Melastoma malabathricum L . NATURAL PRESERVATIVES BUSINESS PLAN

TENGKU KHAMANUR AZMA BINTI

TG. MOHD ZAMRI

MASTER OF CHEMICAL

ENGINEERING WITH

ENTREPRENEURSHIP

UNIVERSITI MALAYSIA PAHANG

Melastoma malabathricum L. NATURAL PRESERVATIVES
BUSINESS PLAN

TENGKU KHAMANUR AZMA BINTI TG. MOHD ZAMRI

Thesis submitted in fulfillment of the requirements
for the award of the degree of
Master of Chemical Engineering with Entrepreneurship

Faculty of Chemical and Natural Resources Engineering
UNIVERSITI MALAYSIA PAHANG

JULY 2013

UNIVERSITI MALAYSIA PAHANG

DECLARATION OF THESIS AND COPYRIGHT

Author's full name : Tengku Khamanur Azma Binti Tg. Mohd Zamri
Date of birth : 20 July 1988
Title : MML Preservatives Business Plan

Academic session : Sept 2012/2013

I declare that this thesis classified as:

❑ **CONFIDENTIAL**	(Contains confidential information under the Official Secret Act 1972)*
❑ **RESTRICTED**	(contains restricted information as specified by the organization where research was done)*
❑ **OPEN ACCESS**	I agreed that my thesis to be published as online open access (full text)

I acknowledge that Universiti Malaysia Pahang reserve the right as follows:

1. The Thesis is the Property of Universiti Malaysia Pahang.
2. The Library of Universiti Malaysia Pahang has the right to makes copies for pupose of research only.
3. The Library has the right to make copies of the thesis for academic exchange.

Certified By:

____________________	____________________
Tengku Khamanur Azma Binti Tg. Mohd Zamri 880720-11-5470 Date:	Assoc. Prof. Dr.Mimi Sakinah Bt Abdul Munaim Date:

NOTES : *If the thesis is CONFIDENTIAL or RESTRICTED,please attach with the letter from the organization with period and reasons for confidentiality or restriction.

STATUS DECLARATION LETTER

Librarian *Date:*

Perpustakaan Universiti Malaysia

Pahang Universiti Malaysia Pahang

Lebuhraya Tun Razak

26300, Gambang, Kuantan

Sir,

CLASSIFICATION OF THESIS AS RESTRICTED –

MML PRESERVATIVES BUSINESS PLAN AND TENGKU KHAMANUR AZMA BT TG MOHD ZAMRI

Please be informed that the above mentioned thesis entitle ***"MML PRESERVATIVES BUSINESS PLAN"*** be classified as RESTRICTED for a period of three (3) years from the date of this letter. Thank you.

Sincerely yours,

ASSOC. PROF. DR. MIMI SAKINAH BT ABDUL MUNAIM,

FKKSA,UNIVERSITI MALAYSIA,PAHANG UNIVERSITI MALAYSIA

PAHANG, LEBUHRAYA TUN RAZAK

26300, GAMBANG, KUANTAN .

019 9221475

SUPERVISOR'S DECLERATION

I hereby declare that I have checked this thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of degree of Master of Chemical Engineering with Entrepreneurship.

Signature:
Name of Supervisor: Assoc. Prof. Dr. Mimi Sakinah Bt Abdul Munaim
Position:
Date:

STUDENT'S DECLERATION

I confirm that the material in this dissertation is not copied from any published work or material, unless it is clearly identified as such and a full source reference given; is not a paraphrase or abstract of any published work or material, unless it is clearly identified as such and a full source reference given I hereby declare that, other than where indicated above, this dissertation is my own work.

Signature:
Name of Supervisor: Tengku Khamanur Azma Bt Tg Mohd Zamri
ID number: KKE12002
Date:

ACKNOWLEDGEMENTS

Thanks to the Almighty Allah, for giving me the strength and the courage to undertake this business plan. I would also like to thank my parents for their support and prayers throughout the process in completing this thesis.

I am grateful and would like to express my sincere gratitude to my supervisor Assoc. Prof. Dr. Mimi Sakinah Bt Abdul Munaim for her germinal ideas, invaluable guidance, continuous encouragement and constant support in making this business plan possible. She has always impressed me with her outstanding professional conduct, her strong conviction for science and her belief that the Master program is only a start of a life-long learning experience.

I would like to thank to all of the staff of the Chemical and Natural Resources Engineering Department, UMP, who give a hand to me in many ways and giving me a pleasant and unforgettable experience in UMP. Many special thanks go to my classmates for their excellent co-operation, inspirations and support during completion of this business plan.

EXECUTIVE SUMMARY

KKE Enterprise was now preparing the Business Plan in order to introduce *Melastoma malabathricum L.* (MML) Natural Preservatives to the related industry. KKE Enterprise will apply special constructed natural preservative to inhibit the growth of microorganism that caused spoilage to the end products and at once to increase their shelf life. These products, called MML preservative (MMLP), have the ability to stop the activity of microbial such as *B. cereus, B. subtilis, S. typhi,* and *E. coli*. We will supply the complete dried powder at lower price.

Type of Business

KKE Enterprise will be specialist natural preservatives company with a focus on bakery sector and soft drinks sector application for preservation of end products.

Purpose of the plan

To find the bank loan which responsible to fund the growth of sales MML Preservatives. The main objectives of this business plan which we want to sell natural preservative and to replace the conventional preservative in the market, with natural preservative. Become the first Natural Preservative manufacturer in Malaysia and at once grab all the opportunities in the market.

Product's Advantages

MML natural preservatives are extracted from herb leaves of *Melastoma malabathricum L.* (MML) or local name as '*senduduk'* which is demonstrated the presence of phenolic compound (gallic acid, ellagic acid and total phenols compound). Gallic acid, ellagic acid and total phenols compound can naturally inhibit the microbial activity of *Bacillius cereus, Bacillius subtilis, Bacillius megaterium, Bacillius licheniformis, Salmonella typhimurium and Escherichia coli.* This natural preservative will contribute a lot of benefits to food and beverages industries where it can extent product shelf-life, inhibit broad antibacterial spectrum both gram positive and gram negative like yeast, mould, fungi and other microorganisms, improve safety by replacing chemical preservatives, cost effective, high efficiency at low dosages,not affect the taste of food, water solubility: soluble in water easily, odorless and colorless, stable heating at low pressure and high safety: MML preservative is not accumulate and decomposed easily This product can be replaced chemical preservatives because the active substances in MML can act same as the chemical preservatives do and have large potential in the market of food and beverage industries. The basic idea of MML preservative is designed and created to improve the safety of end products by replacing chemical preservative that used by most of wholesale food and beverage industries in Malaysia. Furthermore, MMLP provide high efficiency at low dosages, not affect the taste of food, water solubility (soluble in water easily, odorless and colorless) and MML preservative is not accumulate and decomposed easily. It also can inhibit broad antibacterial spectrum both gram positive and gram negative like yeast, mould, fungi and other microorganisms. The industrial possibilities are endless and increasing from year to year.

Financial projections

The sales projection is increasing from year to year where the start up production capacity of MML Preservative is 20,000 kg/yr while for year 2, 3, 4, and 5 the production capacity increased 20% per year. The growth revenue projection has been assumed by 20% per year because of the market of the target customers have been increased from year to year.

Funding requirements

We are seeking adequate capital to enable us to expand our operation and become a major factor in the production of natural preservatives in the industrial and Malaysian food and beverages market. We are manufacture in powdered form of MML Preservatives. This business projection required funding RM 900,000 in order to start the production of MML Preservatives for the year 1. So, the total funding projection required was RM 1.4 million where the sources of funding for growth of sales projection MML Preservatives, 21.4% of the Board of Directors of KKE Enterprise and about 78.6% from external sources which the funding is allocated by bank loans.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF SYMBOLS

%	Percent
@	At
£	Pound Currency
$	Currency
RM	Ringgit Malaysia
USD	United State Dollar

LIST OF ABBREVIATIONS

MML	*Melastoma Malabathricum L*
MMLP	*Melastoma Malabathricum L* Preservatives
APAC	*Asia Pacific Autism Conference*
INFOSAN	International Food Safety Authorities Network
IFIC	*International Federation Of Infection Control*
FAIA	Florida Association Of Insurance Agents
CAGR	Compound Annual Growth Rate
U.K	United Kingdom
RM	Ringgit Malaysia
SDN BHD	Sendirian Berhad
COGS	Cost Of Goods Sold
CO., LTD.	Limited Company
NBIA	National Business Incubation Association
BCIC	Bumiputera Commercial Industrial Community
CPA	Certified Practising Accountant
UiTM	University Teknologi Mara
UMP	Universiti Malaysia Pahang

RTO	Receivables Turnover
DSO	Days' Sales Outstanding
ACP	Average Collection Period
ROA	Return On Assets
ROE	Return On Equity
SME	Small and Medium Enterprise

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

KKE Enterprise was now preparing the Business Plan in order to introduce MML Natural Preservatives to the related industry. KKE Enterprise will apply special constructed natural preservative to inhibit the growth of microorganism that caused spoilage to the end products and at once to increase their shelf life. These products, called *Melastoma malabathricum L.or* MML preservative (MMLP), has the ability to stop the activity of microbes such as *B. Cereus, B. Subtilis, S. Typhi,* and *E. coli*. We will supply the complete dried powder at a lower price. KKE Enterprise will be specialist natural preservatives company with a focus on bakery sector and soft drinks sector application for preservation of end products. The purpose of this business plan is to find the investor which responsible to fund the growth of sales MML Preservatives. The objectives of this business plan are as follows;

1. We want to sell natural preservative
2. To replace the convectional preservative in the market, with natural preservative.
3. Become the first Natural Preservative manufacturer in Malaysia and at once grab all the opportunities in the market.

1.2 PRODUCTS OVERVIEW

MML natural preservatives are extracted from herb leaves of *Melastoma malabathricum L.* (MML) or local name as '*senduduk'* which has demonstrated the presence of phenolic compound (Gallic acid, ellagic acid and total phenol compound). Gallic acid, ellagic acid and total phenol compound can naturally inhibit the microbial activity of *Bacillus Cereus*, *Bacillus Subtilis, Bacillius Megaterium, Bacillius Licheniformis, Salmonella Typhimurium and Escherichia Coli*. This natural preservative will contribute a lot of benefits to food and beverage industries where:

- ☑ Extending product shelf-life
- ☑ Inhibit broad antibacterial spectrum both gram positive and gram negative like yeast, mold, fungi and other microorganisms
- ☑ Improve safety by replacing chemical preservatives
- ☑ Cost effective, high efficiency at low dosages
- ☑ Not affect the taste of food
- ☑ Water solubility: soluble in water easily, odorless and colorless,
- ☑ Stable heating at low pH
- ☑ High safety: MML preservative is not accumulating and decomposed easily

1.3 Market Overview

The food preservative market, globally, has been greatly influenced by the food and beverage processing market. It is driven by the changing consumer trends and preferences. The market has seen considerable changes in the past decade and is at a stage of heralding considerable changes in the way food can be preserved. The food preservation market has evolved to see an influx of a wide range of chemical and natural preservatives. Preservatives are included in food products to tackle threats from microorganisms, chemical reactions, and other physical damage which may render it unfit for human consumption. However, with growing concerns amongst consumers regarding the prolonged exposure to synthetic preservatives, and the need for healthy, natural, and organic foods, manufacturers are now addressing the issue of safety and quality of food. The trend of natural preservatives has been originated from the appeal of European nations to market the clean label food products free of additives, especially synthetic variants. And, hence, the changing lifestyle and the booming food and beverage industry have given a boost to the demand for natural preservatives. The chemical preservatives can be replaced by our preservatives because the active substances in MML can act same as the chemical preservatives do and it have a large potential in the market of food and beverage industries. The basic idea of MML preservative is designed and created to improve the safety of end products by replacing chemical preservative that used by most of wholesale food and beverage industries in Malaysia. Furthermore, MMLP can inhibit broad antibacterial spectrum both gram positive and gram negative like yeast, mold, fungi and other microorganisms. The industrial possibilities are endless and increasing from year to year.

1.4 Resources and Raw Materials

In manufacturing, resources and raw materials are important to the company which it will decide feasibility of the business. Proper planning is essential because non-availability of the required raw material may result in production holdups, idle machinery and manpower. On the other hand if too much is ordered too soon considerable amount of working capital gets locked up. All this will lead to increase production costs. But proper inventory management can lead to manageable cash flow situations. For imported raw material whose lead time is large, proper planning is all the more essential. So, we were planning precisely in order to avoid any problems in raw material and resources. The raw materials required are estimated 4408320 kg/yr. For the first year, the raw material that required is supplied by domestic and also imported from abroad which from China. These companies are producing the raw material in bulk and commercially available. The China is choosed as our supplier because this company can provide the raw material in bulk and the raw material is cheaper than other countries that also sell MML. For importing the raw materials, we were following the Government rules and regulations. The imports are regulated by the Foreign Trade (Development and Regulation) Act, 1992. The Act provides for the appointment by the Central Government, of a Director General of Foreign Trade for the purpose of the Act. During the year one of the plant started, we also will start the plantation of the MML trees in order to sustain the raw material.

Supplier:

1. Toujours Entrepot Enterprise (Penang, Malaysia)
2. Nanjing Zelang Medical Technology Co., Ltd. (Mainland, China)
3. Kai-Leading Imp. & Exp. Corp., Ltd. (Mainland, China)
4. Guangzhou Desk Biotechnology Limited Company (Mainland, China)

CHAPTER 2

MARKET ANALYSIS

2.1 MARKET TREND: GLOBAL MARKET GROWTH OF FOOD PRESERVATIVES

The food preservative market, globally, has been greatly influenced by the food and beverage processing market. It is driven by the changing consumer trends and preferences. The market has seen considerable changes in the past decade and is at a stage of heralding considerable changes in the way food can be preserved. The food preservation market has evolved to see an influx of a wide range of chemical and natural preservatives. Preservatives are included in food products to tackle threats from microorganisms, chemical reactions, and other physical damage which may render it unfit for human consumption. However, with growing concerns amongst consumers regarding the prolonged exposure to synthetic preservatives, and the need for healthy, natural, and organic foods, manufacturers are now addressing the issue of safety and quality of food. The trend of natural preservatives has been originated from the appeal of European nations to market the clean label food products free of additives, especially synthetic variants. And, hence, the changing lifestyle and the booming food and beverage industry have given a boost to the demand for natural preservatives.

The global preservative market by 2016 is estimated to be at USD 2552. 4 million, growing at a CAGR of 2.5%, essentially boosted by the fast growth amongst natural preservatives. North America stands the largest market followed by Asia-Pacific with a considerable market share. The emerging markets within Asia-Pacific, such as Malaysia, China and India drive the high growth rate. The Table 2.0 shows the growth of APAC is 2.7% (USD 796.4 million) while 2.2% in Europe are dependent heavily on the natural preservatives. The CAGR in Europe is mainly driven by the fast growth in the natural preservatives segment with fastest growth in Germany, France, U.K. and Italy. North America and Asia-Pacific together contributes close to 70% in the global food preservative market. Continuous demand for food products with extended shelf life will increase the production of MMLP and convenience preservatives will increase consumer orientation towards increasing demand for natural and organic foods. MMLP will emerge the markets and changing the Malaysian's lifestyle.

Table 2.0: Food Preservatives Market revenue, by Geography, 2009 – 2016 (USD Million)

REGION	2009	2010	2011	2016	CAGR% (2011-2016)
APAC	688.6	702.6	716.7	796.4	2.7

Source: INFOSAN, IFIC, FAIA, Markets and Markets Analysis

2.2 TARGET MARKET

Nowadays, most of industries such as cosmetic, pharmaceutical, food and beverages using chemical preservatives in their product and if they turned it will eventually lead to the ton scale sales of MML preservative. The potential target market can be found in pharmaceutical industry, food and beverage industry and cosmetics sector. Production of rice, wheat flour and sweetened condensed milk gained 7.63%, 3.03% and 1.41% year per year respectively, their fifth consecutive year of production growth since 2004. Malaysia's food consumption is expected to grow 9.4% in 2012 in local currency terms and 12% in per capita terms driven by Malaysia's vision to be a high income society and the country's continued economic development. Going forward, it is expected that the growth in consumer spending on food and beverages will rebound together with the synchronized global economy's recovery 2010. The consumers have also shifted the focus to natural variants and preservative-free food products. Figure 1 shows that the distribution of the preservative used in a diverse range of categories and the largest volume share of preservatives is in the Bakery Products and Soft drink products. Therefore MML preservative has large potential to penetrate the market of bakery industry and soft drinks industry.

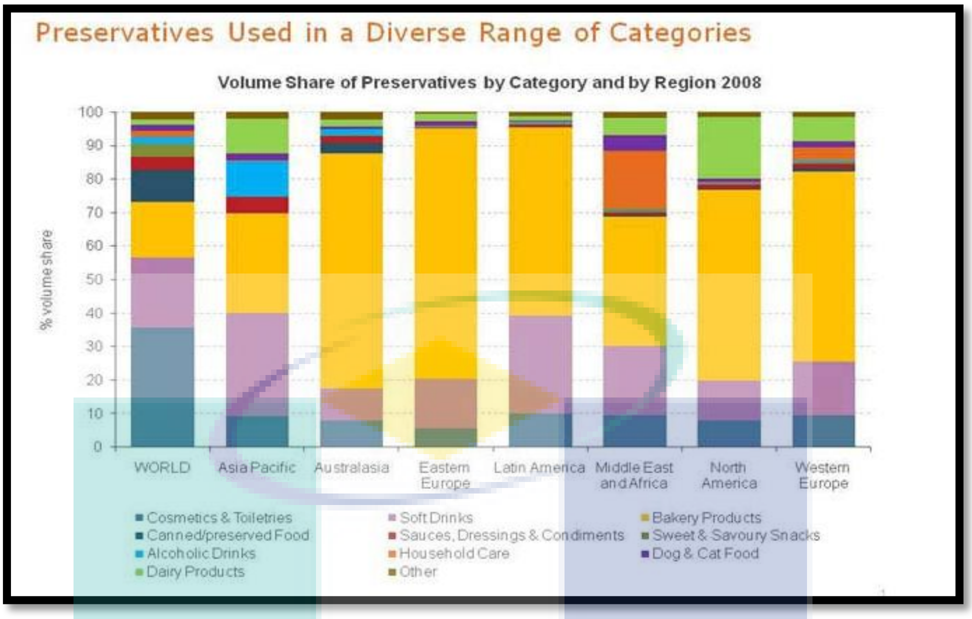


Figure 2.0: Preservatives used in a diverse range of categories

After MML Preservatives is established and enter the marketplace in Malaysia, our company will start to move into a new target industry which has been stated in Table 2. We also will become a natural preservative's exporter to the international.

Table 2.1: Future Target Market for MML Preservatives in Various Sectors

Market/ Industry
Food and Beverages ▪ Dairy and frozen fruits ▪ Meat, poultry and seafood products ▪ Flavor drinks
Pharmaceutical ▪ Drug ▪ Medicines
Cosmetic ▪ Anti-aging cream ▪ Facial mask

2.3 COMPETITORS

MML Preservative segment serves the following geographic markets: China, India, Singapore, US and Domestic which is quite competitive. Product performance and quality, price competition and contract terms are the primary factors in determining which qualified supplier is awarded a contract. Research and development, product and process improvements, specialized customer services, the ability to attract and retain skilled personnel, and maintenance of a good safety record have also been important factors to compete effectively in the preservatives marketplace. Competition also arises from the substitution of different natural material in end-products in an effort to reduce costs or change product qualities. For Synthetic preservatives, competition can be introduced from alternative raw material, which is our product using MML where no end users today. For Natural preservative competition is introduced by low-cost antimicrobial suppliers. We offer our basic antimicrobial products from lower cost manufacturing sites in Malaysia. We will be a market leader in the Natural Preservative business and our most significant competitors are:

a) Synthetic preservative
   - A.H.A International Co., Ltd. Henan
   - Tianfu Chemical Co., Ltd.
   - Hangzhou Quzhou Cold Chemical Co., Ltd.
   - Union Biotechnology Co., Ltd.
   - Anhui Minmetals Development Imp. & Exp. Co., Ltd

b) Natural Preservative
   - Handary SA Shandong
   - Freda Biotechnology Co., Ltd.
   - Shanghai Bangcheng Biological Sci & Tech Co., Ltd.
   - Zhengzhou Bainafo Bioengineering Co., Ltd.
   - Lianyungang Tongyuan Chemical Industry Co., Ltd.

2.4 MARKET SIZE OF THE COMPETITORS AND KKE ENTERPRISE

In 2011, the Food Preservatives Market revenue is USD 716.7 million. Figure 2.2 and 2.3 shows that the market size of the competitors in Ringgit Malaysia currency and market size of the competitors in percentage respectively. There are two chemical preservative companies that shared same and highest percentage which is 27% both Henan Tianfu Chemical Co., Ltd and Anhui Minmetals Development Imp. & Exp. Co., Ltd. The KKE Enterprise is targeting about 0.3% of Food Preservatives Market revenue in 2011 which estimated RM 2.15 million.

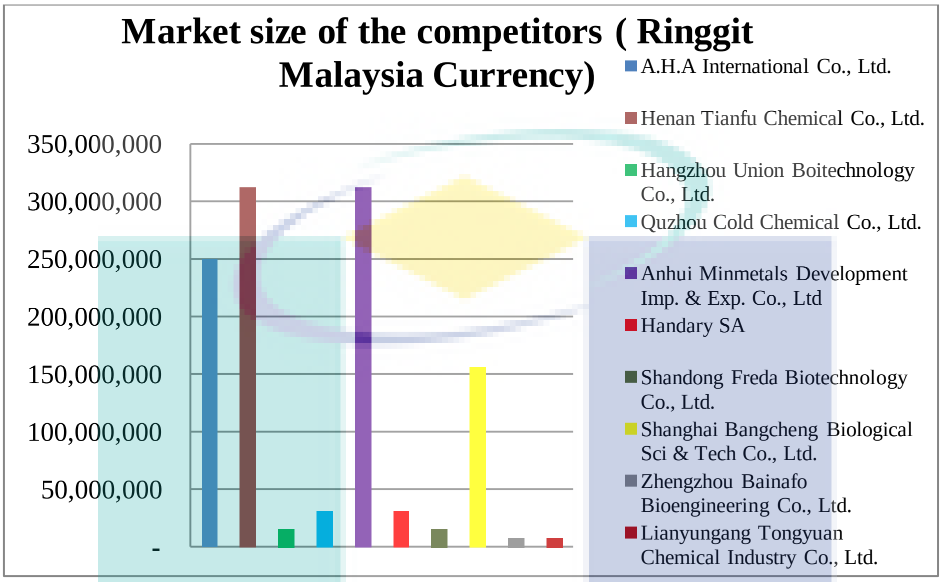


Figure 2.1: Market size of the competitors in Ringgit Malaysia currency

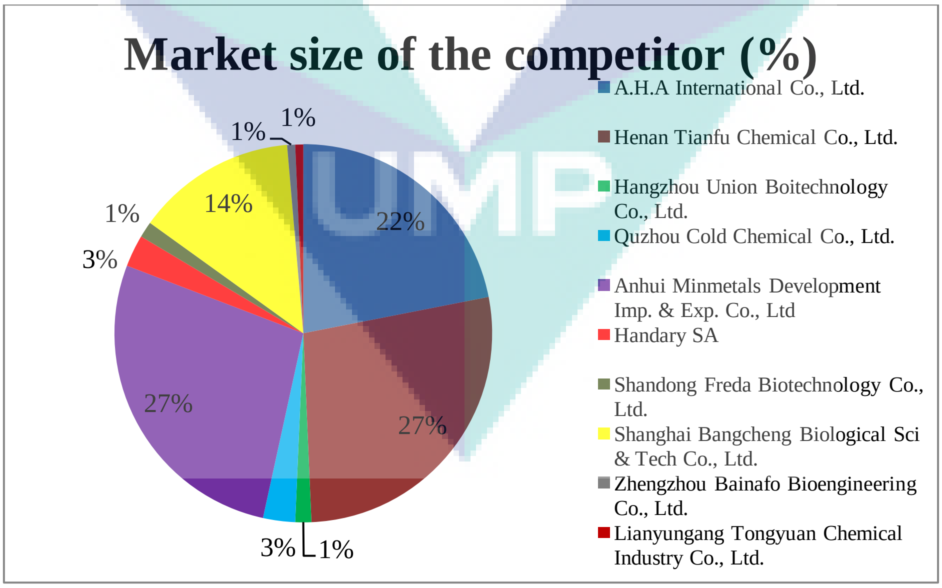


Figure 2.2: Market size of the competitors in percentage

2.5 COMPETITIVE ADVANTAGE

Competitor’s strengths

a. Well known as overseas
b. High market size in Malaysia (for synthetic preservative companies)
c. Halal certificate
d. High Quality

Competitor’s Weaknesses

a. Not well known in Malaysia (for Natural Preservative)
b. A limited market size in Malaysia
c. Their customer will get attention from the Ministry of Health
d. Limited raw material

2.6 CUSTOMERS

The industrial possibilities are endless and increasing from year to year. Nowadays, most of industries such as cosmetic, pharmaceutical, food and beverages using chemical preservatives in their product and if they turned it will eventually lead to the ton scale sales of MML preservative. In Malaysia, the largest player in bread industry is operated by Gardenia, occupied approximately 40% to 45% of market shares with the capacity of producing 32, 000 loaves per hour, which is the highest in the region. Gardenia is operating under subsidiaries of JWPK Holdings Berhad which produce and distribute products to East Malaysia only. On the other hand, Stanson Bakeries, a subsidiary company under Silver Bird Group, it produces a High-5 brand of bread products and occupied approximately 30% of market shares, as a second largest bread maker in Malaysia. Besides these two main players, there are other smaller players as larger regional bakeries such as Daily bakery at Johor, Federal bakery, Bakels bakery, Mighty White bakery, Massimo bakery. Carbonates market in Malaysia is dominated by three companies – F&N Beverages Marketing Sdn Bhd, Coca-Cola Bottlers (M) Sdn Bhd and Permanis Sdn Bhd. The transitional agreement between F&N and Coca-Cola ended 30 September 2011, splitting the market share between these two companies almost equally at 34% to 36% each in terms of off-trade value sales. Permanis followed behind, with 24% of off-trade sales in the Malaysia market in 2011. F&N and Coca-Cola dominated different categories. F&N is strong in non-cola carbonates, with the entire category contributing to its off-trade sales. Brands such as F&N Outrageous Orange and F&N Groovy Grape are popular among children and young adults. Coca-Cola dominates cola-carbonates, with standard cola contributes to 56% of its off-trade sales in 2011.

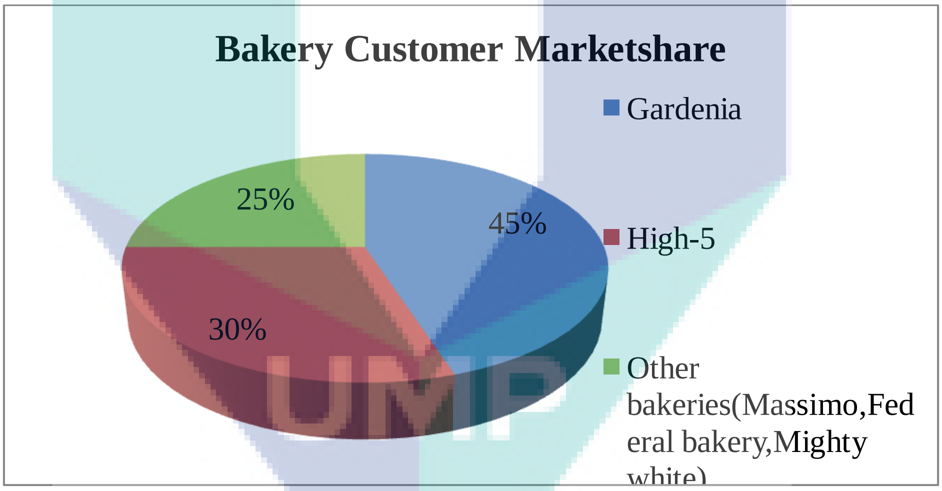


Figure 2.3: Bakeries market share

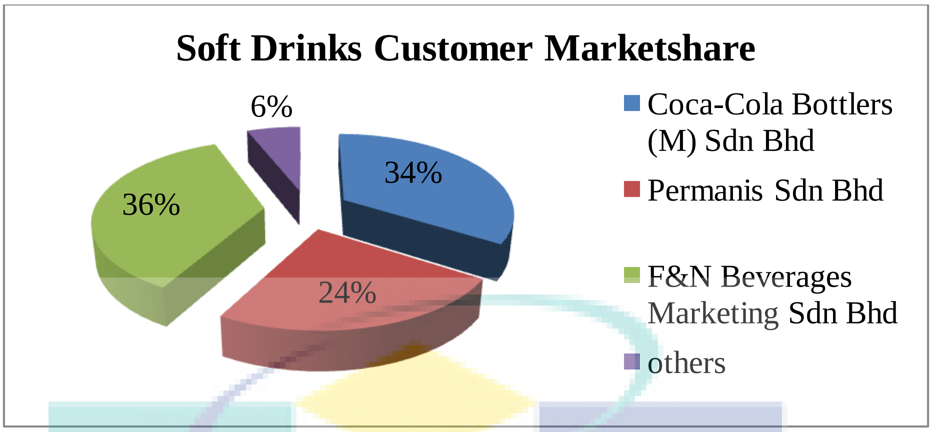


Figure 2.4: Soft drinks market share

MML preservative's initial focus on target market in bakery sector such as Silver Bird Group-High5 bread, Bakels bakery, Mighty White bakery, Massimo bakery while in soft drinks sector (F&N Beverages Marketing Sdn Bhd, Coca-Cola Bottlers (M) Sdn Bhd and Permanis Sdn Bhd).

2.7 MARKETING STRATEGY

a) Product

The benefits of our product are:

- ☑ Extending product shelf-life
- ☑ Inhibit broad antibacterial spectrum both gram positive and gram negative like yeast, mold, fungi and other microorganisms
- ☑ Improve safety by replacing chemical preservatives
- ☑ Cost effective, high efficiency at low dosages
- ☑ Not affect the taste of food
- ☑ Water solubility: soluble in water easily, odorless and colorless

The safety of MMLP is proven because the distilled water is used as solvent in extracting the active ingredients. Most of the wholesale bakeries in Malaysia still using chemical preservatives which this preservatives was believe could harm the health of product consumer cause for cancer. The Cancer Incidence in Peninsular Malaysia 2003-2005 report, published by the National Cancer Registry (NCR), states that the total 67,792 new cases were diagnosed among 29,596 males (43.7%) and 38,196 females (56.3%). The annual crude rate for males was 100.2 % per 100,000 population, and 132.1% per 100,000 for females. So, it is an opportunity for us in entering the marketplace of natural preservatives.

- **Strength**
    - Contain no heavy metals
    - Save to eat
    - More cheaper than others (no taxes and duties)
    - Halal certificates
    - The customer will have no attention from the Ministry of Health in Malaysia
    - Good Service in delivering the product

- **Product details**
    - Packaging : one unit (1kg)
    - Delivery details: within 7 days after placing the order
    - Product : White powder

b) Pricing

The cost of raw material per unit was RM15, the labor cost of 20,000 unit MMLP cost around RM 35,640 where the total revenue cost was RM 542,354.

However, the cost of goods sold (COGS) is expected to be around RM80 of each kg MMLP as summaries in Table 5 below.. When we compared to the Natural Preservative competitors, as we expect our price of the product is lower than other natural preservatives but higher than Chemical preservatives. Even the MMLP's price slightly expensive than chemical preservatives, our product will give a lot of value to the customer.

In Malaysia, most of the bakeries and soft drinks industry need to import their preservative from other countries such as China, India, Italy and etc. This will contribute to an extra cost of duties and taxes added to their purchases which cause the cost of preserving much expensive. Table 4 shows the competitor preservative's price after taxes, import duty and transportation cost where about 15% of extra cost was added.

Table 2.2: Competitors preservative's price not including taxes, import duty and transportation cost

No.	Company Name	Price/Kg (USD)	Price/Kg (RM)
Synthetic preservative			
1	A.H.A International Co., Ltd.	USD 0.70	RM2.18
2	Henan Tianfu Chemical Co., Ltd.	USD 1.50	RM4.68
3	Hangzhou Union Biotechnology Co., Ltd.	USD 1.30	RM4.06
4	Quzhou Cold Chemical Co., Ltd.	USD 0.70	RM2.18
5	Anhui Minmetals Development Imp. & Exp. Co., Ltd	USD 1.20	RM3.74
Natural Preservative			
6	Handary SA	USD 196.00	RM611.52
7	Shandong Freda Biotechnology Co., Ltd.	USD 70.00	RM218.40
8	Shanghai Bangcheng Biological Sci & Tech Co., Ltd.	USD 59.00	RM184.08
9	Zhengzhou Bainafo Bioengineering Co., Ltd.	USD 80.00	RM249.60
10	Lianyungang Tongyuan Chemical Industry Co., Ltd.	USD 65.00	RM202.80

Table 2.3: Competitors preservative's price including taxes, import duty and transportation cost

No.	Company Name	Price/Kg (USD)	Price/Kg (RM)
	Synthetic preservative		
1	A.H.A International Co., Ltd.	USD 0.88	RM2.73
2	Henan Tianfu Chemical Co., Ltd.	USD 1.88	RM5.85
3	Hangzhou Union Biotechnology Co., Ltd.	USD 1.63	RM5.07
4	Quzhou Cold Chemical Co., Ltd.	USD 0.88	RM2.73
5	Anhui Minmetals Development Imp. & Exp. Co., Ltd	USD 1.50	RM4.68
	Natural Preservative		
6	Handary SA	USD 245.00	RM764.40
7	Shandong Freda Biotechnology Co., Ltd.	USD 87.50	RM273.00
8	Shanghai Bangcheng Biological Sci & Tech Co., Ltd.	USD 73.75	RM230.10
9	Zhengzhou Bainafo Bioengineering Co., Ltd.	USD 100.00	RM312.00
10	Lianyungang Tongyuan Chemical Industry Co., Ltd.	USD 81.25	RM253.50

Table 2.4: MML natural preservative's costs and price

MML PRESERVATIVES	**Cost MMLP per unit (1kg)**
Material Costs per Unit	5.00
Unit sales	20,000
Total Revenue Cost	542,354
Price per unit	27.12
Mark-up	34%
Price of MMLP per unit	RM80

c) Place

MMLP KKE Enterprise will be located in Malacca where it is the strategic location. Based on our survey, our main target market company is located near to the Malacca which Selangor and Johor. It's also near to the airport which easier export our product to the future target market. The size of land about 5 hectares to set up the factory.

d) Promotion

- MMLP will be promoted by Email to the related companies, Flyers/banner, Advertise by media such radio, newspaper, television, etc., Organize a business talk, Facebook and Open booth.
- Offering free samples for first trial
- When the customers deal with us and signing a contract for 3 years, we will give discount 20% off.
- Direct email

CHAPTER 3

COMPANY DESCRIPTION

3.1 NATURE OF BUSINESS

KKE Enterprise was established in April 2011 and is a new company involved in providing a business on natural intermediate products to the industry. KKE Enterprise is *BUMIPUTERA* status Company and registered with the Companies Commission of Malaysia. The management team is headed by En. Mohd Rizauddin Deraman and assisted by En. Rosazuwad Mohamad @ Muda, Cik Siti Norsita Mohd Rawi, Cik Tengku Khamanur Azma and Cik Wahida is Fadzil The idea of the establishment of KKE Enterprise is to provide natural intermediate products which are required by the industry. In Malaysia, the idea of developing a natural resources product is a great investment and has a good potential since in Malaysia, there is no company that has been registered in manufacturing natural preservatives. KKE Enterprise fully committed to achieve the best quality of service delivered to our valued customer.

a) Vision

Our vision has always been to offer the purest, highest quality, life enhancing products in every area of health. Our products are in alignment with a green sustainable world which *to provide a one-stop resource for companies and customers who are looking to produce healthy end products*. *"We scour the* *earth to find the best, most trusted and innovative green products available today at competitive prices".*

b) Mission

KKE Enterprise's mission as follows:

1. **QUALITY**-Our products are the highest quality, purest and safest to the customers
2. **VALUE**-We offer greater value to the customer with natural sources which good for health
3. **INTEGRITY**- Our customer depends on our product quality, safety and price. Our commitment to the highest standard is the foundations of our customers trust in MML Natural Preservatives which will give the best end product in all aspects. We strive for the best at an affordable price and we promise to our customers that they will never be disappointed.

c) Objectives

1. To find the investor which responsible to fund the growth of sales MML Preservatives.
2. We want to sell natural preservatives and to replace the convectional preservative in the market, with natural preservative.
3. Become the first Natural Preservative manufacturer in Malaysia and at once grab all the opportunities in the market.

3.2 ORGANIZATION AND MANAGEMENT

a. Management Team

The company is lead by Mohd Rizauddin Deraman as Managing Director and Chief Executive Officer, and will be assisted by Wahida Amat Fadzil as Administrative Director, Tengku Khamanur Azma as Marketing Director, Norsita Mohd Rawi as Financial Director and Technical and Operation Director is held by Mohd Rosazuwad Mohamad @ Muda. The boards of directors are graduated with different background in engineering and have experience in industry and business.

MOHD RIZAUDDIN DERAMAN as Managing Director and Chief Executive Officer. He graduated with a Bachelor of Science Degree in Civil Engineering from Glasgow University, United Kingdom in 2000. Prior to joining KKE Enterprise, he has held and managed various key portfolios in reputable conglomerates such as MMC Corporation Berhad, Sunway Group Berhad and Messrs. Syed Muhammad, Hooi and Binnie Sdn Bhd (Consulting Engineers Firm). He is a Director of KKE Enterprise and Chairman of all KKE Enterprise's subsidiaries. He is the co-founder of KKE Enterprise. He is a member of the Malaysia Board of Engineers, Malaysia Institutional of Engineers and the National Business Incubation Association (NBIA). His business and professional management skills were further amplified when he attended the Harvard Business School Premier Business Management Program. As a testimony of his leadership excellence, he has been appointed by the Economic Planning Unit of the Prime Minister's Department as the Chairman of the Subcommittee of Bumiputera Commercial and Industrial Community (BCIC) for Biotechnology Instruments and Toolbox.

CIK WAHIDA AMAT FADZIL is Head of KKE Enterprise. She holds a Bachelor of Science Degree in Engineering from the University of Wisconsin in Milwaukee, USA and a Masters of Business Administration (MBA) from UITM Shah Alam. Her career began at the Pernec Corporation before moving on to various companies such as Team Vantage Sdn Bhd, Solution Protocol Sdn Bhd and KPMG Consultancy before joining KKE Enterprise in 2011. She is responsible for the daily operations and management of KKE Ent., Amongst others, for the design, commission, operation, maintenance, and management of KKE's overall ICT infrastructure and provides various ICT services to its clients.

EN. ROSAZUWAD MOHAMAD @ MUDA is heads engineering as Operations Director of KKE Enterprise. He holds a Bachelor of Science Degree in Mechanical Engineering from Hanyang University, Seoul and a Masters Degree in Business Administration from Universiti Utara Malaysia. Prior to joining KKE Enterprise in early 2011, he has served various corporations such as the National Electricity Board, Felda Angkut Corporation, MISC Haulage Services Sdn Bhd and PUSPAKOM Sdn Bhd. During his tenure in PUSPAKOM, he was responsible for the operations and management of PUSPAKOM's vehicle inspection centers nationwide. In 2007 he was transferred to DRB-HICOM Bhd as General Manager from October 2007 to February 20011.

CIK NORSITA MOHD RAWI is the Financial Director of KKE Enterprise. She joined KKE Enterprise in July 2011. She holds a Bachelor Degree in Accountancy from Universiti Putra Malaysia and a Masters Degree in Business Administration in Venture Capital Management from Universiti Teknologi Malaysia. She is a Certified Chartered Accountant, a member of the Malaysian Institute of Accountants and a Certified Practicing Accountant

(CPA) Australia. She has attended the Harvard Premier Business Management Program where he gained exceptional professional corporate management and business skills. She has more than 5 years of extensive experience in financial operation and corporate management in various conglomerates such as MBF Finance Berhad, Cellular Communication Network (M) Sdn Bhd (c), and PUSPAKOM Sdn Bhd, a subsidiary of DRB-HICOM Berhad.

CIK TENGKU KHAMANUR AZMA is the Marketing Director in KKE Enterprise. She holds a Bachelor in Applied Chemistry from UiTM, Shah Alam Selangor and a Masters in Chemical Engineering with Entrepreneurship, specializing in business planning from University Malaysia Pahang, Pahang. She joined KKE Enterprise in 2012 as the Manager of the Marketing and Business Development Department under the Properties Division. Throughout the distinguished service record of 1 year in KKE Enterprise, she has contributed significantly to the overall infrastructure planning and development of KKE Enterprise and business expansion of KKE Enterprise through her commitment and dedication in business development. She was also the planning committee member of the KKE Enterprise.

DR MIMI SAKINAH ABD MUNAIM is the Researcher who was found this natural preservative and now she is a Senior Lecturer Faculty of Chemical and Natural Resources at UMP. She won numerous awards for breakthrough research findings, whether at the university, nationally and internationally. Nine of the 13 research projects produced over the last five years at the university, was recognized with the remaining four research has not been brought to the state competition. Reveal its involvement in research, it all began when he studied at the Doctor of Philosophy (PhD) (Bioprocess Engineering) in Universiti Teknologi Malaysia (UTM).

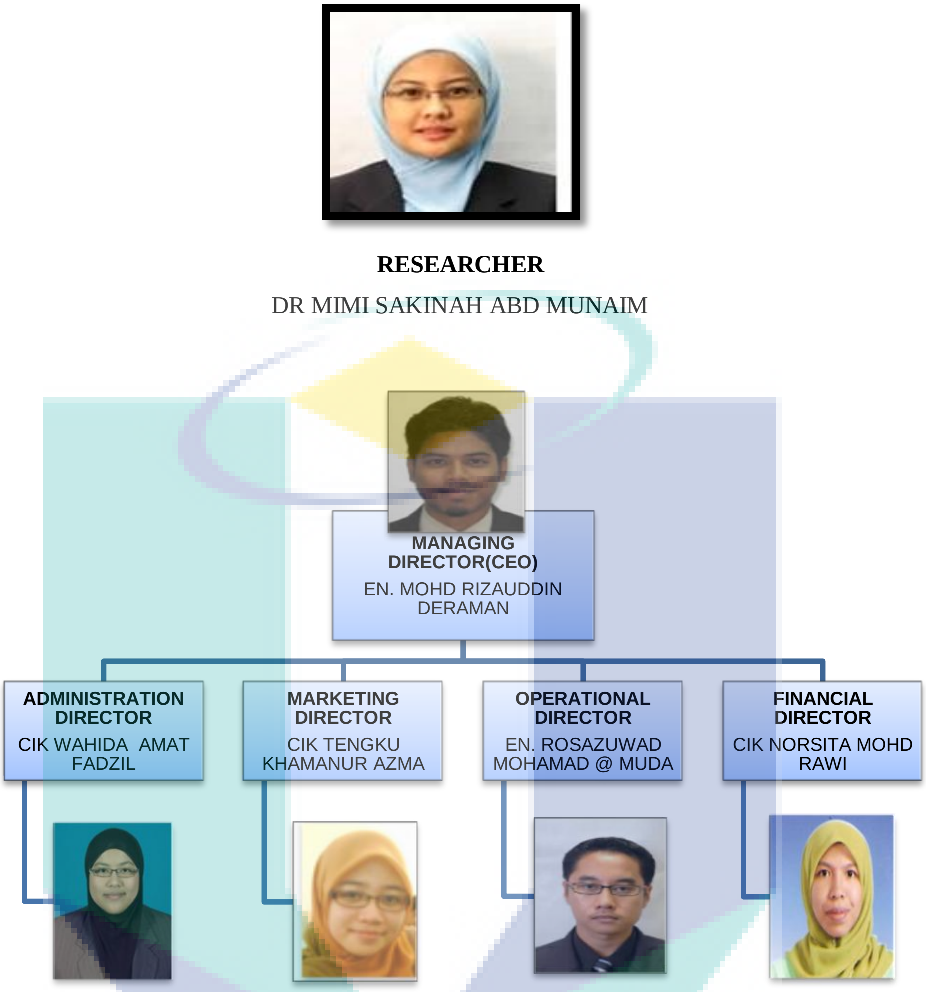


Figure 3.0: Members of organization

b. Company Profile

The company profile which has been summaries as below:

Company's Name	:	KKE Enterprise
Registration No.	:	1003495-W
Registered Address	:	Kawasan Perindustrian Ayer Keroh , 75450 Ayer Keroh , Melaka
Operation Office	:	Universiti Malaysia Pahang Lebuhraya Tun Abdul Razak 26300 Gambang, Kuantan Pahang.
Email	:	kke_ent@gmail.com
Company Secretary		KKE Enterprise
Board of Directors	:	1. En. Rizauddin Deraman 2. Cik Tengku Khamanur Azma 3. En. Rosazuwad Mohamad@Muda 4. Cik Siti Norsita Mohd Rawi 5. Cik Wahida Amat Fadzil

3.3 LOCATION OF OPERATION

KKE Enterprise will be located in Malacca where it is the strategic location. Based on our survey, our main target market company is located near to the Malacca which Selangor and Johor. It's also near to the airport which easier export our product to the future target market. The size of land about 5 hectares where consist 4 hectares of plantation of the MML and remainder of setting up the factory. Kawasan Perindustrian Ayer Keroh , 75450 Ayer Keroh , Melaka.

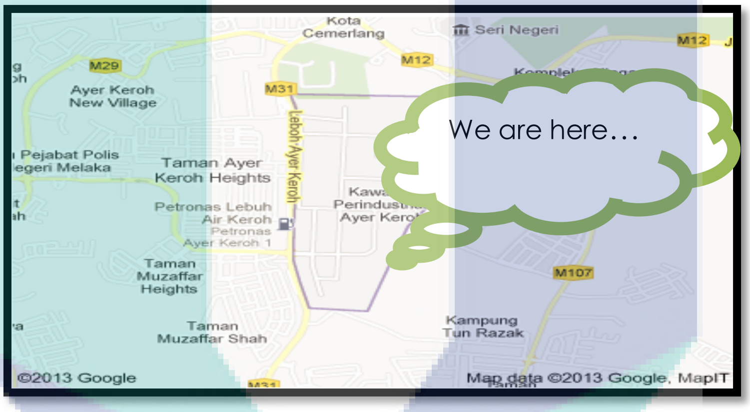


Figure 3.1: Map for location of operation

CHAPTER 4

OPERATION DESCRIPTION

4.1 PRODUCT DESCRIPTIONS

The current trend for clean-labeling of foods is driven not by science, but by ignorance and lack of understanding. This clean-labeling trend can become ridiculous. For example, in 2008 one UK product was promoted on the basis that was ‘100% chemical free’. This prompted the Royal Society of Chemistry to offer a prize of £1 million for anyone who could prove that they had such a material. So far, the prize remains unclaimed. Natural preservatives have been on receiving end of some very negative publicity in recent years to the extent that phrase ‘contain no preservatives’ has become a positive selling point for any food. However, retailers are becoming increasingly unwilling to accept products with shelf life maintained by use of synthetic preservatives currently permitted for use in food. The pressure for ‘clean-labeling’ of food products is driving a trend towards so-called ‘natural’ preservatives is no exception. Researchers have been studying antimicrobials derived from nature for many years, but interest is now stronger than ever and is driving the development of a number of potentially marketable natural.

a) The solution

Therefore, a method to control the mold growth and extend shelf life of bakery product such as bread, cookies, cakes and etc. Is great economic importance to banking industry when an increased demand in global consumption exists. In order to inhibit the microbial activity and at the same time to increase their shelf life, the antimicrobial or known as preservatives are added to the bakery products. An MML natural preservative provides a low cost solution to slower the activity of microorganism. Using MML natural preservatives in bakery product especially bread, baking industries can gain significant revenues by inhibiting the growth of microorganism such as *Bacillus Cereus, Bacillus Subtilis, Bacillius Megaterium, Bacillius Licheniformis, Salmonella Typhimurium, Escherichia Coli.*. These bacteria could caused spoilage of products and at once can extend the expired date. This green product will provide high safety of end products which could prevent from people getting infected by carcinogenic diseases such cancer and it's also will protect the customers' brand equity.

b) The innovation

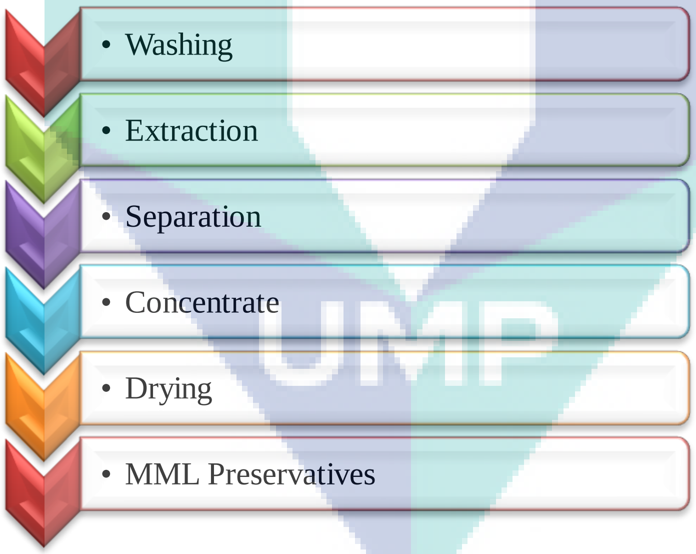
MML natural preservatives are extracted from herb leaves of *Melastoma malabathricum L.* (MML) or local name as '*senduduk'* which has demonstrated the presence of phenolic compound (Gallic acid, ellagic acid and total phenol compound). Gallic acid, ellagic acid and total phenol compound can naturally inhibit the microbial activity of *Bacillius Cereus, Bacillius Subtilis, Bacillius Megaterium, Bacillius Licheniformis, Salmonella Typhimurium And Escherichia Coli.* This natural preservative will contribute a lot of benefits to food and beverage industries where:

- ☑ Extending product shelf-life
- ☑ Inhibit broad antibacterial spectrum both gram positive and gram negative like yeast, mold, fungi and other microorganisms
- ☑ Improve safety by replacing chemical preservatives
- ☑ Cost effective, high efficiency at low dosages
- ☑ Not affect the taste of food
- ☑ Water solubility: soluble in water easily, odorless and colorless,
- ☑ Stable heating at low pH
- ☑ High safety: MML preservative is not accumulating and decomposed easily

This product can be replaced chemical preservatives because the active substances in MML can act same as the chemical preservatives do and have a large potential in the market of food and beverage industries. The basic idea of MML preservative is designed and created to improve the safety of end products by replacing chemical preservative that used by most of wholesale bakeries in Malaysia. Furthermore, MML provides high efficiency at low dosages, not affect the taste of food, water solubility (soluble in water easily, odorless and colorless) and MML preservative is not accumulating and decomposed easily. It also can inhibit broad antibacterial spectrum both gram positive and gram negative like yeast, mold, fungi and other microorganisms. The industrial possibilities are endless and increasing from year to year. Nowadays, most of industries such as cosmetic, pharmaceutical, food and beverages using chemical preservatives in their product and if they turned to MMLP it will eventually lead to the ton scale sales of MML preservative.

4.2 PROCESS DESCRIPTIONS

There are five stages in the production of MML preservatives where the first stage is washing. The leaves of MML will be washed first in order to clean the surface of leaves. The second stage is extraction where in this stage the active substances in the leaves will be extracted. The waste of extraction will give the benefit to us. We can commercialize it as a composite fertilizer to the agriculture field. During the stage of extraction, it takes about 2 hours and the separation process can be done after 2hours. The the active substances in liquid form will be separate from the MML leaves and this process takes about 3 hours. About 2 hour, the preservatives of MML in liquid for will be concentrate to reduce the water content (10-20%). The preservatives is then dried which in order to produce the MML preservatives in powder form.



CHAPTER 5

FINANCIALS

5.1 FUNDING REQUEST

This business projection required funding RM 900,000 in order to start the production of MML Preservatives for the year 1. Year 2, 3, 4 and 5 the funding needed were estimated $150,000, $50,000, $250,000 and $50,000 respectively. So, the total funding projection required was $1.4 million where the sources of funding for growth of sales projection MML Preservatives, 21.4% of the Board of Directors of KKE Enterprise and about 78.6% from external sources which the funding is allocated by bank loans.

5.2 PROSPECTIVE FINANCIAL DATA

Prospective financial data is important to begin a business where its will stated and estimate the requirement of funding from internal sources or external sources. The items of prospective financial data are discussed below.

5.2.1 Revenue Projection

The revenue projection is increasing from year to year where the start up production capacity of MML Preservative is 20,000 kg/yr while for year 2, 3, 4, and 5; the production capacity increased 20% per year. The production capacity for the year 2, 3, 4 and 5 are 24,000, 28,000, 34560 and 41,472 kg/yr respectively. The growth of production has been assumed by 20% per year because of the market of the target customers have been increased from year to year. From the Figure 5.0, the KKE Enterprise was making profits where its revenue started $1.6 million and for the next year then increased by 20% per year.

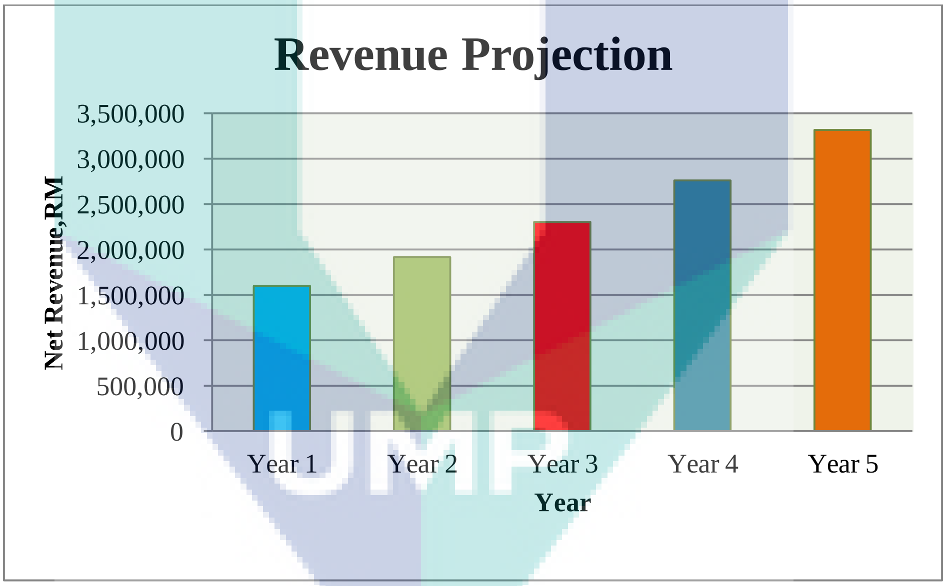


Figure 5.0: Revenue Projection

5.2.2 Profit and Loss Projection

Every year, KKE Enterprise will make profits and the revenue of MML Preservatives is increasing. The net profit of the year 1 was the lowest because of our product are not well known to the customer. After the marketing activities have begun, we start to capture the customer heart. Eventually, the revenues in year 3, 4 and 5 increased. Net profits for the year 1, 2, 3, 4, and 5 were RM383,999, RM495,632, RM560,372, RM635,525 and RM810,586 respectively. The detail calculation and information as shown in Appendix A2.

5.2.3 Cash Flow Projection

A business can be profitable but still encounter cash flow issues and so it is important that remain focused on managing cash flow at all times. There are two ways to improve the management of cash flow where by working capital management which is managing stock, suppliers and debtors and keeping an eye on future cash flow needs through cash flow forecasting. A cash flow projection is the most important tool and essential for business success. The forecast will predict if this business will have enough cash to support the operations of the business. It will also indicate any periods when cash outflows exceed cash inflows. Appendix A3 shows the details of the Cash Flow projection from year 1 to the year 5. For the year 1, it indicates the Financing Activities about $1.4 million where the sources of this funding will provide by bank loan and the contribution of the owner. The Current Portion LTD is funded and long-term loan is funded RM200,000 and RM700,000 respectively. While, the short-term loan funded was RM200,000. The Common stock for year 2 to 5 was estimated RM50,000 while the preferred stock was provided RM100,000 for the year 2. The payback period of this bank loan was indicated in the first 5 years. For short-term loan, it will be paid in the year 5 which is a year after borrowed while for long-term loan being paid partially in year 2 (RM200,000), 3 (RM100,000), 4 (RM100,000) and 5 (RM100,000). The cash at the end of year 1, 2, 3, 4 and 5 were RM822,847, RM1,011,823, RM1,148,900, RM1,666,347 and RM1,989,240 respectively. This shows that there arre no negative value and indicated the cash flow was sufficient for every 5 first years.

5.2.4 Balance Sheet Projection

The purpose of the balance sheet is to give users an idea of the company's financial position along with displaying what the company owns and owes. It is important that all investors know how to use, analyze and read one. For companies, being able to meet short-term financial obligations is an integral part of maintaining operations and growing in the future. The balance sheet is divided into two parts that, based on the following equation, must equal (or balance out) each other. The main formula behind balance sheets is:

Assets = Liabilities + Shareholders' Equity

This means that assets, or the means used to operate the company, are balanced by a company's financial obligations along with the equity investment brought into the company and its retained earnings. Assets are what a company uses to operate its business, while its liabilities and equity are two sources that support these assets. Owners' equity, referred to as shareholders' equity in a publicly traded company, is the amount of money initially invested into the company plus any retained earnings, and it represents a source of funding for the business. The total assets must be equal to the total liabilities and equity which was proven in the Appendix A4 and Table 5.0 below.

Table 5.0: Balance Sheet year 1 to 5

Balance Sheet					
Years 1 to 5 ($) **ASSETS**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Total current assets	1,198,313	1,265,263	1,517,540	2,108,715	2,520,082
Fixed asset	292,619	604,048	945,952	1,185,000	1,337,857
Total assets	1,490,933	1,869,311	2,463,493	3,293,715	3,857,939
LIABILITIES & SHAREHOLDERS' EQUITY					
Current liabilities	406,933	339,680	423,488	668,186	521,823
Long term debt (less current portion)	700,000	500,000	400,000	300,000	200,000
STOCKHOLDERS' EQUITY	383,999	1,029,631	1,640,005	2,325,530	3,136,116
TOTAL LIABILITIES & EQUITY	1,490,933	1,869,311	2,463,493	3,293,715	3,857,939

5.2.5 Break Even Analysis

A break-even analysis is a key part of any good business plan. An analysis to determine the point at which revenue received equals the costs associated with receiving the revenue. Break-even analysis calculates what is known as a margin of safety, the amount that revenues exceed the break-even point. This is the amount that revenues can fall while still staying above the break-even point. From Table 5.1, the breakeven point revenue for the year 1, 2, 3, 4 and 5 were RM932,762, RM1,121,664, RM1,431,374, RM1,774,493 and RM1,774,493 respectively.

Table 5.1: Break Even Analysis

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Revenue	1,600,000	1,920,000	2,304,000	2,764,800	3,317,760
Total Costs & Expenses					
Variable	156,440	180,600	209,592	268,142	309,891
Fixed	841,561	1,016,157	1,301,163	1,602,394	1,926,412
Variable Costs/Revenue Ratio	0.10	0.09	0.09	0.10	0.09
Break-Even Point Revenues	932,762	1,121,664	1,431,374	1,774,493	2,124,884

5.2.6 Ratios Analysis

Ratio Analysis is a form of Financial Statement Analysis that is used to obtain a quick indication of a firm's financial performance in several key areas. The ratios are categorized as Short-term Solvency Ratios, Debt Management Ratios, Asset Management Ratios, Profitability Ratios, and Market Value Ratios.

5.2.6.1 Short-term Solvency or Liquidity Ratios

Short-term Solvency Ratios attempt to measure the ability of a firm to meet its short-term financial obligations. In other words, these ratios seek to determine the ability of a firm to avoid financial distress in the short-run.

i) Current Ratio

The Current Ratio is calculated by dividing Current Assets by Current Liabilities. Current Assets are the assets that the firm expects to convert into cash in the coming year and Current Liabilities represent the liabilities which have to be paid in cash in the coming year. The Current Ratio was 2.94, 3.72, 3.58, 3.16 and 4.83 for first year 1 to year 5 respectively. The Current Ratio should be greater than one.

ii) Quick Ratio

This ratio attempts to measure the ability of the firm to meet its obligations relying solely on its more liquid Current Asset accounts such as Cash and Accounts Receivable. This ratio is calculated by dividing Current Assets less Inventories by Current Liabilities. The Inventories can be rather Illiquid. If these Inventories had to be sold off in a hurry to meet an obligation the firm might have difficulty in finding a buyer and the inventory items would likely have to be sold at a substantial discount from their fair market value. The Quick Ratio was 2.51, 3.37, 3.22, 2.88 and 4.40 for first year 1 to year 5 respectively.

5.2.6.2 Asset Management Ratios

Asset Management Ratios attempt to measure the firm's success in managing its assets to generate sales. For example, these ratios can provide insight into the success of the firm's credit policy and inventory management. These ratios are also known as Activity or Turnover Ratios.

i) Receivables Turnover (RTO)

In general, the higher the Receivables Turnover Ratio the better since this implies that the firm is collecting on its accounts receivables sooner. However, if the ratio is too high then the firm may be offering too large of a discount for early payment or may have too restrictive credit terms. The Receivables Turnover Ratio is calculated by dividing Sales by Accounts Receivables. For this company, it indicates that the year 2 have the highest RTO (16.06) while the lowest RTO was indicated in the first year (9.04). For the year 3 to 5, the RTO were shared constant value of 12.05.

ii) Days' Receivables

The Days' Receivables Ratio is calculated by dividing the number of days in a year, 365, by the Receivables Turnover Ratio. Therefore, the Days' Receivables indicate how long, on average, it takes for the firm to collect on its sales to customers on credit. This ratio is also known as the Days' Sales Outstanding (DSO) or Average Collection Period (ACP). For the first year, it takes 40 days to collect sales on the credits form customer and year 2 is 20 days but for year 2 to 3, the Days' Receivables takes 30 days

iii) Fixed Assets Turnover

The Fixed Assets Turnover Ratio measures how productively the firm is managing its Fixed Assets to generate Sales. This ratio is calculated by dividing Sales by Net Fixed Assets. When comparing Fixed Assets Turnover Ratios of different firms it is important to keep in mind that the values of Net Fixed Assets reported on the firms' Balance Sheets are book values which can be very different from market values. The Fixed Assets Turnover for the year 1, 2, 3, 4, and 5 were 5.47, 3.18, 2.44, 2.33 and 2.48 respectively.

iv) Total Assets Turnover

The Total Assets Turnover Ratio measures how productively the firm is managing all of its assets to generate Sales. This ratio is calculated by dividing Sales by Total Assets. The Total Assets Turnover for the year 1, 2, 3, 4, and 5 were 1.07, 1.03, 0.92, 0.84 and 0.86 respectively

5.2.6.3 Debt Management Ratios

Debt Management Ratios attempt to measure the firm's use of Financial Leverage and able to avoid financial distress in the long run. These ratios are also known as Long-Term Solvency Ratios. Debt is called Financial Leverage because the use of debt can improve returns to stockholders in good years and increase their losses in bad years. Debt generally represents a fixed cost of financing to a firm. Thus, if the firm can earn more on assets which are financed with debt than the cost of servicing the debt then these additional earnings will flow through to the stockholders. Moreover, our tax law favors debt as a source of financing since interest expense is tax deductible.

i) Debt Ratio

The Debt Ratio is calculated by dividing Total Debt by Total Asset. The Debt Ratio was decreasing from year 1 to the year 5 which indicate the company was starting to lose the debt. The debt ratios (%) were 74.2%, 44.9%, 30.0% and 18.7% from year 1 to 5 respectively.

ii) Debt-Equity Ratio

The Debt-Equity Ratio is calculated by dividing Total Debt by Total Owners' Equity. The Debt-Equity Ratio was decreasing from year 1 to year. The Debt Equity Ratio was 2.88, 0.82, 0.50, 0.42 and 0.23 from year 1 to 5 respectively.

iii) Equity Multiplier

The Equity Multiplier is calculated by dividing Total Assets by Total Owners' Equity. The Equity Multiplier was decreasing from year 1 to year. The Equity Multiplier was 3.88, 1.82, 1.50, 1.42 and 1.23 from year 1 to 5 respectively.

5.2.6.4 Profitability Ratios

Profitability Ratios attempt to measure the firm's success in generating income. These ratios reflect the combined effects of the firm's asset and debt management.

i) Profit Margin

The Profit Margin indicates the dollars in income that the firm earns on each dollar of sales. This ratio is calculated by dividing Net Income by Sales. The Profit Margin was 24.0%, 25.1%, 24.3%, 23.0% and 24.4% from year 1 to 5 respectively

ii) Return on Assets (ROA)

The Return on Assets Ratio indicates the dollars in income earned by the firm on its assets. The ROA was 25.8%, 26.6, 22.8%, 19.3% and 21.0% from year 1 to 5 respectively.

iii) Return on Equity (ROE)

The Return on Equity Ratio indicates the dollars of income earned by the firm on its shareholders' equity. It is important to remember that these ratios are based on accounting book values and not on market values. Thus, it is not appropriate to compare these ratios with market rates of return such as the interest rate on Treasury bonds or the return earned on an investment in a stock. The ROE was 100.0%, 48.1, 34.1%, 27.3% and 25.9% from year 1 to 5 respectively.

CHAPTER 6

RISK ANALYSIS

Risk analysis is a technique where to identify and assess factors that may affect the success of a business or achieving a goal. This technique also helps to define preventive measures to reduce the probability of these factors from occurring and identify countermeasures to successfully deal with these constraints. Risks include:

6.1 INDUSTRY RISK

The Industry Risk and the solution might be included:

i. The bank loan that will be provided might be not providing in the full amount of loan needed. To overcome this risk, our company so our company required investing more money which could be sourced by the investor or Owner itself.

ii. Risks associated with lack of adequate technology or lack of technical information and expertise. If an explosion occurred, a precaution has been taken where the plant was built it up at strategic location where it's near to the fire station and police station.

6.2 MARKET RISK

Market risk is the risk of loss resulting from changes in the value of assets and liabilities (including off-balance sheet assets and liabilities) due to fluctuations in risk factors such as interest rates, foreign exchange rates and stock prices and the risk of loss resulting from changes in earnings generated from assets and liabilities. The Market Risks might be due to loss of product quality, lack of market information or research, actions of third party.

i. Risk due to loss of product quality. Example, this might be cause for being lack of skilled labors where wrong decision was made during the selection of labors. The limited number of labors also will cause the product loss of quality. To avoid this from happening, our company has been preparing a special reward for those who contribute their best performance in order to produce the product with high quality.

ii. Lack of market information or research. It might be due the lack of information and research on Interest rate, Foreign exchange, Price Change. The Interest risks which resulting from changes in interest rates. As a result of a mismatch of interest rates on its assets and liabilities and timing differences in the maturity thereof, a financial institution may suffer a loss or a decline in profit due to changes in interest rates. The risk of Foreign exchange where loss resulting from the difference between assumed and actual foreign exchange rates in the case where a financial institution has a long position or short position on a net basis with regard to its assets and liabilities denominated in foreign currencies. Lastly, the changes of price cause the decline in value of assets. To overcome this risk, the financial manager should play their roles by review this risk.

iii. Actions of third party. The third party/competitors would take an action where they might be open new factory in Malaysia or they might be reducing their product price. Thus, the company should increase the marketing activities. Even they reduce the product price, they might be provided not qualified enough as our product. Where, we have an R & D Department to prove that we provide only the best quality to our customers.

6.3 OPERATION RISK

The Operation risks which cause from interrupt the production cycle, such as mechanical failure, failure of technical processes, late delivery of supplies and services, faulty building wiring, faulty electrical, appliances. Another potential breakdown in the smooth operation of the plant is the lack of supplies of the MML leaves. It is vital that the supplier has prompt delivery of quality levels at the time required, and it is necessary that a factory has facilities for the proper storage of raw material and other supplies.

6.4 SOCIAL AND ECONOMIC RISK

The risks due to actions of special interest groups, such as environmentalists and conservationists, theft, malicious damage, and fraud. The special interest group is different. Some of the customers likely to buy the chemical preservatives, some were not. So, we will face the economic risk on the customer demand. The social risks are obviously the most immediate concern to the manufacturer. Business enterprises must always give some regard to the possibility of fraud. Fraud can be external, from individuals and companies supplying goods and services, or internally, from employees bookkeeping or handling cash, or diverting the product.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

7.1 CONCLUSIONS

Generally, the study was carried out in preparing the business plan which conducted to gain financing of the business from the investor and bank loan. The purpose of this business plan was to find the investor which responsible to fund the growth of sales MML Preservatives. We want to sell natural preservatives and to replace the convectional preservative in the market, with natural preservative. We also want to become the first Natural Preservative manufacturer in Malaysia and at once grab all the opportunities in the market. MML preservative's initial focus on target market in bakery sector (eg. Silver Bird Group-High5 bread, Bakels bakery, Mighty White bakery, Massimo bakery) while in soft drinks sector (F&N Beverages Marketing Sdn Bhd, Coca-Cola Bottlers (M) Sdn Bhd and Permanis Sdn Bhd). This business projection required funding RM 900,000 in order to start the production of MML Preservatives for the year 1. So, the total funding projection required was RM 1.4 million where the sources of funding for growth of sales projection MML Preservatives, 21.4% of the Board of Directors of KKE Enterprise and about 78.6% from external sources which the funding is allocated by bank loans. The strong abilities, professional personnel, having good organization and strong fund, we believe that the KKE Enterprise will be successful to penetrate the market of food preservatives.

7.2 RECOMMENDATIONS

Recommendations are made to suggest for future work which could be performed to give better understanding and improvement on the business plan details and information. Below are some recommendations for future work.

1. In this report, there was a limitation in market analysis. For further study, it can be extended by attaching more information in market analysis.
2. This business plan was focused only on to gain the financing from investors and bank loan. For further study it can be extended in preparing the business plan for registration at SME.

REFERENCES

Abdurahman, O., Musaiger, Mousa, A., Ahmed, and Rao, M.V. 1998. Chemical composition of some traditional dishes of Oman. *Food Chemistry*. 76(1/2): 17-22.

Acamovic, T., Stewart C.S. 1992. Plant Phenolic compounds and gastrointestinal microorganisms. *AICR Proceedings*, 137-139

AOAC. 1980. AOAC OfficialMethod of Analysis. 13th ed. Arlington: VA, Association of Official Analytical Chemists, Inc.

AOAC. 1984. AOAC OfficialMethod of Analysis. 14th ed. Arlington: VA, Association of Official Analytical Chemists, Inc.

AOAC. 2000. AOAC OfficialMethod of Analysis. 15th ed. Arlington: VA, Association of Official Analytical Chemists, Inc.

Colin Barrow, Paul Barrow and Robert Brown, 2008. *Work book the Definitive Guide To Researching, Writing Up And Presenting A Winning Plan,* , 6th Ed.The Business Plan Workbook.

Corner, EJH. 1951. *Wayside trees of Malaya*. Malayan Nature Society: Kuala Lumpur. Vol 1:445-453

Jay, Loessner and Golden , 2010. 7th Edition *Modern Food Microbiology*.

Russell and Gould, 2006. 2nd edition. *Food Preservatives*.

John W. Mullins, 2006. *What entrepreneurs and executives should do before Writing a business plan,* 2nd Ed.The New Business Road Test

Yoshida, T., Nakata, F., Hosotani,K., Nitta, A., Okuda, T. 1992. Dimeric Hydrolysable Tannin from *Melastoma malabathricum Phytochemistry*, 31: 2892-2833

Zakaria, Z. A. 2007. Free Radical scavenging activity of some plants available in Malaysia. *Iranian Journal of Pharmacology and Therapeutics* 6:99.

Zuo, Y., Chen, H., Deng, Y, 2002. Simultaneous determination of catechins, caffeine and gallic acids in green, Oolong, black and pu-erh teasusing HPLC with aphotodiode array detector. Talanta, 57:307-316.

APPENDIX A1

REVENUE PROJECTION

Table 5.2.1: Revenue Projection

Revenue Projections

MML PRESERVATIVES					
Number of Units	20,000	24,000	28,800	34,560	41,472
Price per unit	80	80	80	80	80
Total	1,600,000	1,920,000	2,304,000	2,764,800	3,317,760
Net Revenue	**1,600,000**	**1,920,000**	**2,304,000**	**2,764,800**	**3,317,760**

Table 5.2.2: Cost of Revenues

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	1,600,000	1,920,000	2,304,000	2,764,800	3,317,760
Cost of Revenue MML Preservatives					
Material Costs per Unit	5.00	5.00	5.00	5.00	5.00
Total Direct Costs per Unit	5.00	5.00	5.00	5.00	5.00
Unit Sales	20,000	24,000	28,800	34,560	41,472
Total Direct Costs	100,000	120,000	144,000	172,800	207,360
Labor Costs	35,640	35,640	35,640	59,400	59,400
Total Direct Costs	135,640	155,640	179,640	232,200	266,760
Other Expenses:					
Salary Expenses	330,000	363,000	435,600	522,720	627,264
Depreciation	40,714	88,571	141,429	194,286	247,143
Facility costs	24,000	24,000	24,000	24,000	24,000
System Costs	12,000	12,000	12,000	12,000	12,000
Total Cost of Revenues	**542,354**	**643,211**	**792,669**	**985,206**	**1,177,167**
Variable	135,640	155,640	179,640	232,200	266,760
Fixed	406,714	487,571	613,029	753,006	910,407
Total	**542,354**	**643,211**	**792,669**	**985,206**	**1,177,167**

APPENDIX A2

PROFIT AND LOSS PROJECTION

Table 5.3: Profit and Loss Projection Year 1

Year 1 by Months	1	2	3	4	5	6	7	8	9	10	11	12	Total	Annual
NET REVENUES	0	0	0	177,778	177,778	177,778	177,778	177,778	177,778	177,778	177,778	177,778	1,600,000	1,600,000
COST OF REVENUE	0	0	0	60,262	60,262	60,262	60,262	60,262	60,262	60,262	60,262	60,262	542,354	542,354
GROSS PROFIT	0	0	0	117,516	117,516	117,516	117,516	117,516	117,516	117,516	117,516	117,516	1,057,646	1,057,646
OPERATING EXPENSES														
Sales & Marketing	0	0	0	17,733	17,733	17,733	17,733	17,733	17,733	17,733	17,733	17,733	159,600	159,600
Research & Development	0	0	0	10,776	10,776	10,776	10,776	10,776	10,776	10,776	10,776	10,776	96,980	96,980
General and Administration	0	0	0	22,119	22,119	22,119	22,119	22,119	22,119	22,119	22,119	22,119	199,067	199,067
Total Operating Expenses	0	0	0	50,627	50,627	50,627	50,627	50,627	50,627	50,627	50,627	50,627	455,647	455,647
PROFITS FROM OPERATIONS	0	0	0	66,889	66,889	66,889	66,889	66,889	66,889	66,889	66,889	66,889	601,999	601,999
EXTRAORDINARY INCOME / (EXPENSE)	0	0	0	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	18,000	18,000
PROFITS BEFORE INTEREST & TAXES	0	0	0	68,889	68,889	68,889	68,889	68,889	68,889	68,889	68,889	68,889	619,999	619,999
INTEREST INCOME / (EXPENSE)	(9,000)	(9,000)	(9,000)	(9,000)	(9,000)	(9,000)	(9,000)	(9,000)	(9,000)	(9,000)	(9,000)	(9,000)	(108,000)	(108,000)
NET PROFITS BEFORE TAXES	(9,000)	(9,000)	(9,000)	59,889	59,889	59,889	59,889	59,889	59,889	59,889	59,889	59,889	511,999	511,999
TAXES	2,250	2,250	2,250	(14,972)	(14,972)	(14,972)	(14,972)	(14,972)	(14,972)	(14,972)	(14,972)	(14,972)	(128,000)	(128,000)
NET PROFITS	(6,750)	(6,750)	(6,750)	44,917	44,917	44,917	44,917	44,917	44,917	44,917	44,917	44,917	383,999	383,999

Table 5.4: Profit and Loss Projection Year 2

Year 2 by Months	1	2	3	4	5	6	7	8	9	10	11	12	Total	Annual
NET REVENUES	160,000	120,000	120,000	160,000	160,000	120,000	160,000	120,000	120,000	160,000	120,000	120,000	1,640,000	1,920,000
COST OF REVENUE	53,601	40,201	40,201	53,601	53,601	40,201	53,601	40,201	40,201	53,601	40,201	40,201	549,410	643,211
GROSS PROFIT	106,399	79,799	79,799	106,399	106,399	79,799	106,399	79,799	79,799	106,399	79,799	79,799	1,090,590	1,276,789
OPERATING EXPENSES														
Sales & Marketing	14,735	11,051	11,051	14,735	14,735	11,051	14,735	11,051	11,051	14,735	11,051	11,051	151,034	176,820
Research & Development	8,853	6,640	6,640	8,853	8,853	6,640	8,853	6,640	6,640	8,853	6,640	6,640	90,745	106,238
General and Administration	22,541	16,906	16,906	22,541	22,541	16,906	22,541	16,906	16,906	22,541	16,906	16,906	231,042	270,488
Total Operating Expenses	46,129	34,597	34,597	46,129	46,129	34,597	46,129	34,597	34,597	46,129	34,597	34,597	472,821	553,546
PROFITS FROM OPERATIONS	60,270	45,203	45,203	60,270	60,270	45,203	60,270	45,203	45,203	60,270	45,203	45,203	617,770	723,243
EXTRAORDINARY INCOME / (EXPENSE)	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	21,600	21,600
PROFITS BEFORE INTEREST & TAXES	62,070	47,003	47,003	62,070	62,070	47,003	62,070	47,003	47,003	62,070	47,003	47,003	639,370	744,843
INTEREST INCOME / (EXPENSE)	(7,000)	(7,000)	(7,000)	(7,000)	(7,000)	(7,000)	(7,000)	(7,000)	(7,000)	(7,000)	(7,000)	(7,000)	(84,000)	(84,000)
NET PROFITS BEFORE TAXES	55,070	40,003	40,003	55,070	55,070	40,003	55,070	40,003	40,003	55,070	40,003	40,003	555,370	660,843
TAXES	(13,768)	(10,001)	(10,001)	(13,768)	(13,768)	(10,001)	(13,768)	(10,001)	(10,001)	(13,768)	(10,001)	(10,001)	(138,842)	(165,211)
NET PROFITS	41,303	30,002	30,002	41,303	41,303	30,002	41,303	30,002	30,002	41,303	30,002	30,002	416,527	495,632

Table 5.5:: Profit and Loss Projection Year 3

Profit and Loss					
Year 3					
	Year 3				
	1st Qtr	**2nd Qrtr**	**3rd Qrtr**	**4th Qrtr**	**Total**
NET REVENUES	576,000	576,000	576,000	576,000	2,304,000
COST OF REVENUE	198,167	198,167	198,167	198,167	792,669
GROSS PROFIT	377,833	377,833	377,833	377,833	1,511,331
OPERATING EXPENSES					
Sales & Marketing	52,652	52,652	52,652	52,652	210,609
Research & Development	31,556	31,556	31,556	31,556	126,226
General and Administration	95,313	95,313	95,313	95,313	381,252
Total Operating Expenses	179,522	179,522	179,522	179,522	718,087
PROFITS FROM OPERATIONS	198,311	198,311	198,311	198,311	793,245
EXTRAORDINARY INCOME / (EXPENSE)	6,480	6,480	6,480	6,480	25,920
PROFITS BEFORE INTEREST & TAXES	204,791	204,791	204,791	204,791	819,165
INTEREST INCOME / (EXPENSE)	(18,000)	(18,000)	(18,000)	(18,000)	(72,000)
NET PROFITS BEFORE TAXES	186,791	186,791	186,791	186,791	747,165
TAXES	(46,698)	(46,698)	(46,698)	(46,698)	(186,791)
NET PROFITS	140,093	140,093	140,093	140,093	560,373

Table 5.6: Profit and Loss Projection Year 4

	Year 4				
	1st Qtr	**2nd Qtr**	**3rd Qtr**	**4th Qtr**	**Total**
NET REVENUES	691,200	691,200	691,200	691,200	2,764,800
COST OF REVENUE	246,301	246,301	246,301	246,301	985,206
GROSS PROFIT	444,899	444,899	444,899	444,899	1,779,594
OPERATING EXPENSES					
Sales & Marketing	62,769	62,769	62,769	62,769	251,077
Research & Development	37,521	37,521	37,521	37,521	150,085
General and Administration	121,042	121,042	121,042	121,042	484,169
Total Operating Expenses	221,333	221,333	221,333	221,333	885,331
PROFITS FROM OPERATIONS	223,566	223,566	223,566	223,566	894,263
EXTRAORDINARY INCOME / (EXPENSE)	7,776	7,776	7,776	7,776	31,104
PROFITS BEFORE INTEREST & TAXES	231,342	231,342	231,342	231,342	925,367
INTEREST INCOME / (EXPENSE)	(19,500)	(19,500)	(19,500)	(19,500)	(78,000)
NET PROFITS BEFORE TAXES	211,842	211,842	211,842	211,842	847,367
TAXES	(52,960)	(52,960)	(52,960)	(52,960)	(211,842)
NET PROFITS	158,881	158,881	158,881	158,881	635,525

Table 5.7: Profit and Loss Projection Year 5

Profit and Loss Years 5		Year 5			
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
NET REVENUES	829,440	829,440	829,440	829,440	3,317,760
COST OF REVENUE	294,292	294,292	294,292	294,292	1,177,167
GROSS PROFIT	535,148	535,148	535,148	535,148	2,140,593
OPERATING EXPENSES					
Sales & Marketing	74,889	74,889	74,889	74,889	299,556
Research & Development	44,644	44,644	44,644	44,644	178,577
General and Administration	145,251	145,251	145,251	145,251	581,003
Total Operating Expenses	264,784	264,784	264,784	264,784	1,059,136
PROFITS FROM OPERATIONS	270,364	270,364	270,364	270,364	1,081,457
EXTRAORDINARY INCOME / (EXPENSE)	9,331	9,331	9,331	9,331	37,325
PROFITS BEFORE INTEREST & TAXES	279,695	279,695	279,695	279,695	1,118,782
INTEREST INCOME / (EXPENSE)	(9,500)	(9,500)	(9,500)	(9,500)	(38,000)
NET PROFITS BEFORE TAXES	270,195	270,195	270,195	270,195	1,080,782
TAXES	(67,549)	(67,549)	(67,549)	(67,549)	(270,195)
NET PROFITS	202,647	202,647	202,647	202,647	810,586

APPENDIX A3

CASH FLOW PROJECTION

Table 5.8: Cash Flow Projection Year 1

Year 1 by Months	1	2	3	4	5	6	7	8	9	10	11	12	Year 1	Projection
OPERATING ACTIVITIES														
Net Earnings	(6,750)	(6,750)	(6,750)	44,917	44,917	44,917	44,917	44,917	44,917	44,917	44,917	44,917	383,999	383,999
Depreciation	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	57,381	57,381
Working Capital Changes														
(Increase)/Decrease Accounts Receivable	0	0	0	(177,067)	0	0	0	0	0	0	0	0	(177,067)	(177,067)
(Increase)/Decrease Inventories	0	0	0	(177,067)	0	0	0	0	0	0	0	0	(177,067)	(177,067)
(Increase)/Decrease Other Current Assets	0	0	0	(21,333)	0	0	0	0	0	0	0	0	(21,333)	(21,333)
Increase/(Decrease) Accts Pay & Accrd Expenses	0	0	31	177,746	7,822	0	0	0	0	0	0	0	185,600	185,600
Increase/(Decrease) Other Current Liab	0	0	0	21,333	0	0	0	0	0	0	0	0	21,333	21,333
Net Cash Provided/(Used) by Operating Activities	(1,968)	(1,968)	(1,937)	(126,689)	57,521	49,698	49,698	49,698	49,698	49,698	49,698	49,698	272,847	272,847
INVESTING ACTIVITIES														
Property & Equipment	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(350,000)	(350,000)
Net Cash Used in Investing Activities	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(29,167)	(350,000)	(350,000)
FINANCING ACTIVITIES														
Increase/(Decrease) Short Term Debt	0											0	0	0
Increase/(Decrease) Curr. Portion LTD	200,000											0	200,000	200,000
Increase/(Decrease) Long Term Debt	700,000											0	700,000	700,000
Increase/(Decrease) Common Stock	0											0	0	0
Increase/(Decrease) Preferred Stock	0											0	0	0
Dividends Declared												0	0	0
Net Cash Provided / (Used) by Financing	900,000	0	0	0	0	0	0	0	0	0	0	0	900,000	900,000
INCREASE/(DECREASE) IN CASH	868,865	(31,135)	(31,104)	(155,855)	28,354	20,532	20,532	20,532	20,532	20,532	20,532	20,532	822,847	822,847
CASH AT BEGINNING OF PERIOD	0	868,865	837,730	806,627	650,771	679,125	699,657	720,189	740,720	761,252	781,783	802,315		0
CASH AT END OF PERIOD	868,865	837,730	806,627	650,771	679,125	699,657	720,189	740,720	761,252	781,783	802,315	822,847		822,847

Table 5.9: Cash Flow Projection Year 2

Year 2 by Months	1	2	3	4	5	6	7	8	9	10	11	12	Year 2	Projection
OPERATING ACTIVITIES														
Net Earnings	41,303	30,002	30,002	41,303	41,303	30,002	41,303	30,002	30,002	41,303	30,002	30,002	416,527	495,632
Depreciation	11,548	11,548	11,548	11,548	11,548	11,548	11,548	11,548	11,548	11,548	11,548	11,548	138,571	138,571
Working Capital Changes														
(Increase)/Decrease Accounts Receivable	17,707	39,840	0	(39,840)	0	39,840	(39,840)	39,840	0	(39,840)	39,840	0	57,547	57,547
(Increase)/Decrease Inventories	17,707	39,840	0	(39,840)	0	39,840	(39,840)	39,840	0	(39,840)	39,840	0	57,547	57,547
(Increase)/Decrease Other Current Assets	2,133	4,800	0	(4,800)	0	4,800	(4,800)	4,800	0	(4,800)	4,800	0	6,933	6,933
Increase/(Decrease) Accts Pay & Accrd Expenses	(177,778)	(7,822)	31	165,249	1,760	(40,000)	38,240	(38,240)	(1,760)	40,000	(38,240)	(1,760)	(60,320)	(60,320)
Increase/(Decrease) Other Current Liab.	(2,133)	(4,800)	0	4,800	0	(4,800)	4,800	(4,800)	0	4,800	(4,800)	0	(6,933)	(6,933)
Net Cash Provided/(Used) by Operating Activities	(89,514)	113,407	41,581	138,419	54,610	81,230	11,410	82,000	39,790	13,170	82,000	39,790	609,872	688,977
INVESTING ACTIVITIES														
Property & Equipment	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(450,000)	(450,000)
Net Cash Used in Investing Activities	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(37,500)	(450,000)	(450,000)
FINANCING ACTIVITIES														
Increase/(Decrease) Short Term Debt	0											0	0	0
Increase/(Decrease) Curr. Portion LTD	0											0	0	0
Increase/(Decrease) Long Term Debt	0											(200,000)	(200,000)	(200,000)
Increase/(Decrease) Common Stock	50,000											0	50,000	50,000
Increase/(Decrease) Preferred Stock	100,000											0	100,000	100,000
Dividends Declared												0	0	0
Net Cash Provided / (Used) by Financing	150,000	0	0	0	0	0	0	0	0	0	0	(200,000)	(50,000)	(50,000)
INCREASE/(DECREASE) IN CASH	22,986	75,907	4,081	100,919	17,110	43,730	(26,090)	45,490	2,290	(24,330)	45,490	(197,710)	109,872	188,977
CASH AT BEGINNING OF PERIOD	822,847	845,833	921,740	925,821	1,026,740	1,043,850	1,087,580	1,061,490	1,106,980	1,109,269	1,084,940	1,130,429		822,847
CASH AT END OF PERIOD	845,833	921,740	925,821	1,026,740	1,043,850	1,087,580	1,061,490	1,106,980	1,109,269	1,084,940	1,130,429	932,719		1,011,823

Table 5.10: Cash Flow Projection Year 3

Years 3	1st Qtr	2nd Qrtr	3rd Qrtr	4th Qrtr	Total
OPERATING ACTIVITIES					
Net Earnings	140,093	140,093	140,093	140,093	560,373
Depreciation	64,524	64,524	64,524	64,524	258,095
Working Capital Changes					
(Increase)/Decrease Accounts Receivable	(71,712)	0	0	0	(71,712)
(Increase)/Decrease Inventories	(34,848)	0	0	0	(34,848)
(Increase)/Decrease Other Current Assets	(8,640)	0	0	0	(8,640)
Increase/(Decrease) Accts Pay & Accrd Expenses	75,168	0	0	0	75,168
Increase/(Decrease) Other Current Liab	8,640	0	0	0	8,640
Net Cash Provided/(Used) by Operating Activities	173,225	204,617	204,617	204,617	787,077
INVESTING ACTIVITIES					
Property & Equipment	(150,000)	(150,000)	(150,000)	(150,000)	(600,000)
Net Cash Used in Investing Activities	(150,000)	(150,000)	(150,000)	(150,000)	(600,000)
FINANCING ACTIVITIES					
Increase/(Decrease) Short Term Debt	0			0	0
Increase/(Decrease) Curr. Portion LTD	0			0	0
Increase/(Decrease) Long Term Debt	0			(100,000)	(100,000)
Increase/(Decrease) Common Stock	50,000			0	50,000
Increase/(Decrease) Preferred Stock	0			0	0
Dividends Declared				0	0
Net Cash Provided / (Used) by Financing	50,000	0	0	(100,000)	(50,000)
INCREASE/(DECREASE) IN CASH	73,225	54,617	54,617	(45,383)	137,077
CASH AT BEGINNING OF PERIOD	932,719	1,005,944	1,060,561	1,115,178	
CASH AT END OF PERIOD	1,005,944	1,060,561	1,115,178	1,069,795	

Table 5.11: Cash Flow Projection Year 4

Years 4	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
OPERATING ACTIVITIES					
Net Earnings	158,881	158,881	158,881	158,881	635,525
Depreciation	90,238	90,238	90,238	90,238	360,952
Working Capital Changes					
(Increase)/Decrease Accounts Receivable	(38,246)	0	0	0	(38,246)
(Increase)/Decrease Inventories	(30,874)	0	0	0	(30,874)
(Increase)/Decrease Other Current Assets	(4,608)	0	0	0	(4,608)
Increase/(Decrease) Accts Pay & Accrd Expenses	40,090	0	0	0	40,090
Increase/(Decrease) Other Current Liab	4,608	0	0	0	4,608
Net Cash Provided/(Used) by Operating Activities	220,089	249,119	249,119	249,119	967,447
INVESTING ACTIVITIES					
Property & Equipment	(150,000)	(150,000)	(150,000)	(150,000)	(600,000)
Net Cash Used in Investing Activities	(150,000)	(150,000)	(150,000)	(150,000)	(600,000)
FINANCING ACTIVITIES					
Increase/(Decrease) Short Term Debt	200,000			0	200,000
Increase/(Decrease) Curr. Portion LTD	0			0	0
Increase/(Decrease) Long Term Debt	0			(100,000)	(100,000)
Increase/(Decrease) Common Stock	50,000			0	50,000
Increase/(Decrease) Preferred Stock	0			0	0
Dividends Declared				0	0
INCREASE/(DECREASE) IN CASH	320,089	99,119	99,119	(881)	517,447
CASH AT BEGINNING OF PERIOD	1,069,795	1,389,885	1,489,004	1,588,123	
CASH AT END OF PERIOD	1,389,885	1,489,004	1,588,123	1,587,243	

Table 5.12: Cash Flow Projection Year 5

Years 5	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
OPERATING ACTIVITIES					
Net Earnings	202,647	202,647	202,647	202,647	810,586
Depreciation	111,786	111,786	111,786	111,786	447,143
Working Capital Changes					
(Increase)/Decrease Accounts Receivable	(45,896)	0	0	0	(45,896)
(Increase)/Decrease Inventories	(37,048)	0	0	0	(37,048)
(Increase)/Decrease Other Current Assets	(5,530)	0	0	0	(5,530)
Increase/(Decrease) Accts Pay & Accrd Expenses	48,108	0	0	0	48,108
Increase/(Decrease) Other Current Liab	5,530	0	0	0	5,530
Net Cash Provided/(Used) by Operating Activities	279,596	314,432	314,432	314,432	1,222,893
INVESTING ACTIVITIES					
Property & Equipment	(150,000)	(150,000)	(150,000)	(150,000)	(600,000)
Net Cash Used in Investing Activities	(150,000)	(150,000)	(150,000)	(150,000)	(600,000)
FINANCING ACTIVITIES					
Increase/(Decrease) Short Term Debt	0			(200,000)	(200,000)
Increase/(Decrease) Curr. Portion LTD	0			0	0
Increase/(Decrease) Long Term Debt	0			(100,000)	(100,000)
Increase/(Decrease) Common Stock	50,000			0	50,000
Increase/(Decrease) Preferred Stock	0			0	0
Dividends Declared				(50,000)	(50,000)
Net Cash Provided / (Used) by Financing	50,000	0	0	(350,000)	(350,000)
INCREASE/(DECREASE) IN CASH	179,596	164,432	164,432	(185,568)	322,893
CASH AT BEGINNING OF PERIOD	1,587,243	1,766,839	1,931,271	2,095,703	

APPENDIX A4

BALANCE SHEET PROJECTION

Years 1 to 5

($)	Year 1	Year 2	Year 3	Year 4	Year 5
ASSETS					
CURRENT ASSETS					
Cash	822,847	1,011,823	1,148,900	1,666,347	1,989,240
Accounts Receivable	177,067	119,520	191,232	229,478	275,374
Inventories	177,067	119,520	154,368	185,242	222,290
Other Current Assets	21,333	14,400	23,040	27,648	33,178
Total Current Assets	1,198,313	1,265,263	1,517,540	2,108,715	2,520,082
PROPERTY & EQUIPMENT	292,619	604,048	945,952	1,185,000	1,337,857
TOTAL ASSETS	1,490,933	1,869,311	2,463,493	3,293,715	3,857,939
LIABILITIES & SHAREHOLDERS' EQUITY					
CURRENT LIABILITIES					
Short Term Debt	0	0	0	200,000	0
Accounts Payable & Accrued Expen	185,600	125,280	200,448	240,538	288,645
Other Current Liab	21,333	14,400	23,040	27,648	33,178
Current portion of long term debt	200,000	200,000	200,000	200,000	200,000
Total Current Liabilities	406,933	339,680	423,488	668,186	521,823
LONG TERM DEBT (less current portion)	700,000	500,000	400,000	300,000	200,000
STOCKHOLDERS' EQUITY					
Common Stock	0	50,000	100,000	150,000	200,000
Preferred Stock	0	100,000	100,000	100,000	100,000
Retained Earnings	383,999	879,631	1,440,005	2,075,530	2,836,116
Total Equity	383,999	1,029,631	1,640,005	2,325,530	3,136,116
TOTAL LIABILITIES & EQUITY	1,490,933	1,869,311	2,463,493	3,293,715	3,857,939

APPENDIX A5

BREAK EVEN ANALYSIS

Years 1 to 5

($)	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	1,600,000	1,920,000	2,304,000	2,764,800	3,317,760
Cost of Revenue					
Variable	135,640	155,640	179,640	232,200	266,760
Fixed	406,714	487,571	613,029	753,006	910,407
Total	542,354	643,211	792,669	985,206	1,177,167
Operating Expenses					
Variable	20,800	24,960	29,952	35,942	43,131
Fixed	434,847	528,586	688,135	849,389	1,016,005
Total	455,647	553,546	718,087	885,331	1,059,136
Total Costs & Expenses					
Variable	156,440	180,600	209,592	268,142	309,891
Fixed	841,561	1,016,157	1,301,163	1,602,394	1,926,412
Total	998,001	1,196,757	1,510,755	1,870,537	2,236,303
Variable Costs/Revenue Ratio	0.10	0.09	0.09	0.10	0.09
Break-Even Point Revenues	932,762	1,121,664	1,431,374	1,774,493	2,124,884

APPENDIX A6

KEY ASSUMPTIONS AND RATIOS

Table 5.13: Financial Summary

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	1,600,000	1,920,000	2,304,000	2,764,800	3,317,760
Gross Profit	1,057,646	1,276,789	1,511,331	1,779,594	2,140,593
EBIT	619,999	744,843	819,165	925,367	1,118,782
EBITDA	677,380	883,414	1,077,260	1,286,320	1,565,924
Net Earnings	383,999	495,632	560,373	635,525	810,586
Net Cash from Operating Activities	272,847	688,977	787,077	967,447	1,222,893
Capital Expenditures	350,000	450,000	600,000	600,000	600,000
Interest Income/(Expense)	(108,000)	(84,000)	(72,000)	(78,000)	(38,000)
Dividends	0	0	0	0	50,000
Cash	822,847	1,011,823	1,148,900	1,666,347	1,989,240
Total Equity	383,999	929,631	1,540,005	2,225,530	3,036,116
Total Debt	900,000	700,000	600,000	500,000	400,000
Growth					
Revenue Growth Rate - CAGR:		20%	20%	20%	20%
Net Earnings Growth Rate - CAGR:		29.1%	13.1%	13.4%	27.5%
Profitability					
Gross Profit %	66.1%	66.5%	65.6%	64.4%	64.5%
Operating Expenses %	28.5%	28.8%	31.2%	32.0%	31.9%
Net Earnings %	24.0%	25.8%	24.3%	23.0%	24.4%

Table 5.14: Financial Ratio

RATIO ANALYSIS	FORMULA	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Short-term Solvency or Liquidity Ratios						
Current Ratio	TCA/TCL	2.94	3.72	3.58	3.16	4.83
Quick Ratio	(TCA-INV)/TCL	2.51	3.37	3.22	2.88	4.40
Asset Management Ratios						
Receivables Turnover	REV/ACC.RECEIV.	9.04	16.06	12.05	12.05	12.05
Days' Receivables	365/RTO	40.39	22.72	30.30	30.30	30.30
Fixed Assets Turnover	REV/NET FA	5.47	3.18	2.44	2.33	2.48
Total Assets Turnover	REV/TA	1.07	1.03	0.94	0.84	0.86
Debt Management Ratios						
Debt Ratio	(TA-TOE)/TA	74.24	44.92	33.43	29.39	18.71
Debt-Equity Ratio	(TA-TOE)/TOE	2.88	0.82	0.50	0.42	0.23
Equity Multiplier	TA/TOE	3.88	1.82	1.50	1.42	1.23
Profitability Ratios						
Profit Margin	NET PROFIT/REV	24.00	25.81	24.32	22.99	24.43
Return on Assets (ROA)	NET PROFIT/TA	25.76	26.51	22.75	19.30	21.01
Return on Equity (ROE)	NET PROFIT/TOE	100.00	48.14	34.17	27.33	25.85
Growth						
Revenue Growth Rate - CAGR:%			20	20	20	20
Net Earnings Growth Rate - CAGR:%			29.07	13.06	13.41	27.55
Breakeven	REV/(1-(TVC/TFC)	932762	1121664	1431374	1774493	2124884

APPENDIX A7

OPERATING EXPENSES

Operating Expenses						
Years 1 to 5						
($)						
		Year 1	Year 2	Year 3	Year 4	Year 5
Net Revenues		1,600,000	1,920,000	2,304,000	2,764,800	3,317,760
Sales & Marketing						
Drivers						
Salaries and Benefits		132,000	145,200	174,240	209,088	250,906
Commissions % of Revenue	1%	16,000	19,200	23,040	27,648	33,178
Direct Mail Campaign		10,000	10,500	11,025	11,576	12,155
All other expenses % of Revenue	0%	1,600	1,920	2,304	2,765	3,318
Total Sales and Marketing		159,600	176,820	210,609	251,077	299,556
Research & Development						
Drivers						
Salaries and Benefits		83,380	91,718	110,062	132,074	158,489
Testing		12,000	12,600	13,860	15,246	16,771
All other expenses % of Revenue	0%	1,600	1,920	2,304	2,765	3,318
Total Research & Development		96,980	106,238	126,226	150,085	178,577
General & Administration						
Drivers						
Salaries and Benefits		160,800	194,568	233,482	280,178	336,214
Depreciation		16,667	50,000	116,667	166,667	200,000
Rent and Utilities		20,000	24,000	28,800	34,560	41,472
All other expenses % of Revenue	0%	1,600	1,920	2,304	2,765	3,318
Total General & Administration		199,067	270,488	381,252	484,169	581,003
% of Revenue		12.4%	14.1%	16.5%	17.5%	17.5%
Total Operating Expenses		455,647	553,546	718,087	885,331	1,059,136
% of Revenue		28.5%	28.8%	31.2%	32.0%	31.9%
Allocation of Operating Expenses between:						
Variable		20,800	24,960	29,952	35,942	43,131
Fixed		434,847	528,586	688,135	849,389	1,016,005
Total		455,647	553,546	718,087	885,331	1,059,136

APPENDIX A8

TAXES

Taxes

Years 1 to 5 ($)	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Net Revenues	1,600,000	1,920,000	2,304,000	2,764,800	3,317,760
Income Tax (Rate Federal & State)	0.25	0.25	0.25	0.25	0.25
Net Earnings Before Taxes	511,999	660,843	747,165	847,367	1,080,782
Cumulative	511,999	1,172,841	1,920,006	2,767,373	3,848,155
Taxes	(128,000)	(165,211)	(186,791)	(211,842)	(270,195)

APPENDIX 9

FUNDING PROJECTION

	Year 1	Year 2	Year 3	Year 4	Year 5
Beginning Cash Equity					
Common	0	50,000	100,000	150,000	200,000
Increase / (Decrease) Previous Period	0	50,000	50,000	50,000	50,000
Preferred					
A Round	0	50,000	50,000	50,000	50,000
B Round		50,000	50,000	50,000	50,000
Total Preferred	0	100,000	100,000	100,000	100,000
Increase / (Decrease) Previous Period	0	100,000	0	0	0
Total Equity	0	150,000	200,000	250,000	300,000
Debt					
Short Term Debt				200,000	0
Increase / (Decrease) Previous Period	0	0	0	200,000	(200,000)
Long Term Debt					
Current Portion	200,000	200,000	200,000	200,000	200,000
Long Term Portion	700,000	500,000	400,000	300,000	200,000
Total Long Term Debt	900,000	700,000	600,000	500,000	400,000
Increase / (Decrease) Previous Period					
Current Portion	200,000	0	0	0	0
Long Term Protion	700,000	(200,000)	(100,000)	(100,000)	(100,000)
Total Long Term Debt	900,000	(200,000)	(100,000)	(100,000)	(100,000)
Total Equity & Debt	900,000	850,000	800,000	950,000	700,000
Interest					
Interest Rate					
Short Term Debt	9.0%	9.0%	9.0%	9.0%	9.0%
Long Term Debt	12.0%	12.0%	12.0%	12.0%	12.0%
Interest Expense					
Short Term Debt	0	0	0	18,000	0
Long Term Debt	108,000	84,000	72,000	60,000	48,000
Total Interest	108,000	84,000	72,000	78,000	48,000
Interest Income					
Interest Rate	4.0%	4.0%	4.0%	4.0%	4.0%
Interest Income	0	0	0	0	10,000
Retained Earnings					
Net Income	383,999	495,632	560,373	635,525	810,586
Dividends					50,000
Increase / (Decrease) **Retained** Earnings	383,999	495,632	560,373	635,525	760,586
Beginning Retained Earnings	0	383,999	879,631	1,440,005	2,075,530
Ending Retained Earnings	383,999	879,631	1,440,005	2,075,530	2,836,116