laboratory, medical technologist laboratory, pathology laboratory or clinical pathology laboratory. Generally medical laboratory can be divided into two sections, **clinical pathology**; which include hematology, microbiology, chemistry, toxicology, immunology/-serology, e.g., and **anatomical pathology**; which perform histopathology, cytopathology, and electron microscopy, etc.

Qualified clinical laboratory staff may graduate from the accredited University or College in Thailand in a variety of majors such as; Medical Laboratory Technologist (MT), Pathologist, Clinical biochemist, Medical laboratory assistant and Phlebotomist.

In Thailand there are two main types of medical laboratories, Hospital laboratory (belong to the hospital and receives specimens from patients/ walk-in customers) and Private (or community) laboratory that receives specimens from general practitioners, clinical researched site, health clinics or insurance companies. For uncommon test or very special test, patient samples may be sent from common laboratory to research laboratory or the laboratory that have higher ability. Many clinical laboratories, such as in small hospital, cannot perform advance or special laboratory tests by themselves. They always send specimen to other laboratories to perform the tests which increase their budget cost.

Laboratory results are important information which can help physician to diagnostic, monitoring of diseases and provide the best treatment plan for patients. Thus the quality; accuracy and precision of laboratory results have potential effect to the patient health outcomes.

Reliability or credibility of medical laboratory is based on the accuracy and rapidly of laboratory results, because the health and patient safety is relied on it. In Thailand, laboratory accreditation is not mandatory, but it is more popular in the recent day, and become the national reference for determine laboratory quality. The ISO 15189:2012 Medical laboratories -- Requirements for quality and competence is the International Organization for Standardization (ISO) that has specifies requirements for quality and competence in medical laboratories (ISO 15189:2012, 2012). ISO15189:2012 can be used in developing laboratory quality management system and also used for confirm the competence of medical laboratory by accreditation bodies. The others accreditation bodies that also accredit medical laboratory are done by College of American Pathologists (CAP) (Hospital Accreditations & Awards, 2017) , Joint Commission International (JCI) (JCI-Accredited Organization).

Laura International Hospital (LIH) is the private super tertiary care hospital in Thailand. The hospital's mission and vision as "*Laura aspires to provide the best care with science, compassion, and integrity for each of our patients*" are focus on quality of services and patient safety. The hospital has been accredited by many famous

international quality assurance organizations such as the JCI (first Asian hospital), DNV-GL MIR (first hospital outside USA) (Hospital Accreditations & Awards, 2017) and Medical Tourism Hospital of the Year in ASIA Pacific 2017. The hospital is the first hospital which received international accreditation in several specific disease programs including Primary Stroke Program, Diabetes Mellitus Program, Chronic Kidney Disease Program, and Knee Replacement Program (Hospital Accreditations & Awards, 2017). In 2014 LIH was one of the “Top 10 Best Hospital In the world”, ranking by Ontoplists (Top 10 Best Hospitals In the World, 2014). The hospital was recently the only hospital in Thailand which received Advance Hospital Accreditation-AHA certificate.

Along with the best service provide by every departments of the hospital, the laboratory department has also worked hard to develop and improve the quality and safety for long time. LIH laboratory has been continue improved quality of services, the laboratory has participated in quality assurance programs and has accredited certificate from many accreditation organization agencies, such as ISO15189 since 2007-first private hospital in South East Asia, ISO 15190 and ISO22870 (Point of care testing) since 2014; first private hospital in Thailand (Quality Assurance information center, 2017), Sigma-Matric Performance verification since 2014; first private hospital in Thailand (WESTGARD QC, 2016) and The College of American pathologists (CAP) Accreditation in 2016 (CAP,Accredited laboratories Directory, 2017). CAP laboratory accreditation program is the famous program for accredit laboratory in the world and LIH laboratory is only and the first private hospital laboratory in Thailand which achieved certificate from CAP. Devotion in quality management lead LIH laboratory is one of the best laboratory services in Thailand and it will become one of the best laboratory in the world in the nearest future Now LIH laboratory department is proudly and confident to expand services for a larger market, external customers to gain more revenue by increasing unit of service sales.

CHAPTER 2

EVALUATION AND SELECTION OF PLAN AND ANALYSIS TOOLS

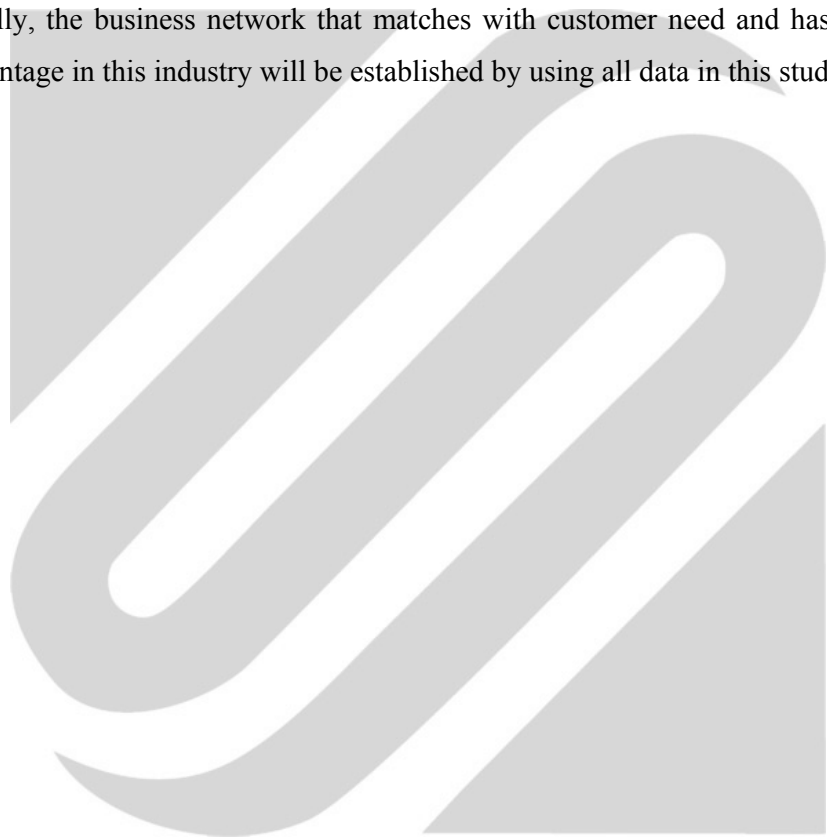
On September 2016, LIH has an agreement statement with the 36 alliance hospitals in Thailand. The agreement objective is to provide the best care for patients by collaboration of the continuous patient care plan, refer patient in the safety condition and develop the continuous patient care plan. To meet the success of the agreement, LIH laboratory department with a long journey of development and improvement in the quality of laboratory services for internal customers is currently ready to serve our best services to external customers, beginning with the 36 alliance hospitals then expand to other hospitals in the region for the next target phase. In the medical laboratory business network, every clinical laboratory departments can provide the general laboratory testing (Red ocean) such as Blood sugar, Cholesterol, Triglyceride or Complete blood count (CBC), etc.

To achieve the business goal, the strategy is focus on special laboratory tests which require advance technology/equipment and high professional skill for example blood trace element test (Zinc, Selenium, Copper, Manganese), Molecular & genetic testing (Viral load test, genetic test, pharmacogenomics tests), anti-aging profile and especially in oncology sector. Since many laboratories in Thailand have limited capability, limited budget, lack of potential staff or facilities, they cannot do all laboratory tests especially special laboratory tests by themselves. Thus LIH laboratory department with the new service center model “LIHL+” is the best match partner for them which can perform the particular laboratory tests to meet their customer need.

In order to get an intelligent decision making on building a successful business network, the company needs to be aware of potential barriers prior to entry market, the pros and cons of the plan. To make the business plan, the mixed method in both qualitative and quantitative techniques will be used. First, the business strategy will be reviewed by using secondary data which is a fast and cost effective way. The secondary data will come from the internal statistics; Unit of Services reports, cost analysis report or the department meeting record of LIH itself. The other sources of secondary data will come from the website of competitor organizations, their laboratory catalogues or

testing menu. Then the data will be analysed by using the PESTEL analysis, SWOT analysis and Porter's Five Forces analysis tools.

The result from data analysis will show the position/range, strengths, weakness, opportunities and threads of LIHL+ business in the market. Multiple of research articles will be reviewed as an external data. For the primary data, the interview of physicians and laboratory directors/ managers from different hospitals will be conducted to gathering more information about customer need and meet convenient route for them. Finally, the business network that matches with customer need and has competitive advantage in this industry will be established by using all data in this study.



CHAPTER 3

BUSINESS DESCRIPTION

3.1 Vision Statement

LIHL+ aspired to provide the best medical laboratory services in Thailand.

3.2 Mission

LIHL+ provides the world class advanced technology medical laboratory with compassion services for our valued customers.

3.3 Goals and Objectives

- To establish the new advance laboratory services model that can increase unit of services (UOS) of laboratory testing.
- To set up the new laboratory services team attached with the impression characteristics;
 - Professional (precise data provide, on-time)
 - Case oriented
 - Easy to touch

3.4 Keys to Success

- The LIHL+ provides the Dedicated Laboratory Account Executive (AE) to find out what customers need, take care our customers in a whole process from test ordering to reporting result and also billing system.
- Collaborate with physicians and laboratory managers of 36 alliances hospitals.
- Provide the special laboratory tests menu or advanced laboratory test that only a few laboratories in Thailand can perform.
- Establish value perception and convenience network for the customer; high accuracy, reasonable price, rapid Turn - Around Time (TAT) and convenient for specimens transportation.

3.5 LIHL+ Business Model

3.5.1 Value Proposition

I. Customer Segment

1. Customer Jobs

- Explore alternative way to meet customer needs.
- Find the laboratory that requires special tests but cannot perform by themselves.
- Search for effective channel to sending their patient specimen out (quickly and safety).
- Search for referral laboratory that offers the reliable laboratory test result, no error result.
- Select and customize the sent-out laboratory test menus to narrow the work process and gain bargaining power and discount price (cost saving).
- Explore the particular partner (referral lab) that can help and support them in technical term (test result interpretation).

2. Customer Gains

- Need the particular laboratory test result that cannot perform by their organization laboratory.
- Need high accuracy and precision of test result with short TAT (patient safety issue).
- Need comfortable route to manage sent-out specimen and payment term.
- Prefer low price.
- Prefer professional service from referral laboratory partner.

3. Customer Pains

- Get an error result, incorrect or wrong result.
- Their patient specimen lost or damage during transportation period.
- Too complicate work process for sending patient specimen out.
- Waiting too long to receive laboratory result back (long TAT).
- High cost.
- Worry about the ability to provide more information of the advance / special test result to the patient.

II. VALUE PROPOSITION SEGMENT

1. Gain creators

- Professional laboratory services, experienced in laboratory field, precise information and on time.
- Customer relationship, case oriented.
- Easy to touch (contact and communication).
- Complete customization solution, no requirement to visit multiple referral laboratories.
- Include advisory/ consultation services.
- Strong brand image compare with competitors, world class, six-sigma quality.
- The positioning of the LIHL+ in the market offers the best image to do collaboration strategy.

2. Pain relievers

- High accuracy and precision test result.
- Short TAT
- On time for specimen delivery and result reporting.
- Easy to contact and work as a good partner.
- Patient specimens have to handle with care by professional team.
- Not expensive price
- Easy and quickly to get information needed.
- Provide result interpretation consultation services

3. Product & service

- World class laboratory standards, six-sigma quality laboratory performance.
- Collaboration with professional courier companies such as Kerry express, FedEx or DHL for specimen transportation.
- Easy to touch, provide multichannel to contact, for example via AE, official email and telephone.
- Provide laboratory test menus in your hand as mobile application.

- Provide the AE officer to take care/ give an advice all the whole working process; the specimen collection, specimen preparation and send-out process.
- LIHL+ offers the **best TAT** for advance laboratory test result, then physician can create the best treatment care plan for each patient.
- Advisory team helping in consultation if needed
- Reasonable price and offer volume base / value discount price model for loyal customer.

3.5.2 Business Model

LIHL+ is the sub-unit of Laura International laboratory department. Laboratory department consist of three main sub-unit; Central laboratory, Research & development center and **Services Center (LIHL+)**.

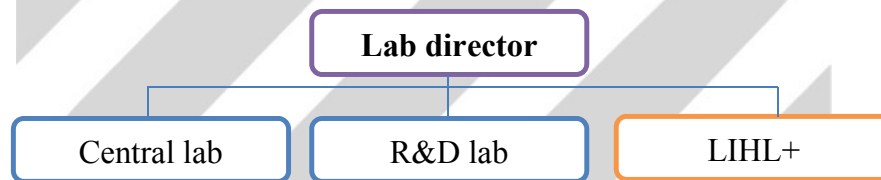


Figure 3.1 Organization chart of Laboratory Department

The LIHL+ was established for the main objective is to expand laboratory services for Laura hospital's external customers, focus in 36 alliance hospitals for the first phase.

Business model for LIHL+ are as following;

1. Key partners; Currier Company for patient specimen transportation.
 - Kerry Express, the professional logistic company for specimen transportation domestic.
 - DHL and FedEx, the global market leader in the logistic industry for specimen transportation oversea. We choose services from DHL Ocean connect, to deliver products door-to-door, include of Customs clearance and assessable value.
 - 36 alliance hospitals

2. Key activities;
 - Inform the market about LIHL+ service.
 - Inform customer about the high quality, world class performance of laboratory test result provided.
 - Approached customer as a professional team.
3. Key resources;
 - High laboratory performance of Laura central laboratory and R&D laboratory
 - High competency skill of laboratory staffs.
4. Value proposition;
 - World class laboratory standards, six-sigma quality laboratory performance.
 - Short TAT
 - Case oriented
5. Customer relationships;
 - 36 alliance hospital (B2B business)
 - Discount and promotion, volume base and administrative base
6. Channels;
 - Personal selling by Dedicated Laboratory Account Executive (AE)
 - Company website
 - Official and personal E-mail
 - Mobile application
 - Word of Mouth (WOM) in health care industry
7. Customer segments; physicians, laboratory directors/managers and laboratory staffs from hospitals all over in Thailand including medical school hospital.
8. Cost structure;
 - Laboratory test cost : 70%
 - Logistic cost: 10%
 - Administrative cost: 20%
9. Revenue stream; provide payment term in both of cash and 30 days credit term.

LIHL+ center aim to take advantage and gain competition from the highly laboratory performance, provide convenience workflow design and offer opportunity to collaborate with world class standard hospital.



CHAPTER 4

INDUSTRY ANALYSIS

To understand the environment of this industry, LIHL+ has to study both internal and external factor that can affect the business, here are the analysis tool used to study;

4.1 PESTEL Analysis

PESTEL analysis is the tool use to study external factors/ macro factors that facing the firm, successful responds environmental change can create competitive advantage for the firm (Oxfordcollegeofmarketing Blog, 2016).

Political analysis

Thailand is the second largest economic in South East Asia, in 2016 Thailand government and also private company spent 1 % of their GDP (approximate 130,000 Million Bath) on R&D Expenditure (Economics Drive Thailand Led Laboratory Market in ASEAN, 2016). The innovation and technology in the globalization world leading to the new era of Thailand laboratory, for example Biomolecular genetics tests for preventive and diagnostic purpose and Pharmacogenomics and anti-aging profile. The government enhances investment in this field by 300% tax incentive in private sector to acquisition new technologies and instruments, tools, innovations and standards.

Economic Analysis

In 2015, General laboratory equipment in global market was value approximate 5.4 billion USD and ASEAN market was 1.4 billion USD (PESTEL analysis of Thailand, 2017). Thailand has population 67.96 million, GDP 395.2 billion USD and growth 2.8% in 2015, it is one of the great development economic country (PESTEL analysis of Thailand, 2017). As Thailand is one of the membership of World Trade Organization (WTO) and the Association of Southeast Asian Nations (ASEAN) organizations, it commits to reduction and removal of duties, taxes, tariff barrier to trade

in agreed timeframe. Export-import banks provide financial option and the liquidity needed to support/ assist to develop and expand new business in this market.

According to the enhancing invest in new technologies by the government, this industry require the high expenditure in instruments, tools, consumable products, quality assurance program and knowledges. Beyond the government's mega project such as the Economic Zones of Innovation (EZI) and Thailand Science Park Development plan, Thai government also supports on R&D projects encourage more application of advance laboratory technologies and platforms to develop new advance tests. Now, Thailand becomes the leading country for laboratory market in ASEAN. (Economics Drive Thailand Led Laboratory Market in ASEAN, 2016). Thailand LAB INTERNATIONAL 2016 exhibition is the great example for leading in this market, in this event the laboratory trend and innovation will be presented by more than 1,300 brands from 35 countries such as; USA, UK, France, Germany, India, China, Italy, Japan, Korea, Malaysia, Singapore, Spain, Taiwan, and Thailand (Economics Drive Thailand Led Laboratory Market in ASEAN, 2016).

In Medical tourism sector, The Ministry of Public Health has claimed that Thailand received 2.5 million medical tourists in 2013. Together with two leading destinations countries; Singapore and India there are an estimated 80% of the global medical tourism market, and Thailand alone for about 40% (Finch, 2014) . Steve Finch has report that Thailand so popular because the Thai health care system is advance and affordable and LIH is the unofficial leader of medical tourism in Thailand (Finch, 2014). Data from health-tourism website show that the top search for specialties on their website are Cancer treatment, Cardiac Surgery, Cosmetic Surgery, Fertility Treatment, Neurology and Orthopedic Surgery (health-tourism medical tourism made simple, 2017). In response, LIH is the super tertiary care private hospital that has high ability to serve this demand. LIH has set the pace for both the quality and quantity of international healthcare throughout Asia and the world (Patient Beyond Borders- Thailand and Meddical Travel, 2017).

Social Analysis

To create competitive advantage for the country, Thai government has planned to promote R&D since 2016. For supporting this dimension many businesses including laboratory industries are being encourage to produce more skilled human resources. (PESTEL analysis of Thailand, 2017).The National Science and Technology Development Agency was set up since 1991, which emphasizes latest-modern scientific through research studies. Thailand has a competitive advantage in terms of good quality human resource, professional qualifications labor and have greater employment opportunities in healthcare industry (but not competent in English language and IT skills).

In the recent globalization business, high technology and internet help people to access much of information of health care, research and innovation. Beyond discover for cure they think of new tools or new methods for stay young, long-lived with healthy in their lifetime. Thai people have high ability to access internet and gathering information they needed, and compare data in a various dimension. The customer looks for accuracy and precision of laboratory results (safety issue) and also reasonable price. Thus this market increases the demand of the customers according to the demographic and population.

Technology analysis

Technology and trend in laboratory market can be introduced by the leading manufactures and vendors in Thailand and also from nearby countries in Asia. They can contact with the medical schools, the private laboratory companies or the hospitals to present their new product and technology. The Thailand LAB INTERNATIONAL exhibition is one of the powerful market platforms (in 2016 there are more than 9000 trade visitors from 47 countries, 250 top companies from 23 countries and 3228 conferences delegated with 160 speakers) (Thailand Lab International 2017 to Provide a Leading Platform for the Laboratory Equipment Industry, 2017). There are good opportunities for the laboratory person and the global manufacturers/ suppliers to talk, exchange knowledge, explore the new innovation and meet customer needs in this region. This event also has the conference and symposia that provide content in

biotechnology, Genomics & Bioinformatics, Toxicology and also industrial laboratory management.

In recent decade, medical laboratory technology is the very importance factor that has effect to the rapidly expanding healthcare filed. The laboratory innovation has remarkable growth both in advance equipment and technique. Automate has become the importance force in change laboratory marketplace. Information technology (IT) also has supported the efficient way to communication and data transfer by decrease time, decrease error, decrease manpower and also increase data base /opportunities for research and development. Automate and IT technologies have involved in all three phase of laboratory testing;

Pre- analytic phase: test menus, test ordering, patient identification and preparing, specimen collection and transportation, etc. the specimen, any specimen preparation work, and daily quality controls.

Analytic phase: This may involves daily quality controls and all testing procedures and result reporting from analyzer.

Post-analytic phase: This involves result reporting, daily maintenance and data storage.

Laboratory testing with advance technology make testing processes more efficient, simpler, higher quality and less expensive. For example, in the past polymerase chain reaction (PCR) testing for HIV or Hepatitis virus was “cutting-edge” technology, but it is very common for today used and not expensive anymore.

Technological innovation is positive force for laboratory industry and health care services by increased efficiency, reduces errors, and improved quality.

Environment analysis:

There are the commitment of Thailand government to protect environment and sustainable development. They established environmental institutions, and have strong environmental policies that focus in the environment issue and energy concerns. In health care sector, there are many regulations, standards and law that they have to follow and comply. For example the JCI has public the book “Infection Prevention and Control Issues in the Environment of Care, Revised 3rd Edition” to help health care organization can develop the effective infectious control program to minimize/

eliminate infection risks, hazardous and medical waste (JCI, 2015). ISO15189:2012 also has the content “Accommodation and environmental conditions” to ensure the quality, safety and efficacy of laboratory services (ISO 15189:2012, 2012). These hence the waste from laboratory and hospital in Thailand has been managed with safety. However, according to the rising economic growth, Thailand still encounter with pollution and hazardous wastes issue.

Legal/ Law analysis

Thailand law and legal structure combine principle of traditional Thai and western laws. The Court of justice has jurisdiction over civil and criminal cases also. The government of Thailand holds liberal attitude toward international trading.

Legal issues are a major consideration for every business, especially in health care market. For law makers globally, the safety issue is the biggest concerned on healthcare product such as laboratory testing results. There are many rules, standards, and regulations to be followed, for example JCI, ISO, OSHA, DNV and CAP. To comply with the government policy, hospitals and private laboratory companies in Thailand have to pass the accreditation or certificate by the accreditation organization or agency body. The reagents and laboratory supplies cannot be used without government’s approval (Thailand FDA Registration, 2015). Thailand and most developing countries have laws in health care sector that make difficult to the new entity to start the new laboratory business in those countries.

4.2 Five Forces Analysis

Porter’s five Forces for Laboratory testing services industry in Thailand

The Porter’s five force framework model use to analysis the evaluation of the five factors (i.e. rivalry among competitors, threat of new entrants, threat of substitutes, bargaining power of buyers and power of suppliers) that could help the company to determine the level of competitive in the industry and attractiveness in the market (Porter's Five Force of Competitive Position Analysis, 2013)

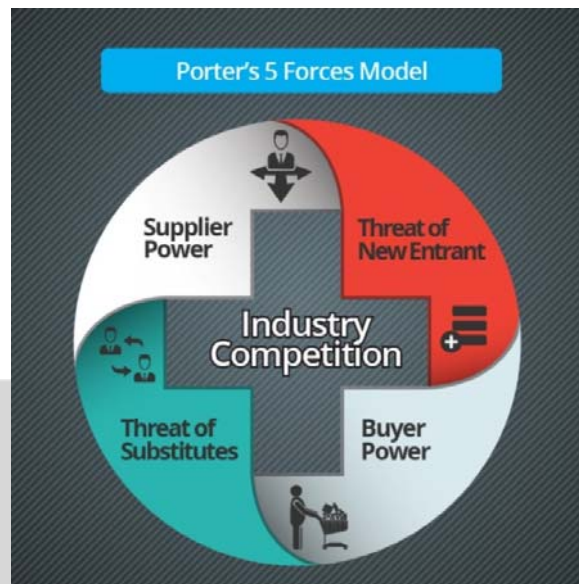


Figure 4.1 Porter's 5 Forces Model

Source: (Hammoda, 2014): Online

Bargaining Power of Suppliers: LOW

Supplier is most important part for laboratory industry. Suppliers for laboratory may classify in to two main categories; equipment and reagent. There are many of suppliers/ distributors in the laboratory industry in Thailand, and there are several of well-known suppliers/ distributors including Abbott Laboratory (Thai), Roche diagnostics (Thailand) Ltd., PCL HOLDING Co., Ltd., HELENA Thai laboratories Co., LTD., Boehringer Ingelheim (Thai) Ltd., and HAUSEN BERNSTEIN Co., LTD., and MP group. The laboratory can buy ready- to- use supplies or even in-house developing. There are high competitive among laboratory suppliers, when they are a large number of substitute inputs become the less bargaining power of distributors. This is the positive impact for the cost of laboratory.

Bargaining Power of Customers: Medium

There are many medical laboratories in Thailand that provide general or common laboratory test menus, but only few laboratory can service in advance test, especially in oncology and anti-aging field. These sectors of laboratory test need consult with oncologist or genetic specialist. **For treatment purpose, customers have**

specific demand to order test and only few laboratories or hospitals can offer. Similarly anti-aging programs, customers don't have much providers to take care or purchase in a different way. Once customer require particular products or have limited choice then they are end up paying more for the choice that available. They are less likely to switch to others who have difficult meet their need. However, the direct customers of LIH business unit are the physicians and the laboratory managers from all over Thailand, these customers are specialty and have high knowledge in their field so they have high prevalent to choose and make decision . As the high quality of information provide and power of WOM (Word of Mouth) in the world today, customers easily reach to the information for making decision to send specimen to LIHL+ or other laboratories. The power of LIHL+'s customers is Medium.

Threat of New Entrants: High

For laboratory industry especially in advance technology laboratories, it is not only requiring a huge budget to invest in equipment and technology but also need high competence and personnel experienced (management and operation). Many accreditation agency bodies such as JCI, CAP and ISO 15189 have the Management requirements and Technical requirements for laboratories in Thailand to follow and comply. Method validation/verification process needs to expertise before launce new test to service in the market.

The quality of the test (accuracy) is the key factor that the customer recognizes and it needs time to gain trust and for re-turn investment. High capital investments mean the company must spend time and money studying the market before they can effectively compete. It is difficult for the new competitors to enter to the market. They have to develop/ improve their brand value before effective competing. For these reasons the threat of new entrance in laboratory market is **high** which becomes a positive advantage for LIH business unit.

Threat of Substitutes: Low

In the present practice, the purpose or intend use of laboratory test is for the screening, diagnostics, follow up or monitoring patient condition, evaluate the effective of treatment plan (for example to follow up the drug level, tumor cell and quantity of virus in blood specimen) and research test. Laboratory testing plays a crucial role in the diagnosis, detection, and treatment in patients. Estimated 70% of medical decisions are based on lab results **(70% of medical decisions are based on lab results, 2017)**. Many laboratory tests especially in oncology and molecular genetic tests is the product of need for customers, particular diseases **have specific guild line to determine blood test and it cannot skip or change the protocol.**

Now a day, there are variety laboratory test menus including the advance laboratory test such as molecular genetics and pharmacogenomics tests, these test menus have high value which can support physician's diagnostic to have the right treatment plan. It is less likely that the customer will switch from laboratory tests to other inferior procedures or services. It is difficult to find other products or services that fulfill their needs. This is the positive impact for laboratory industries.

Competitive Rivalry between Existing Players: LOW to Medium

Laboratory services are special and unique from other business even in the healthcare industry. Beyond the high threat of new entry according from the high capital investments, policies and regulations can limit the level of competition within the industry. In term of marketing laboratory spend less money in advertisement than other industries like car, mobile- phone and beverage industry which spend a huge budget in marketing sector. However laboratory industry size (test menu) is growing quickly and current players are trying to improve their services and acquire most modern instrument advance technology for fulfill customer needs and taking a market share. The overall industry still has profitability and attractive opportunity. Since these reasons, the competitive rivalry between existing players is **low to medium** that is the positive effect for LIH service center.

Table 4.1 Summary 5 Forces factor that facing with LIHL+ center business

Forces	Level
Bargaining Power of Suppliers	Low
Bargaining Power of Customers	Medium
Threat of New Entrants	High
Threat of Substitutes	Low
Competitive Rivalry between Existing Players:	Low to Medium

4.3 SWOT analysis of LIHL+

To understand the internal and external environments of a company, SWOT is the business tool to analyze. The following table shows the result of this analysis;

Table 4.2 SWOT analysis of LIHL+

Component	Description
Strengths	<ul style="list-style-type: none"> • World class quality accreditation from many international organizations, such as JCI, ISO, and CAP. These accreditations can be recognized as international reference of laboratory quality. • Strong brand image, Laura laboratory has a famous in dedicated in quality for long decades, as it is the first laboratory of private hospital in Thailand and South East Asia that accredited by ISO 15189 and CAP. It is the leader in quality milestone (Hospital Accreditations & Awards, 2016) • Provide the Dedicated Laboratory Account Executive to find out what customers need, take care our customers in a whole process from test ordering to reporting result and also billing system. • Ability to perform advance and special tests in-house, such as trace element test and molecular genetic pharmacogenomics tests. • Ability to send specimen oversea to international laboratories. • Have collaboration with world class potential partner, e.g. Mayo

Table 4.2 SWOT analysis of LIHL+ (Cont.)

Component	Description
Strengths	<ul style="list-style-type: none"> • Clinic Lab (USA), Cenetogene (Germany) and ACTgenomics (Taiwan), etc. • Ability to perform B2B with international laboratory and earn more profit by bargaining price. • LIHL+ mobile application, customer can access to information easily. • Good reputation in preventive medicine (anti-aging program) for Chinese customers. • Provide laboratory consultations/ customer services; customer may request more information about particular test they have sent, e.g. interpretation of genetic test result and the limitation of test. • Logistics Provided in Bangkok and nearest area. (With Prior Appointment) • Financial benefit; technical and marketing support from parent company: Laboratory Department. • Support super tertiary care hospitals: focus on end customers (physician).
Weaknesses	<ul style="list-style-type: none"> • New brand in the market the company has to put a big investment in advertising needs time for re-turn investment. • No in-house logistic services for service outside Bangkok. Need periodic evaluate the services quality of third party logistic company. • High price when compare with other private laboratories.
Opportunities	<ul style="list-style-type: none"> • Increase demand for molecular genetic test and advance laboratory test. • New trend in preventive and anti-aging medicine.

Table 4.2 SWOT analysis of LIHL+ (Cont.)

Component	Description
Opportunities	<ul style="list-style-type: none"> • Increase volume of cancer patient in oncology department, the high capability and famous of LIH oncologist induce laboratory to serve/ develop new test or send sample oversea to support them, for example molecular genetic for cancer target therapy. • Dot-com marketing: Online sale and marketing gaining a lot of mass markets at low cost. • AEC market: Expansion into AEC market is a mass opportunity for LIHL+ in the future. • Collaboration with other world class advance laboratory or using technology transfer to open service in-house can reduce a huge cost, for example, production cost, logistic cost and inventory cost, which lead to a competitive advantage by providing a lower price for customer. • Trend of aging society (Ageing population in Thailand, 2012) will increase healthcare demand.
Threats	<ul style="list-style-type: none"> • The collaboration of BDMS network hospitals, the hospitals that are the partner of Bangkok hospital they have more convenience route to send specimen to N-Health System (NHS) Company. • Limited numbers of patient in rare disease like cancer in each hospital.

4.4 Competitor analysis

There are many private companies in Thailand that provide clinical and surgical laboratory testing services including the well-known laboratory such as, Bangkok Pathology Lab (BPL), Bangkok medical laboratory, Bangkok R.I.A. Lab (BRIA LAB) (Bangkok R.I.A Group), RIA centre, National Health System (NHS) and PRO LAB (PROLAB, 2017). However most of them provide only general blood testing and health check-up program, such as complete blood count (CBC), fasting blood glucose, cholesterol, Triglyceride, anti HIV, Hepatitis virus, etc. Only NHS and BRIA lab can

perform some advance and high technology laboratory tests, for example multiplex PCR and Next generation sequencing technology.

To achieve the business goal, the LIHL+'s strategy is focusing on special laboratory tests which require advanced technology, expensive equipment and high professional skill, for example LC/MS-MS technology for blood trace element test (Zinc, Selenium, Copper, Manganese), Molecular & genetic testing (Viral load test, Molecular genetic test, pharmacogenomics tests) or anti-aging profile. Since many laboratories in Thailand have limited capability, limited budget, lack of potential staff or facilities, they cannot do all laboratory tests especially special laboratory tests by themselves. Thus LIH laboratory is the best match partner for them which can perform the particular laboratory tests to meet customer need.

Beside the private laboratory centre, the public hospitals and medical schools such as Siriraj hospital, Ramathibodi hospital and Chulalongkorn hospital can also perform the high technology laboratory test. However these medical schools do not provide the specimen transportation service or credit term for external customer.

More than 3,500 of the world's newest and most advanced clinical laboratory test are now available to Thailand physicians through collaboration with Mayo Medical Laboratories- a leading American medical centre (Mayo Clinic Test Catalog, 2017). Hospitals and Physicians in Thailand can send patient specimen to LIH, and then we can deliver to Mayo Medical Laboratories in the rapid time, proper specimen transportation and ensuring regular.

Below table explain the competitive analysis of LIHL+ network business with the potential competitors.

Table 4.3 competitive analysis of LIHL+ network business

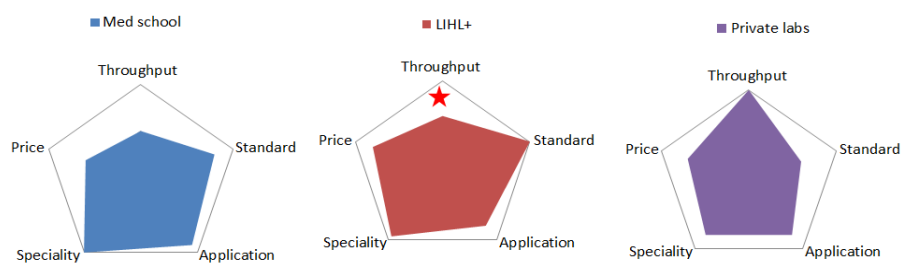
Category	LIH+	Medical schools	NHS	BRIA	BPL	Hitech lab
Perform clinical blood test	☺	☺	☺	☺	☺	×
Perform surgical pathology and Cytology lab test	☺	☺	☺	☺	☺	☺

Table 4.3 competitive analysis of LIHL+ network business (Cont.)

Category	LIH+	Medical schools	NHS	BRIA	BPL	Hitech lab
Elemental analysis ICP-MS technology	☺	☺	☺	×	×	×
Preventive Lab testing (Anti-aging medicine) LC-MS/MS technology	☺	×	×	×	×	×
Specimen transportation service in Bangkok and nearest area	☺	×	☺	☺	☺	☺
Laboratory mobile application	☺	×	☺	×	×	×
Credit term for external customer	☺	×	☺	☺	☺	☺
JCI accredited	☺	☺	×	×	×	×
Advanced hospital Accredited	☺	×	×	×	×	×
ISO 15189 accredit	☺	☺	☺	☺	☺	☺
CAP accredited	☺	×	×	×	×	×
Price	Medium to High	Low	Medium to High	Medium to High	Medium to High	Medium

4.5 Position Mapping

Laboratory status

**Figure 4.2** Laura laboratory status

CHAPTER 5 MANAGEMENT PLAN

5.1 Management team

The LIHL+ is the sub-unit of LIH laboratory department. The laboratory Director- pathologist is the person who takes responsibility for all of laboratory department services; quality section and profitability / business section. To success in both trophy and revenue, the Director of business unit is recruited for dedicated in marketing section. The organization chart of laboratory business: LIHL+ is as following;

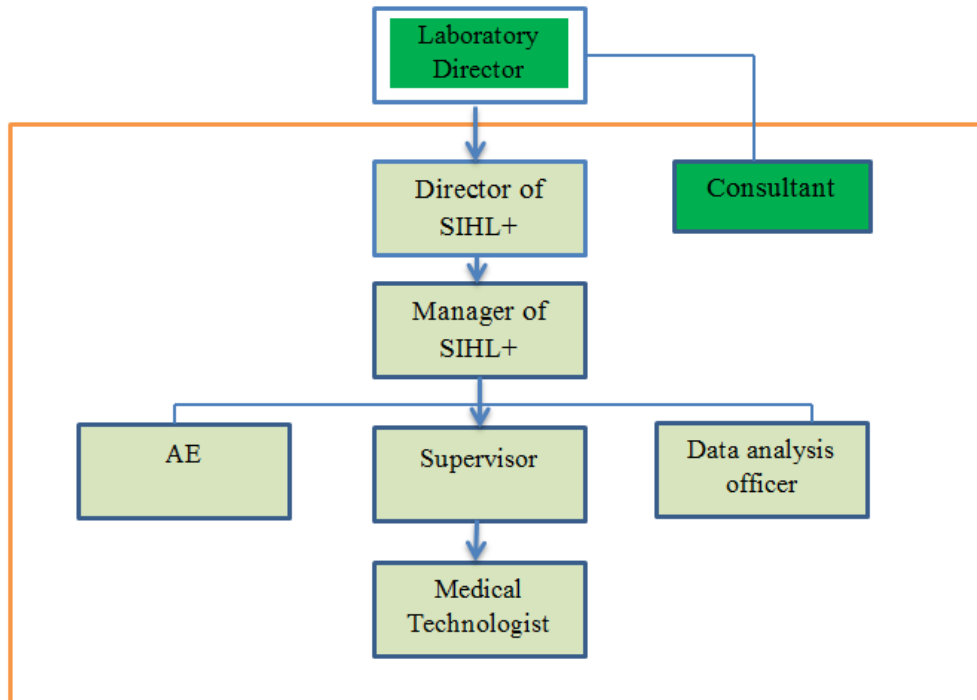


Figure 5.1 The organization chart of LIHL+

Laboratory Director is the clinical pathologist, has more than 10 years experienced in laboratory management at medical school and 10 years more in private hospital laboratory department. The laboratory director is responsible for medical, technical, and scientific oversight of testing in laboratory services.

Director of LIHL+ center is the doctoral scientist has experience in laboratory marketing for more than 10 years, responsible to find strategy to increase unit of service of laboratory department. This people report direct to Laboratory Director.

Manager of LIHL+ center is the medical technologist, 15 years' experience in laboratory operation management and 2 years in marketing sector, responsible to manage the operation of laboratory business unit to working smoothly and efficiency. This position reports to Director of LIHL+ center.

Consultant team of laboratory department is the doctoral degree in genetic sectors, take responsible for counseling/ advisory services for customer; special test selection and interpretation technical term of genetic result.

Supervisor is the medical technologist, 12 years in operation in laboratory department; hematology, biochemistry and immunology section. This position reports to Manager of LIHL+ center.

Dedicated Laboratory Account Executive (AE) is the medical technologist, 2 years in laboratory working experience, and 2 year in medical equipment sale representative, responsible to find out what customers need, take care customers in a whole process from test ordering to reporting result and also billing system.

Data analysis officer is the officer who is act as data gathering people, analysis all data related with business unit's customer (internal and external), summarize the financial report to accounting department for billing process. This position reports to Manager of LIHL+ centre.

Medical technologist who has working in LIHL+ responsible for monitoring/and following the specimen shipment from customer, specimen receiving and distribute to related section in laboratory department to perform test, or sent out oversea to referral laboratory.

CHAPTER 6

MARKETING AND SALES PLAN

6.1 STP process

The STP process is the important concept to study marketing in the particular industry, these process demonstrate overall point of view and how the firm choose to compete in the market (The STP Marketing process, 2017).

Marketing Segmentation

Base on environmental scanning, we can do the market segmentation for LIHL+ center as following;

- Geographic:** Hospital in Thailand country
- Demographic:** Physicians and laboratory managers in Thailand
- Behavioral:** Physician who need advance and special laboratory test support. Laboratory department that cannot perform particular special laboratory tests by themselves.
- Psychographics:** Customer (physicians / laboratory directors / managers) who willing/need to meet their customer need and improve the ability of their care plan by collaborate with the potential advance laboratory like LIHL+.

LIHL+ center was designed to meet the need of physician especially in oncologist group and anti-aging sector. Collaboration with LIHL+ center, the customer will get the high reliability of special test result (accuracy, precision) with the convenience route and professional care team.

Target Marketing Strategy

Focus on selling the convenience and attractive model to physicians and laboratory managers from 36 alliance hospitals in Thailand. LIHL+ center will target market through promotion and communication of the benefits of sending their patient's specimen to perform advance/ special test at the high capacity laboratory like LIHL+.

The customer can be more confident, and have effective patient care plan, beside successful in their career field. **LIHL+ is the high quality you can touch!**



Figure 6.1 Logo of LIHL+

LIHL+ team have to inform the market about our advance laboratory test menus attached with professional consultation team and the AE services that different from other competitors,

Positioning

Product/ services positioning is an important process that supports long term profit to the business. Good product positioning will create unique impression and image of product/ service into customer's perception.

According to LIHL+ center is the world class laboratory standard which offers advance laboratory services/ multi-functional conveniences route; provide AE officer to take care customers, specimen transport in Bangkok area, consultation/ advisory services interpretation of advance tests, and 30 days credit term period. So when compare the advance laboratory and quality (standard), the LIHL+ can consider the positioning as following diagram;



Figure 6.2 Perceptual Positioning Map

6.2 Marketing Mix

The marketing planning is the activity to create and implement marketing plan to achieve marketing objectives. Marketing plan allows the marketing people to evaluate the marketing environment and enter in to the market with awareness; it serves as a reference point for the future activities.

The following information is the marketing mix (7 P's) for LIHL+ center; 4 P's are product marketing mix and 3 P's are services delivery; People, Process and Physical evidence (Marketing Theories-The Marketing Mix-From 4P's To 7P'S, 2017).



Figure 6.3 The extended 7 P's

Source: (Marketing Theories-The Marketing Mix-From 4P's To 7P'S, 2017)

Product/ Offering

The product in the laboratory business is mostly refer to laboratory testing and services. The management team of LIHL+ will focus on special product such as special laboratory tests which require advance technology/equipment and high professional skill. The main product will separate in to two main categories;

1. Laboratory test menus:

- a. Molecular Genetics test; these panels serve for cancer patient and geneticist. The example of test menus may consist of:

Cancer genomic profile;

Lung cancer, liver cancer, Breast cancer, Ovarian cancer, Prostate, Pancreatic and Colon cancer

Pharmacogenomics, Personalized Medicine;

HLA-B 1502, HLA-B 5701, HLA-B 5801, CYP 2C19 (Voriconazole), CYP 21A2 with DNA sequencing

- b. Preventive Laboratory Testing; or Anti-aging panel , the example test menus consist of;

Antioxidants Profiles
Auto immune profiles
Essential Fatty Acid Profile
Food Allergy and intolerance Test
Genetic Predisposition
Immune Function Profiles
Infectious Profiles
Metal & Element analysis by ICPMS
Neurotransmitter Profile
Oxidative Stress
Tumor markers
Vitamin D3/D2 level (LCMS-MS)
Vitamins Profiles

2. Laboratory Services

LIHL+ aims to deliver consistent laboratory quality and efficient customer service to meet the satisfaction of the users. The marketing strategy is focus on the target customer which are physicians and laboratory directors/ managers (market – oriented). LIHL+ will distinguish their product/ services from the other competitors by focus on customer' demanding to pursue customer satisfaction through coordinated activities. The AE officer who has experienced in laboratory field and certified the training program for marketing sector will play a key role in laboratory values deliver representative, problem solvers and promote the new products to customers. There are studies concluded that customer satisfaction is strongly related with perceived service quality and perceived value (Malik, 2012).

LIHL+ services value may include accuracy and rapid respond (fast delivery, fast result turnaround time). This unit will gain more profit and have competitive advantage in this market by develop long-term relationships and brand loyalty. This strategy is including the following activities:

- Offer quality products (the reliable laboratory tests result) , professional services
- Give the customer facts; the intend use and the limitation of test result

- Co-creation with customers, : Emphasizing cooperation over competition while helping a customer
- Reasonable pricing, volume base pricing or (quantity discounts)
- Offer consultation team to support the customer

Price

In many businesses price is often used to get the customer's attraction, it is an important key that effect customer's decision. Beside the laboratory industry, the customer can measure the value that they received and the money that they paid.

The value is bases on the perceived satisfaction before and after they use the service. LIHL+ will provide the reasonable price for customer. Reasonable price means that the customer has satisfaction after they used the product/service and meet their perceive value/ expectation.

LIHL+ uses the “**status quo**” pricing objective for simplicity and maintaining the loyalty of Laura hospital customers. The business will focus on profit oriented or satisfactory profits for long-term survival. Because this unit provide the world class laboratory quality and professional service and customers tend to rely on high price as a predication of good quality or high quality image. Thus LIHL+ price cannot lower or cheaper when compare with potential competitors, the price will higher or very close to the competition's price.

Place

There are several easy ways for the customer to reach LIHL+ to get the accuracy laboratory test information. They can contact LIHL+ via multi-channel;

- The AE person, Hotline +6681 848 5533
- LIHL+ mobile application



Figure 6.4 LIHL+ mobile applications

- Official email: Labdepartment@Laura.com
- Laura laboratory department, telephone no.+662 667 2147, 72149
- Laura Clinical Laboratory brochure
- More information, please contact www.Lauralaboratory.com

As collaboration with professional courier company “**Kerry Express (Thailand) Limited**”, the customer can trust in safety and quality of the patient specimen.

Promotion/ Communication

Promotion is the good strategy to enter in to the market. Promotions are including personal selling, advertising and sales promotion. LIHL+ provides variety of tools to inform, educate, persuade and remind the customers which consist of the following;

- Laura Clinical Laboratory brochure
- Mayo Clinic Laboratory- Laura Hospital brochure
- Laboratory test catalogue
- Provide credit term for billing process, convenience for customer

LIHL+ offer the volume base pricing strategy for the customer, by this triatic the business could gain a long term relationship and loyalty. For the customer who needs to perform B2B with LIH (for example the group of anti-aging patient’s specimen), the bargaining price (Quantity discounts) can be offered.

People

People are the critical factor in the firm success, especially in laboratory industry. The competency (knowledge and skill) of staff in the organization has direct effect to the service quality. As mentioned above, customer's perception of value is the product and service quality that the customer expects and direct experience after used services. Customer satisfaction has direct effect to re-purchase product/service. As the laboratory business unit focus on customer satisfaction, so their search for the qualify people and set up the training program for staff to obtain teamwork manner environment and service mind, e.g. communication tactics and problem solving skill. Below table is the **Job description and specification** of LIHL+ center staff.

Table 6.1 Job descriptions and specification of LIHL+ center staff

Position	Job Description	Job specification
Director of LIHL+	<ul style="list-style-type: none"> -Reporting to Laboratory Department Director -Develop the short and long term plan business of LIHL+ centre -Implementation of the business strategy to increase unit of service of laboratory department -Select/ review and collaboration with world class laboratory agencies. -Providing appropriate tools and materials for LIHL+ team to run business smoothly - Work closely with laboratory management team to define marketing materials and programs 	<ul style="list-style-type: none"> - Doctoral degree is prefer - Master's degree in Business Administration - More than 5 years experienced in laboratory management - More than 5 years in marketing filed - Excellent in English communication; speaking, writing and reading - Confident, driven and dynamic Leader - Entrepreneurial mind-set - High leadership skill

Table 6.1 Job descriptions and specification of LIHL+ center staff (Cont.)

Position	Job Description	Job specification
Director of LIHL+ (Cont.)	<ul style="list-style-type: none"> -Continuous analysis of competitive environment and marketing trends -Finance measures and progress of the centre 	
Consultant	<ul style="list-style-type: none"> - Reporting to Laboratory Department Director -Give counselling/ advisory services for customer; special test selection and interpretation technical term of genetic result. -Co-ordinate with LIHL+ team to provide and gain necessary data 	<ul style="list-style-type: none"> -Doctoral degree in genetic Sectors -More than 3 years in laboratory working -Excellent in English communication; speaking, writing, and reading
Manager	<ul style="list-style-type: none"> - Reporting to Director of LIHL+ centre -Manage the operation of laboratory business unit to working smoothly and efficiency. - Develop the improvement plan to gain the competitive advantage for the lab department -Working closely with laboratory management team to propose and support the necessary data for better services 	<ul style="list-style-type: none"> - Bachelor degree in Medical science or higher - Master's degree in Business Administration -More than 10 years' experience in laboratory operation management - Good in English communication; speaking, writing and reading, TOEIC score more than 700 - Confident, driven and dynamic Leader - Entrepreneurial mind-set

Table 6.1 Job descriptions and specification of LIHL+ center staff (Cont.)

Position	Job Description	Job specification
Manager (cont.)	<ul style="list-style-type: none"> -Provide and select the materials and supply to operate business smoothly and efficiency - Create marketing material and publication in the professional manner -Planning and implementing promotional campaigns -Strong analytical and project management skills. 	
Supervisor	<ul style="list-style-type: none"> -Reporting to LIHL+ centre manager -Setting daily/weekly/monthly work objectives and communicating team - Overseeing workflow by assigning responsibilities and preparing schedules -Coaching staff under supervision 	<ul style="list-style-type: none"> - Bachelor degree in Medical science or higher - More than 5 years in operation working in laboratory department - Good in English communication; speaking, writing and reading , TOEIC score more than 600 -Take the training course of AITA certificate
Dedicated Laboratory Account Executive (AE)	<ul style="list-style-type: none"> -Reporting to LIHL+ centre manager - find out what customers need - Take care of customers in a whole process from test ordering, specimen transportation, result reporting and also billing system. 	<ul style="list-style-type: none"> - Bachelor degree in Medical science or higher -More than 2 years in laboratory working experience, -At least 1 year in medical equipment sale representative personality

Table 6.1 Job descriptions and specification of LIHL+ center staff (Cont.)

Position	Job Description	Job specification
Dedicated Laboratory Account Executive (AE) (cont.)	- Monitor and report on effectiveness of marketing communications -Overall responsibility for brand management and corporate identity	- Good in English communication; speaking, writing and reading , TOEIC score more than 600 - Strong creative outlook. - Confident and good personality - Mind set of customer service
Medical Technologist (MT)	- Reporting to LIHL+ supervisor -Monitoring/ following the specimen shipment from customer, specimen receiving -- - Distribute specimen to related section in laboratory department to perform test, -Sent specimen out oversea to referral laboratory -Laboratory result reporting for external customer	-Bachelor degree in Medical science -AITA certificate for over sea specimen packaging - More than 1 years working experience in laboratory department -Good in English communication; speaking, writing and reading , TOEIC score more than 550
Data analysis officer	-Reporting to manager of LIHL+ -Data gathering, analysis all data related with business unit's customer (internal and external) -Analysing potential strategic partner relationships for company marketing. -Responsible for billing process for external customer	-Bachelor degree in accounting or marketing - At least 1 year experience working in laboratory department -Good in English communication; speaking, writing and reading , TOEIC score more than 550

Process / Flow chart

LIHL+ has designed the service process that delivers product value to customer with most favorable conditions and meets customer's expectations. The good strategy to successful need the efficient work process as follow:

Business model for LIHL+ are as follow;

1. Customer (physicians or laboratory directors/managers) get information of LIHL+ test menus via multi-channels such as;
 - Direct inform by AE officer
 - Direct email from labdepartment@Laura.com
 - LIHL+ mobile application
 - LIHL+ brochure
2. Physician or laboratory manager direct contact to the AE officer of LIHL+ for more information if need (+6681 848 5533)
3. Physicians can place an order from their laboratory department
4. Laboratory department contacts AE officer to pick up specimen
5. AE officer notify courier for specimen transportation to LIHL+
6. AE officer inform case to LIHL+
7. MT follow specimen shipment
8. Once specimen was received, MT perform test in Laura laboratory department or sent out oversea.
9. MT informs estimate turn-around time and approximate price to ordering physician/ ordering laboratory department.
10. MT reports laboratory result to ordering physician/ordering laboratory department in the commit period time; send result via email (lock file need password to access). The hard copy of result report will send to ordering laboratory within 1week later.
11. AE officer place invoice to ordering laboratory
12. Advisory and consultant team readily for customer services once request with free of charge.

Please note that in case of LIHL+ cannot report any results due to technical limitation, LIHL+ will charge 3,000 baht for service of the test which cost over 50,000 baht.

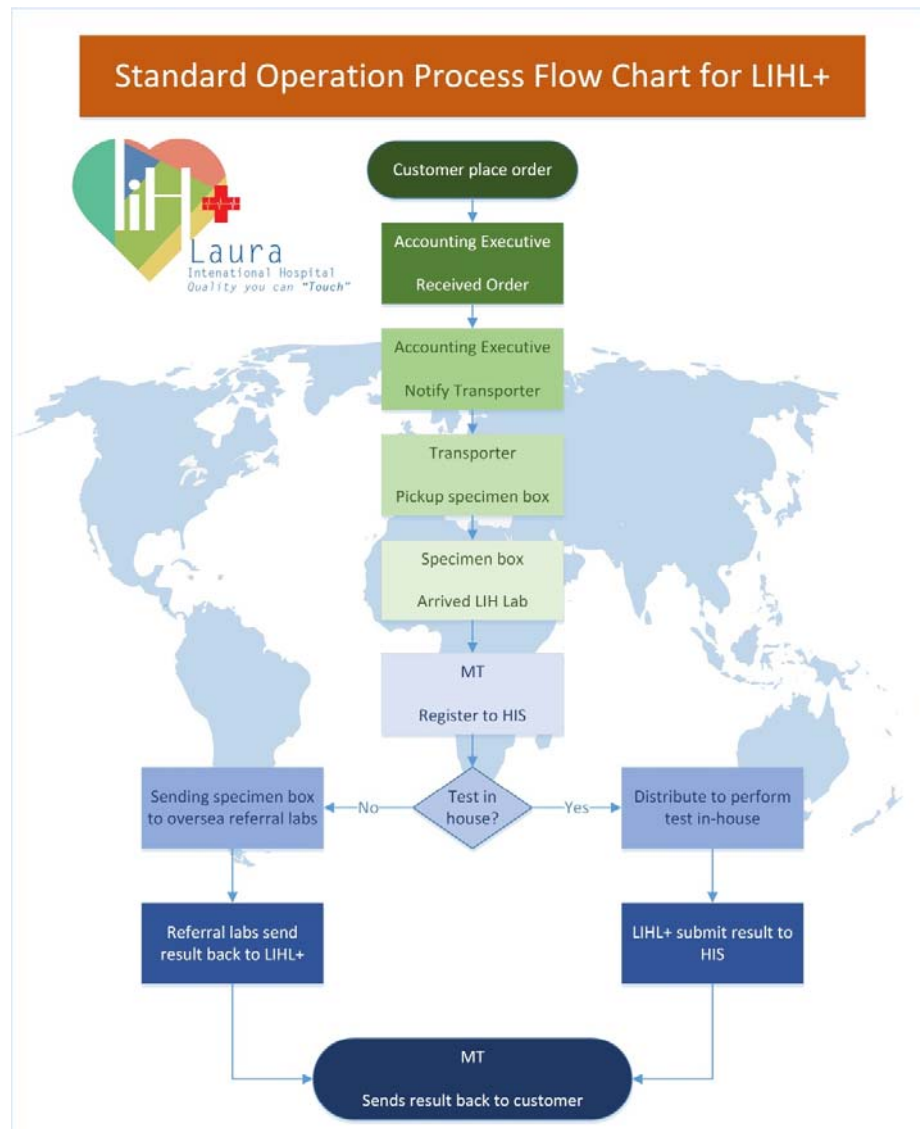


Figure 6.5 Standard Operation Process Flow chart for LIHL+

Physical evidence

Physical evidence is the environment which the customer facing or have experience with service provided. The customer can interact with tangible element of the LIHL+ service as follow;

- The well dress AE officer with professional outlook.



Figure 6.6 The uniform of AE officer

- Laura hospital website www.Laura.com



Figure 6.7 Laura International website

- LIHL+ mobile application
- LIHL+ Logo



Figure 6.8 LIHL+ logo

- The report format that attached with CAP sign and ISO sign



Figure 6.9 CAP sign



Figure 6.10 ISO15189 Sign

- LIHL+ brochure and test menus catalog

CHAPTER 7

OPERATIONAL PLAN

As the LIHL+ is the sub-unit under laboratory department umbrella, so there are some activity process and resources will provide by the laboratory department. The operation plan, day-to-day function of LIHL+ can be described as following;

1. Human Resource Needs

- LIHL+ uses the staffs from laboratory department, the laboratory director has delegated these new tasks to the group of current staffs whose interest in business sectors. Beside, to ensure the success of this new services (UOS increasing) the director for LIHL+ was recruited to take responsibility for the business sector.

- The position that take part in LIHL+ consist of;

Director of LIHL+ center

Manager of LIHL+ center

Supervisor of Laboratory business unit

Dedicated Laboratory Account Executive (AE)

Data analysis officer

Medical technologist

Consultant team

2. Physical utilities requirement, technological resource; LIHL+ is sub-unit of laboratory department and all physical utilities is current used and belong to laboratory department asset.

3. Logistics and Supply Chain Management Plan: LIHL+ is the partnership with 3 courier companies for specimen transportation.

- Kerry express for transportation in Thailand, service price depend on distant and may vary between 90 to 500 baht per shipment

- FedEx and DHL for international transportation, service price approximate 3,000 to 7,000 baht per shipment.

4. Day –to –day operation, LIHL+ provides service from 08.00 to 17.00, Monday to Sunday. The Operation workflow can describe as the following diagram;

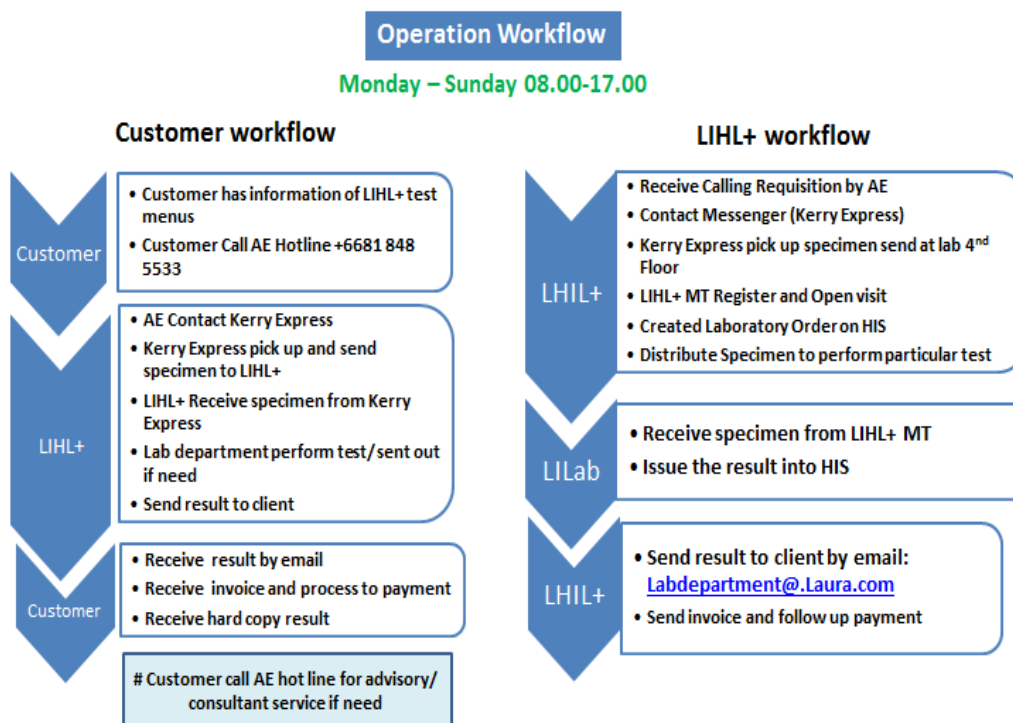


Figure 7.1 Operation Workflow

5. Implementation Timetable and Process for Monitoring Progress are shown as table below;

Table 7.1 Monthly activities of LIHL+

LIHL+ Monthly activities	Position	Week 1	Week 2	Week 3	Week 4	Week 5
1) Visit customer and marketing activities	AE, Director	←→				
2) Billing process	Data analysis officer			←→		
3) Statistic : UOS sales, Financial status (revenue, profit)	Data analysis officer				←→	
4) Customer feedback and summary of incident report	AE, Supervisor					↔
5) Preventive action and process improvement plan	Supervisor, Manager		←→			
6) Monthly Report	Manager					↔

Table 7.2 Yearly activities of LIHL+

LIHL+ Yearly Activities	Position	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1) Develop Mobile application	Manager, vendor	←→											
2) Inform 36 alliance hospitals	AE	↔											
3) Visit 36 alliance hospitals	Director, AE	←→											
3) 1 st Quarterly performance report	Manager			↔									
4) 2 nd Quarterly performance report	Manager						↔						
5) 3 th Quarterly performance report	Manager									↔			
6) Summary list of potential customers (volume of sales)	Manager											↔	
7) Yearly performance	Director											←→	

8) Strategy for next
 year, improvement Director
 plan



CHAPTER 8

FINANCIAL PLAN

The LIHL+ center has positive advantage for the supporting from laboratory department budget. As this is a new sub-unit which supports the hospital big project, the business strategy of Laura hospital, laboratory department receive a budget for establishing this model. The financial description and analysis of both the initial and ongoing financing and financial management of the LIHL+ unit will describe and analyses as below;

LIHL+: Required Start-Up Funds		
Required Start-Up Funds	Amount	Totals
Fixed Assets		
Application	THB 350,000	
Total Fixed Assets		THB 350,000
Operating Capital		
Working Capital (Cash On Hand)	THB 2,500,000	
Total Operating Capital		THB 2,500,000
Total Required Funds		<u>THB 2,850,000</u>
Sources of Funding		Totals
Owner's Equity		THB 2,850,000
Total Sources of Funding		<u>THB 2,850,000</u>

8.1 Start- up fund

Table 8.1 LIHL+: Required Start-Up Funds

8.2 Salaries and Wages

Table 8.2 Salaries and Wages of LIHL+

Position	Salary wages in LIHL+ (Baht)
Director	100,000
Manager (sharing working hour with central lab)	30,000
Supervisor	50,000
MT (sharing working hour with central lab)	25,000
AE (sharing working hour with central lab)	25,000
Data analysis (sharing working hour with central lab)	20,000
Total Salaries wages	250,000 per month

8.3 Fixed Operating Expenses

Since LIHL+ is the sub-unit of Laboratory department, most of supplies and utilities are belonging to Laboratory department and these expenses are included in cost per unit of laboratory test.

Table 8.3 LIHL+: Salaries and Fixed Operating Expenses

LIHL+: Salaries and Fixed Operating Expenses					
Salaries and Related Expenses	No.	Monthly	Year One	Year Two	Year Three
Percent Change				3.00%	3.00%
Salaries and Wages					
Salaries	6	<u>THB 250,000</u>	<u>3,000,000</u>	<u>3,090,000</u>	<u>3,182,700</u>
Total Salaries and Related Expenses					
		<u>THB 250,000</u>	<u>3,000,000</u>	<u>3,090,000</u>	<u>3,182,700</u>
* Note there is no additional fixed operating expenses					

8.4 Projected Sales Forecast

Unit sales forecast = number of UOS sold x price per unit

UOS can separate in to three groups;

- Group 1 Genetic – Basic, average price per UOS = 60,000 Baht
- Group 2 Genetic – Advance, average price per UOS = 200,000 Baht
- Group 3 Anti-Aging, average price per UOS = 70,000 Baht

Sales Forecasts

Table 8.4 Sales Forecasts

Group of test	Cost per test (Baht)	Price (Baht)	For cast sale in 1 st Year (UOS)	Revenue (Baht)
Genetic – Basic	42,000	60,000	225	13,500,000
Genetic – Advance	140,000	200,000	4	800,000
Anti-Aging	49,000	70,000	120	8,400,000

8.5 Cash Receipts and Disbursements

Table 8.5 LIHL+: Cash Receipts and Disbursements

LIHL+: Cash Receipts and Disbursements	
Accounts Receivable Collections	
Percent of Collections	
0 to 30 days	100%
31 to 60 days	0%
More than 60 days	0%
Total Collections Percentage	100%
Accounts Payable Disbursements	
Number of Days to Pay Suppliers	
0 to 30 days	100%
31 to 60 days	0%
More than 60 days	0%
Total Disbursements Percentage	100%

Line of Credit Assumptions		
Desired Minimum Cash Balance		0%
Line of Credit Interest Rate		8%
Income Tax Assumptions		
Effective Income Tax Rate		20%
Amortization of Start-Up Expenses		
Amortization Period in Years		300%

8.6 Balance Sheet

Table 8.6 LIHL+: Balance Sheet

LIHL+: Balance Sheet - Year One		
	Base Period	End of Year One
Assets		
Current Assets		
Cash	2,500,000	5,548,000
Total Current Assets	2,500,000	5,548,000
Fixed Assets		
Application	350,000	350,000
Total Fixed Assets	350,000	350,000
Total Assets	2,850,000	5,898,000
Liabilities and Owner's Equity		
Liabilities		
Total Liabilities	-	-
Owner's Equity		
Common Stock	2,850,000	2,850,000
Retained Earnings	-	3,048,000
Total Owner's Equity	2,850,000	5,898,000
Total Liabilities and Owner's Equity	2,850,000	5,898,000
LIHL+: Balance Sheet - Year Two		
	End of Year One	End of Year Two
Assets		
Current Assets		
Cash	5,548,000	11,101,600
Total Current Assets	5,548,000	11,101,600

Fixed Assets		
Application	350,000	350,000
Total Fixed Assets	<u>350,000</u>	<u>350,000</u>
Total Assets	<u><u>5,898,000</u></u>	<u><u>11,451,600</u></u>

Table 8.6 LIHL+: Balance Sheet

LIHL+: Balance Sheet - Year Two (Cont.)		
	End of Year One	End of Year Two
Liabilities and Owner's Equity		
Liabilities		
Total Liabilities	-	-
Owner's Equity		
Common Stock	2,850,000	2,850,000
Retained Earnings	3,048,000	8,601,000
Total Owner's Equity	<u>5,898,000</u>	<u>11,451,600</u>
Total Liabilities and Owner's Equity	<u><u>5,898,000</u></u>	<u><u>11,451,600</u></u>
LIHL+: Balance Sheet - Year Three		
	End of Year Two	End of Year Three
Assets		
Current Assets		
Cash	11,101,600	18,977,200
Total Current Assets	<u>11,101,600</u>	<u>18,977,200</u>
Fixed Assets		
Application	350,000	350,000
Total Fixed Assets	<u>350,000</u>	<u>350,000</u>
Total Assets	<u><u>11,451,600</u></u>	<u><u>19,327,200</u></u>
Liabilities and Owner's Equity		
Liabilities		
Total Liabilities	-	-
Owner's Equity		
Common Stock	2,850,000	2,850,000
Retained Earnings	8,601,600	16,477,200

Total Owner's Equity	11,451,600	19,327,200
Total Liabilities and Owner's Equity	<u>11,451,600</u>	<u>19,327,200</u>

8.7 Year End Summary

Table 8.7 LIHL+: Year End Summary

LIHL+: Year End Summary						
	Year One	%	Year Two	%	Year Three	%
Income						
Genetic - Basic	13,500,000		15,840,000		17,424,000	
Genetic - Advance	800,000		800,000		800,000	
Anti-Aging	8,400,000		16,800,000		25,200,000	
Total Income	<u>22,700,000</u>	100.00	<u>33,440,000</u>	100.00	<u>43,424,000</u>	100.00
Cost of Sales						
Genetic - Basic	9,450,000		11,088,000		12,196,800	
Genetic - Advance	560,000		560,000		560,000	
Anti-Aging	5,880,000		11,760,000		17,640,000	
Total Cost of Sales	<u>15,890,000</u>	70.00	<u>23,408,000</u>	70.00	<u>30,396,800</u>	70.00
Gross Margin	<u>6,810,000</u>	30.00	<u>10,032,000</u>	30.00	<u>13,027,200</u>	30.00
Salaries and Wages						
Salaries	<u>3,000,000</u>		<u>3,090,000</u>		<u>3,182,700</u>	
Total Salary and Wages	<u>3,000,000</u>	13.22	<u>3,090,000</u>	9.24	<u>3,182,700</u>	7.33
Fixed Business Expenses						
Total Fixed Business Expenses	<u>-</u>	0.00	<u>-</u>	0.00	<u>-</u>	0.00
Operating Income (before Other Expenses)	<u>3,810,000</u>	16.78	<u>6,942,000</u>	20.76	<u>9,844,500</u>	22.67
[EBITDA]						
Other Expenses						

Taxes	762,000		1,388,400		1,968,900	
Total Other Expenses	<u>762,000</u>	3.36	<u>1,388,400</u>	4.15	<u>1,968,900</u>	4.53
Net Income	<u>3,048,000</u>	13.43	<u>5,553,600</u>	16.61	<u>7,875,600</u>	18.14

8.8 Financial Ratios

Table 8.8 LIHL+: Financial Ratios

LIHL+: Financial Ratios			
Ratio	Year One	Year Two	Year Three
Liquidity			
Current Ratio	0.0	0.0	0.0
Quick Ratio	0.0	0.0	0.0
Safety			
Debt to Equity Ratio	0.0	0.0	0.0
Debt to Coverage Ratio	0.0	0.0	0.0
Profitability			
Sales Growth	0.0%	47.3%	29.9%
COGS to Sales	70.0%	70.0%	70.0%
Gross Profit Margin	30.0%	30.0%	30.0%
SG&A to Sales	13.2%	9.2%	7.3%
Net Profit Margin	13.4%	16.6%	18.1%
Return on Equity	51.7%	48.5%	40.7%
Return on Assets	51.7%	48.5%	40.7%
Owner's Compensation to Sales	0.0%	0.0%	0.0%
Efficiency			
Days in Receivables	0.0	0.0	0.0
Accounts Receivable Turnover	0.0	0.0	0.0
Days in Inventory	0.0	0.0	0.0
Inventory Turnover	0.0	0.0	0.0
Sales to Total Assets	3.8	2.9	2.2

8.9 Breakeven Analysis

To determine the point that revenue of sold equals the cost of the good sold, “Total revenue = Total cost”. LIHL+ center do the Break-even point analysis as below;

Table 8.9 LIHL+: Breakeven Analysis

LIHL+: Breakeven Analysis		
Breakeven Analysis	Baht	Percent
Annual Sales Revenue	THB 22,700,000	100.00%
Cost of Sales	THB 15,890,000	70.00%
Gross Margin	THB 6,810,000	30.00%

Table 8.9 LIHL+: Breakeven Analysis

LIHL+: Breakeven Analysis (Cont.)		
Salaries and Wages	THB 3,000,000	
Fixed Operating Expenses	THB -	
Total Fixed Business Expenses	THB 3,000,000	
Breakeven Sales Calculation	THB 3,000,000	
	THB 0	
Breakeven Sales in Baht	<u>THB 10,000,000</u>	

*Please see more financial detail in appendix A

8.10 Summary

According to the business plan, LIHL+ center will meet the financial profit in the first year of business. The business plan provides opportunities for medical laboratory business in Thailand. The details target group and all laboratory business projection are highlighted in the report. Taking this business in Thailand will get an unlimited growth potential of LIHL+ center for the first phase and could be expanded to international customers in the near future.

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APPENDIX A
FINANCIAL STATEMENT

Figure Projected Income Statement – Year One

LHL+ Projected Income Statement - Year One

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
Income													
Genetic - Basic	600,000	900,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	13,500,000
Genetic - Advance	-	-	200,000	-	-	200,000	-	-	200,000	-	-	200,000	800,000
Anti-Aging	700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	8,400,000
Total Income	1,300,000	1,600,000	2,100,000	1,900,000	1,900,000	2,100,000	1,900,000	1,900,000	2,100,000	1,900,000	1,900,000	2,100,000	22,700,000
Cost of Sales													
Genetic - Basic	420,000	630,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	9,450,000
Genetic - Advance	-	-	140,000	-	-	140,000	-	-	140,000	-	-	140,000	560,000
Anti-Aging	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	490,000	5,880,000
Total Cost of Sales	910,000	1,120,000	1,470,000	1,330,000	1,330,000	1,470,000	1,330,000	1,330,000	1,470,000	1,330,000	1,330,000	1,470,000	15,890,000
Gross Margin	390,000	480,000	630,000	570,000	570,000	630,000	570,000	570,000	630,000	570,000	570,000	630,000	6,810,000
Salaries and Wages													
Salaries	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	3,000,000
Total Salary and Wages	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	3,000,000
Fixed Business Expenses													
Total Fixed Business Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Expenses													
Taxes	28,000	46,000	76,000	64,000	64,000	76,000	64,000	64,000	76,000	64,000	64,000	76,000	762,000
Total Other Expenses	28,000	46,000	76,000	64,000	64,000	76,000	64,000	64,000	76,000	64,000	64,000	76,000	762,000
Net Income	112,000	184,000	304,000	256,000	256,000	304,000	256,000	256,000	304,000	256,000	256,000	304,000	3,048,000

Figure Projected Income Statement –Year Two

LIHL+: Projected Income Statement - Year Two

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
Income													
Genetic - Basic	1,320,000	1,320,000	1,320,000	1,320,000	1,320,000	1,320,000	1,320,000	1,320,000	1,320,000	1,320,000	1,320,000	1,320,000	15,840,000
Genetic - Advance	-	-	200,000	-	-	200,000	-	-	200,000	-	-	200,000	800,000
Anti-Aging	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	1,400,000	16,800,000
Total Income	2,720,000	2,720,000	2,720,000	2,720,000	2,720,000	2,920,000	2,720,000	2,720,000	2,920,000	2,720,000	2,720,000	2,920,000	33,440,000
Cost of Sales													
Genetic - Basic	924,000	924,000	924,000	924,000	924,000	924,000	924,000	924,000	924,000	924,000	924,000	924,000	11,088,000
Genetic - Advance	-	-	140,000	-	-	140,000	-	-	140,000	-	-	140,000	560,000
Anti-Aging	980,000	980,000	980,000	980,000	980,000	980,000	980,000	980,000	980,000	980,000	980,000	980,000	11,760,000
Total Cost of Sales	1,904,000	1,904,000	2,044,000	1,904,000	2,044,000	1,904,000	1,904,000	2,044,000	2,044,000	1,904,000	1,904,000	2,044,000	23,408,000
Gross Margin	816,000	816,000	816,000	816,000	816,000	816,000	816,000	816,000	816,000	816,000	816,000	816,000	10,032,000
Salaries and Wages													
Salaries	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	3,090,000
Total Salary and Wages	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	3,090,000
Fixed Business Expenses													
Total Fixed Business Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Expenses													
Taxes	111,700	111,700	123,700	111,700	111,700	123,700	111,700	111,700	123,700	111,700	111,700	123,700	1,388,400
Total Other Expenses	111,700	111,700	123,700	111,700	111,700	123,700	111,700	111,700	123,700	111,700	111,700	123,700	1,388,400
Net Income	446,800	446,800	494,800	446,800	446,800	494,800	446,800	446,800	494,800	446,800	446,800	494,800	5,553,600

Figure Projected Income Statement –Year Three

LHL-: Projected Income Statement - Year Three

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
Income													
Genetic - Basic	1,452,000	1,452,000	1,452,000	1,452,000	1,452,000	1,452,000	1,452,000	1,452,000	1,452,000	1,452,000	1,452,000	1,452,000	17,424,000
Genetic - Advance	-	-	200,000	-	-	200,000	-	-	200,000	-	-	200,000	800,000
Anti-Aging	2,100,000	2,100,000	2,100,000	2,100,000	2,100,000	2,100,000	2,100,000	2,100,000	2,100,000	2,100,000	2,100,000	2,100,000	25,200,000
Total Income	3,552,000	3,552,000	3,752,000	3,552,000	3,552,000	3,752,000	3,552,000	3,552,000	3,752,000	3,552,000	3,552,000	3,752,000	43,424,000
Cost of Sales													
Genetic - Basic	1,016,400	1,016,400	1,016,400	1,016,400	1,016,400	1,016,400	1,016,400	1,016,400	1,016,400	1,016,400	1,016,400	1,016,400	12,196,800
Genetic - Advance	-	-	140,000	-	-	140,000	-	-	140,000	-	-	140,000	560,000
Anti-Aging	1,470,000	1,470,000	1,470,000	1,470,000	1,470,000	1,470,000	1,470,000	1,470,000	1,470,000	1,470,000	1,470,000	1,470,000	17,640,000
Total Cost of Sales	2,486,400	2,486,400	2,626,400	2,486,400	2,486,400	2,626,400	2,486,400	2,486,400	2,626,400	2,486,400	2,486,400	2,626,400	30,396,800
Gross Margin	1,065,600	1,065,600	1,125,600	1,065,600	1,065,600	1,125,600	1,065,600	1,065,600	1,125,600	1,065,600	1,065,600	1,125,600	13,027,200
Salaries and Wages													
Salaries	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	3,182,700
Total Salary and Wages	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	3,182,700
Fixed Business Expenses													
Total Fixed Business Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Expenses													
Taxes	160,075	160,075	172,075	160,075	160,075	172,075	160,075	160,075	172,075	160,075	160,075	172,075	1,968,900
Total Other Expenses	160,075	160,075	172,075	160,075	160,075	172,075	160,075	160,075	172,075	160,075	160,075	172,075	1,968,900
Net Income	640,300	640,300	688,300	640,300	640,300	688,300	640,300	640,300	688,300	640,300	640,300	688,300	7,875,600

LIHL+: Projected Cash Flow Statement - Year One

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
Beginning Cash Balance	2,500,000	2,640,000	2,870,000	3,100,000	3,420,000	3,740,000	3,916,000	4,236,000	4,556,000	4,732,000	5,052,000	5,372,000	
Cash Inflows													
Income from Sales	1,300,000	1,600,000	2,100,000	1,900,000	1,900,000	2,100,000	1,900,000	1,900,000	2,100,000	1,900,000	1,900,000	2,100,000	22,700,000
Total Cash Inflows	1,300,000	1,600,000	2,100,000	1,900,000	1,900,000	2,100,000	1,900,000	1,900,000	2,100,000	1,900,000	1,900,000	2,100,000	22,700,000
Cash Outflows													
Investing Activities													
Cost of Sales	910,000	1,120,000	1,470,000	1,330,000	1,330,000	1,470,000	1,330,000	1,330,000	1,470,000	1,330,000	1,330,000	1,470,000	15,890,000
Operating Activities													
Salaries and Wages	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	3,000,000
Taxes	-	-	150,000	-	-	204,000	-	-	204,000	-	-	204,000	762,000
Total Cash Outflows	1,160,000	1,370,000	1,870,000	1,580,000	1,580,000	1,924,000	1,580,000	1,580,000	1,924,000	1,580,000	1,580,000	1,924,000	19,652,000
Cash Flow	140,000	230,000	230,000	320,000	320,000	176,000	320,000	320,000	176,000	320,000	320,000	176,000	3,048,000
Operating Cash Balance	2,640,000	2,870,000	3,100,000	3,420,000	3,740,000	3,916,000	4,236,000	4,556,000	4,732,000	5,052,000	5,372,000	5,548,000	
Ending Cash Balance	2,640,000	2,870,000	3,100,000	3,420,000	3,740,000	3,916,000	4,236,000	4,556,000	4,732,000	5,052,000	5,372,000	5,548,000	

Figure Projected Cash Flow Statement –Year Two

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
LIHL-r: Projected Cash Flow Statement - Year Two													
Beginning Cash Balance	5,548,000	6,106,500	6,665,000	6,936,400	7,494,900	8,053,400	8,324,800	8,883,300	9,441,800	9,713,200	10,271,700	10,830,200	
Cash Inflows													
Income from Sales	2,720,000	2,720,000	2,720,000	2,720,000	2,720,000	2,920,000	2,720,000	2,720,000	2,920,000	2,720,000	2,720,000	2,920,000	33,440,000
Total Cash Inflows	2,720,000	2,720,000	2,920,000	2,720,000	2,920,000	2,920,000	2,720,000	2,720,000	2,920,000	2,720,000	2,720,000	2,920,000	33,440,000
Cash Outflows													
Investing Activities													
Cost of Sales	1,904,000	1,904,000	2,044,000	1,904,000	1,904,000	2,044,000	1,904,000	1,904,000	2,044,000	1,904,000	1,904,000	2,044,000	23,408,000
Operating Activities													
Salaries and Wages	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	3,090,000
Taxes	-	-	347,100	-	-	347,100	-	-	347,100	-	-	347,100	1,388,400
Total Cash Outflows	2,161,500	2,161,500	2,648,600	2,161,500	2,161,500	2,648,600	2,161,500	2,161,500	2,648,600	2,161,500	2,161,500	2,648,600	27,886,400
Cash Flow	558,500	558,500	271,400	558,500	558,500	271,400	558,500	558,500	271,400	558,500	558,500	271,400	5,553,600
Operating Cash Balance	6,106,500	6,665,000	6,936,400	7,494,900	8,053,400	8,324,800	8,883,300	9,441,800	9,713,200	10,271,700	10,830,200	11,101,600	
Ending Cash Balance	6,106,500	6,665,000	6,936,400	7,494,900	8,053,400	8,324,800	8,883,300	9,441,800	9,713,200	10,271,700	10,830,200	11,101,600	

Figure Projected Cash Flow Statement –Year Three

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
LIHL+ Projected Cash Flow Statement - Year Three													
Beginning Cash Balance	11,101,600	11,901,975	12,702,350	13,070,500	13,870,875	14,671,250	15,039,400	15,839,775	16,640,150	17,008,300	17,808,675	18,609,050	
Cash Inflows													
Income from Sales	3,552,000	3,552,000	3,752,000	3,552,000	3,552,000	3,752,000	3,552,000	3,552,000	3,752,000	3,552,000	3,552,000	3,752,000	43,424,000
Total Cash Inflows	3,552,000	3,552,000	3,752,000	3,552,000	3,552,000	3,752,000	3,552,000	3,552,000	3,752,000	3,552,000	3,552,000	3,752,000	43,424,000
Cash Outflows													
Investing Activities													
Cost of Sales	2,486,400	2,486,400	2,626,400	2,486,400	2,486,400	2,626,400	2,486,400	2,486,400	2,626,400	2,486,400	2,486,400	2,626,400	30,396,800
Operating Activities													
Salaries and Wages	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	265,225	3,182,700
Taxes	-	-	492,225	-	-	492,225	-	-	492,225	-	-	492,225	1,968,900
Total Cash Outflow s	2,751,625	2,751,625	3,383,850	2,751,625	2,751,625	3,383,850	2,751,625	2,751,625	3,383,850	2,751,625	2,751,625	3,383,850	35,548,400
Cash Flow	800,375	800,375	368,150	800,375	800,375	368,150	800,375	800,375	368,150	800,375	800,375	368,150	7,875,600
Operating Cash Balance	11,901,975	12,702,350	13,070,500	13,870,875	14,671,250	15,039,400	15,839,775	16,640,150	17,008,300	17,808,675	18,609,050	18,977,200	
Ending Cash Balance	11,901,975	12,702,350	13,070,500	13,870,875	14,671,250	15,039,400	15,839,775	16,640,150	17,008,300	17,808,675	18,609,050	18,977,200	

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