

A Feasibility Study for Snacks Manufacturing/ Retailing Investment Project

Said Ali Hassan ElQuliti^{a*}, Ghalib Anas Khashoggi^b

^a*Prof., Department of Industrial Engineering, King Abdul Aziz University, Jeddah 21523, Saudi Arabia*

^b*Ganache Factory, operations manager, Jeddah 21523, 2nd Industrial City, Saudi Arabia*

^a*Email: saidalihassan@yahoo.com*

^b*Email: gakhashoggi@gmail.com*

Abstract

The main goal of this study is obtaining comprehensive and detailed information for a feasibility study of a confectionary factory located in Jeddah, Saudi Arabia which could answer the following question: Will the idea of establishing a confectionary in Jeddah work and could we continue with this business idea? The feasibility study will be divided into six main sections: business strategy, marketing feasibility study, technical feasibility study, financial feasibility study, social and environmental feasibility study, and location and site feasibility study. In the marketing feasibility study all the needed information about supply and demand will be addressed. In addition, a detailed study on competitors is a major part of the marketing part. The technical feasibility study will help in identifying problems that could hinder the progress of our confectionary business and will list all the machinery needed for the business. The financial feasibility study will tell our investors and other important stakeholders whether the factory is going to make profits and how much. After that, identification of best areas for the factory is going to be implemented in the location and site feasibility study. Finally, discussing the impact on the society and whether the factory is going to create jobs and if it will affect the surrounding environment. Furthermore, the study will cover other areas, such as: Enterprise resource planning (ERP), Marketing and advertising, and Human resource planning. In order to do the study a primary and secondary researches are needed to be accomplished, more than three hundred surveys had been distributed for understanding the customers and for marketing purposes.

Keywords: Feasibility Study; Snacks Manufacturing/ Retailing; Investment Projects.

* Corresponding author.

1. Introduction

In Saudi Arabia demand for high quality local authentic and western confectionary is growing, some people who are health conscious want to buy healthy confectionary products.

We want to establish a confectionary in Jeddah that could produce high-end international products along with local confectionaries. It will also produce special low calorie and low fat products for health conscious customers.

In the country, some local confectionary manufacturers are there, but still foreign companies are leading the market in all three major segments in chocolate, confections and gums. But for establishing this confectionary, we need to conduct a feasibility study so that we could determine the viability of our business idea. There are various components of a feasibility study. We need to describe our business idea and its strategy first. We also need to gain knowledge about marketing aspects, technical aspects, financial aspects and organizational aspects of our confectionary business.

This research presents a feasibility study for a confectionary factory located in Jeddah. It will help in gauging the viability of our business idea. It will also help in identifying problems that could hinder the progress of our confectionary business. Our goal is obtaining comprehensive and detailed information through which we could answer the following question:

Will the idea of establishing a confectionary in Jeddah work and could we continue with this business idea?

The objectives of feasibility study are:

- To describe the confectionary industry, analysis of current market and to assess future demand and market potential;
- Detailed description of competition and target customers;
- Development of marketing plan;
- Detailed description of material, labor, transportation and technology needs assessment;
- Projection about capital needs and how those would be met, what would be the Return on Investment (ROI);
- Defining the structure of business and its organizational needs;
- Development of human resource plan;
- Developing the social and environmental feasibility study;
- Determining the best location and site.

1.1 Literature Review

Food industry is one of the hugest industries in the business world. Four growth strategies for the business are market penetration strategy, market development strategy, product development strategy, and diversification strategy [1].

- Market penetration strategy is gaining more market share of current products in existing markets.
- Market development strategy (or market extension) is aiming to expand the current products to new markets.
- Product development strategy is creating the new potential product to serve current markets.
- Diversification strategy is finding the new products to target new markets.

The change of industries has been required to meet consumers' preference due to diversity of consumers' need, age, habit, lifestyle, and ethnicity. The consumer always wants more information, variety, and new eating experience. Research and development will give a better understanding of the process of food product innovation. According to [2] new product development is driven by several factors. These factors include the life cycle of products. Products are introduced into the marketplace and at some point the products lose customer appeal. Many food companies have aggressive growth plans and encourage risk taking. Aggressive growth plans are needed to stay competitive in the global marketplace. The changing of marketplace also requires new products that fit consumers' desires. New technology and knowledge may alter new products, make them available, and suite them to consumers. Changing of legislation, health programs, and government policy are factors that force producers to develop new products. In [3] Porter stated that "new product design demands a carefully choreographed "total concept" approach that goes beyond simply designing products that survive successive consumer test hurdles." New product development requires seven steps which are: 1) setting new product development targets, 2) gathering the strategic information, 3) mapping the strategic geography, 4) creating a list of new product options, 5) setting criteria, 6) creating the portfolio, and 7) managing the portfolio (Gill, Nelson, and Spring, 1996). New food products can be classified into several groups such as line extensions, repositioned existing products, new form of existing products, reformulation of existing products, new packing of existing products, innovative or added-value product, and creative product. "Value added" and "added value" processing are defined as "any technique that effects a physical or chemical change in a food or any activity that adds value to a product" [1].

2. Chocolate Market

Chocolate is one of the foods the consumption of which is growing by leaps and bounds across the world. As per the data published by [4], the annual production of cocoa beans were 3,931 thousand tons against an estimated demand of 4,091 thousand tons in 2013, which is an increase of 11% from 2012. The majority of this growth is fueled by the Middle Eastern countries, such as the UAE and Saudi Arabia and South East Asian countries, such as China and India.

Currently, the chocolate market size in Saudi Arabia is estimated to be of \$1.2 billion. Chocolate makes up 55% of the total confectionary market in Saudi Arabia. The total market size was \$596 million in 2011, but within last four years the market has more than doubled. Mars, an American chocolate company, holds the largest market share in Saudi Arabia. It has 45% market share in the country [5,6].

The chocolate market is predicted to grow at a rate of 43% by the end of 2016. Switzerland leads the market in terms of per capita consumption of chocolate with 12 kgs. The annual chocolate spend per person in Saudi Arabia is \$41, which is substantially higher than the average outlay on the same in the Middle-Eastern countries (\$4). The demand and consumption of chocolate are predicted to grow at a rate of 31.5% in Saudi Arabia for the next three years [7]. The total demand for chocolates in Saudi Arabia is estimated to be close to 1,230 tons in 2014.

Even for the fifteen years back, Saudi Arabia had no big chocolate factory within the kingdom. Currently, apart from small size chocolatiers, there are about 20 medium and large size chocolate factories in Saudi Arabia. These factories produce approximately 30 tons of chocolates per year with MARS being the largest in-house producer [8]. MARS produces mainly Galaxy brand and imports other brands, it is planning to invest \$140 million in the next 3 years to build new manufacturing facilities [9].

The total demand of chocolate in Saudi Arabia is 1,230 tons and only 30 tons of chocolates are produced within the country. Therefore, there is a huge supply and demand gap of about 1,200 tons, and this gap is fulfilled by importing chocolates. In 2013, Saudi Arabia imported 62,480 tons of sweetened cocoa, chocolate and other products made of chocolates. Saudi Arabia is one of the largest importers of chocolate. In 2014, Saudi Arabia imported 1,167 tons of chocolate from outside the country. 250 tons of the total import was Swiss chocolates. The total value of imported chocolate is estimated to be \$950 million in 2014. Saudi Arabia does not export any chocolate product to other countries as demand far exceeds supply [7-9].

Biscuit Market

Although chocolate is one of the fast developing markets in Saudi Arabia, biscuit constitutes a market larger in size in terms of sales volume in Saudi Arabia. The overall biscuit market sales were 86.7 thousand tons in 2009. It has seen a 5.6% year on year growth, and in 2014 the overall market size has increased to 114.1 thousand tons. The overall biscuit market in terms of value has increased from \$457.6 million in 2011 to \$549.6 million in 2014.

It is estimated that the demand of biscuit will continue to grow at a rate of 7.7% for at least next five years, by 2019, the overall market demand of biscuits will rise up to 114.3 thousand tons. New varieties of biscuits such as McVities Digestive and chocolate sandwich biscuits are scaling up the demand. Additionally, a growing population of youth is also attributing to the growth of the biscuit segment.

Biscuit segment is well-developed in Saudi Arabia. The major market share in the biscuit market is enjoyed by local players, such as United Food Industries, National Biscuits and Confectioners, and Al Jazirah Food Processing. International players, such as Nabisco and Danone, also have biscuit factories based in Saudi Arabia. Saudi Arabia fulfills almost 70% of its demand from local production. The current production capacity is approximately 86,000 tons with some of the manufacturers planning to swell their production capacity in the coming days.

In the biscuit industry, there is no gap between demand and supply. Many local manufacturers can increase the

production capacity quickly as and when required. However, some types of biscuits, such as Turkish biscuits and chocolate sandwich biscuit are not produced in Saudi Arabia currently, but the demand for these varieties is growing rapidly in the country. There is a huge annual demand of about 15,000 tons of Turkish biscuits. Though some of the Saudi manufacturers have started producing Turkish biscuits in-house, still a huge gap exists between demand and supply.

Although the biscuit market in Saudi Arabia is pretty self-sufficient, the demand for imported biscuits is going up due to huge immigrant population in Saudi Arabia. Additionally, ever growing young population also show a fondness for the import varieties of biscuits, this represents the primary reason for the import of biscuit. Approximately 28,700 tons of biscuits were imported from outside the country in 2013. The total value of import for the year 2013 was \$157,457 million. Turkey, India, Philippines and the UK are the major import partners for biscuits.

Saudi Arabian biscuits are becoming extremely popular outside of Saudi Arabia. The overall export was only \$2.3 million in 2004, but since then the biscuit export has grown exponentially. Currently, total export of biscuits stood at \$27 million. The majority of biscuits are exported to the USA, UK and Canada apart from other GCC countries [10].

Coffee Market

Saudi Arabia is one of the fast growing coffee markets in the world. Even seven years back, the size of Saudi Arabian coffee market was below \$1 billion. In 2014, the overall coffee market size was estimated to be \$4 billion and in 2016, the coffee market is expected to grow by a whopping 77% and cross the \$6 billion mark in terms of the total market value. With the younger generation embracing the western lifestyle, both tea (49% growth in 2016) and coffee are witnessing phenomenal growth. Almost all global coffee players, such as Starbucks, are present in Saudi Arabia. Strong local players, such as Bonnon Coffee are also expanding rapidly. Although the exact tonnage figure is not available as Saudi Arabia does not publish domestic production figures, it is estimated that the overall coffee consumption will be more than 45,000 tons by the end of the year 2016 [7].

As discussed in the previous section, the coffee market is growing at a phenomenal rate. In the past, Saudi Arabia imported coffee from foreign countries, which made switching to coffee as a regular drink an expensive affair for the end consumers. However, in recent years, after Saudi Arabia has developed processing capability, it imports coffee leaves and then processes it within the country. This has resulted in huge reduction in the end product cost and the demand has gone up substantially. It is projected that the demand will continue to grow at an annual rate of more than 25% for the next four years. Yemen is the largest producer of coffee in the Middle East region. Saudi Arabia is the second largest producer for the Arabica grade of coffee in the Middle East countries. Most of the coffees in Saudi Arabia are produced in Asir region [11].

Saudi Arabia has recently developed a processing capability that can handle almost all of its processing demands. Present processing facilities can handle almost 40,000 tons of coffee beans. Although Saudi Arabia produces a significant amount of coffee within the country, the demand still exceeds the supply. Almost 85%

coffee bean demand of Saudi Arabia cannot be fulfilled from the local production alone [11].

Saudi Arabia used to import the final coffee product even ten years back. However, with a huge improvement in processing facility, Saudi Arabia now imports coffee beans. Saudi Arabia imports most of its coffee beans from Ethiopia. In 2013, 26,743 tons of coffee was imported from Ethiopia. Saudi Arabia also imported approximately 5,000 tons of coffee from Yemen. It also imports coffee from Uganda, Brazil and Cote-d'Ivoire. It purchases 80% of Ethiopia's residual green coffee beans at a minimal price [12]. Saudi Arabia used to export coffee to other Middle Eastern countries, but with a huge surge in domestic demand, coffee export has reduced significantly.

Candies Market

Candies are considered to be a part of the confectionery segment. The overall size of the confectionery segment in Saudi Arabia is \$2.2 billion in 2014, and it is expected to grow at 12% cumulative annual growth rate (CAGR) from 2014 to 2018. \$1.01 billion is the market volume for sugar confectionary products, which is predominated by candies and chewing gums. With people becoming more health conscious, the demand for pure chocolate products is expected to slow down in the future, but the demand for chewing gums will go up. Sugar confectionary market in Saudi Arabia is dominated by Krafts Food, Mars and Nestle. Local manufacturers also play a big role.

Candy market in Saudi Arabia is growing faster than the chocolate market. In fact, the size of the candy market already is larger than the chocolate market in terms of volume. However, due to lower price per unit, the overall value of candy market is still lower. By 2018, the candy market will be larger than the chocolate market in Saudi Arabia as the candy market is expected to annually grow at a rate of 12% compared to 7% growth of candy market. Most of the candies are produced locally in Saudi Arabia. In fact, large global manufacturers also have started producing candies locally. Mars has already set up a big production facility in Riyadh. Modalez is also planning to build manufacturing facility to fulfill chocolate and candy demands from local plants. However, higher value candies and gums are still imported from outside. It is estimated that about 70% of the total demand is fulfilled from local production.

Unlike some other categories, candies are mostly produced and consumed locally. Almost all of the local needs can be fulfilled from the local facilities. However, young and wealthy people want high end imported candies. Large number of migrant populations have also scaled up the demand for imported candies. This increased demand has created a demand supply gap for some of the high end products.

Most of the candies are locally produced. However, a good many famous branded candy products are imported from outside. It is estimated that about 30% candies are imported. However, indirect import for this sector is larger. For example, a large percentage of imported sugar is used in the candy and chocolate production in Saudi Arabia. Sugar and candy import totaled \$1.5 billion between 2012 and 2013.

Some of the Saudi candy manufacturers, such as National Biscuit and Confectionary Co. (NBCC) export candy products to the neighboring countries. However, the overall candy export from Saudi Arabia is negligible in

amount [8,12].

3. Market Feasibility Study

The purpose of market feasibility is the market analysis so that market competition could be assessed and potential markets could be identified. Like all other feasibility studies, market feasibility study assesses if the proposal would work at all and how it will work. It will also help in identification problems and solutions.

3.1 Primary Market Survey

A market survey is used to gather information about the existing and the future expected customer satisfaction in the market. For the manufacturing plant, we collected 330 existing customers as a random sample. We put the survey at Ganache's outlets (Ganache is a Saudi brand that have similar products) and each customer filled the survey at the cashier while his payment is being completed.

The overview gives information about the factory's customers; the most obtained valuable discoveries are: The customer age segment between 26 & 35 years old has the highest percentage. This segment has higher purchasing power than the younger segment. The most important factors for customer satisfaction are: the quality of products in the first rank and the prices in the second rank. So, the factory should not compromise only on quality. More than 50% of customers are females, even though they do not drive in Saudi Arabia. Most of the Customers visit Ganache once per month; this will give us a hint about the habits of the customers. One of the most important findings is that chocolate is the most selling product and after that comes cake section; so the factory needs to be innovative and produce high quality chocolate to increase customer satisfaction and increase market share.

3.2 Current Market Analysis

We would cater people from all different social, ethnic, age and educational backgrounds. We would also cater the niche of health and wellness conscious people. Youth with inclination towards western ways of living would also make up another niche for our business. In this context, we would analyze the market from these three perspectives.

Demand of confectionary is growing in Saudi Arabia. Revenues and earnings are expected to grow to 2.26 USD in the coming two years. It is growing at the fastest rates in previous few years in KSA. Saudi's rising per capita income, increased demand for food retailing and confectionary goods could be stated as reasons for the unprecedented growth of the industry. In the whole food processing sector, most famous is confectionary industry. Economy of Saudi Arabia is growing at a fast pace, unlike many other Middle East, its political system is stable. It is a populous country and its population is growing continuously. Half of its population is young. Their ages are less than or equals to 25. As mentioned earlier, children make up a large part of its population (about 28%). Country's children population makes a big market for sugar confections. Youth of the country is inclined towards western style of living so we could safely conclude that the demand for western confectionaries is there.

Health and wellness trend is growing in the country. People are concerned about their physical fitness and outlook. Women of the country are more concerned about their fitness and health. They want to consume healthy products so that through their diet, they could control their caloric intake and sugar. Exercise or gym related means of healthy living are not very famous among ladies in KSA. Among the old age groups, now through enhanced media exposure and government led initiatives, awareness about health issues that could rise from high sugar content in diet is increasing. They, now, want healthier products. For improving their quality of life, Saudi people want to reduce obesity, diabetes and other cholesterol related diseases. Many consumer goods companies are now capitalizing on the trend and satisfying the need of Saudi for fortified, natural inputs. Satellite TV, which allowed Saudis to educate themselves on maintaining good health and satisfying the desire for a better quality of life. Due to youth interest in healthy lifestyle, those businesses that are introducing healthy products could benefit a lot. Young population takes interest in the ingredients of the product. For them the fat content and calorie content of a product also matters. Fresh products that are produced organically could easily gain good market share in the country.

Current market analysis of coffee show that coffee consumption is growing. Though due to reduction in oil prices, economy is facing a downturn but government has started to make their economy a diversified economy that is less dependent on oil. Cost effectiveness is also a focus of consumer but this is not a priority. People like to adopt a western style for which they are ready to pay a premium price.

According to food navigator, demand for chocolate confections has witnessed growth in the past and its growth is expected to continue in the future as well. In coming years, Saudi Arabia is going to be one of the three fastest growing chocolate markets in the world. Demand for bakery products is also expected to grow to about 8.7billion USD. Increase in chocolate, candies and baked goods demand is due to increasing proportion of young population in the overall population of the country, increasing disposable incomes and growing quest for westernization as well.

We conducted a detailed market survey to find out the appropriate prices for our products. Table 1 shows current market prices for our products [6,13].

Table 1: Prevailing Market Prices

Prevailing Market Prices (SAR)			
Product	Low End	Medium End	High End
Cake	90	150	280
Chocolate - Kg	80	200	300
Maamoul per Pack	12	20	25
Biscuit per Pack	5	10	15
Coffee - Cup	6	15	20
Coffee - Kg	45	70	80
Candy per Pack	8	14	18

3.3 Intensity of Competition

Through Michael Porter five forces [3], we could measure the intensity of competitive forces. The following section presents the analysis of competitive forces and strategy thereof.

- There are few foreign firms that are leading the industry like in chocolate confections Mars share is about 43%. Number of player is quite limited, and this market is not yet saturated. If in the same segment there are too many players, if the segment is reaching saturation, still scope for expansion exist, in such an environment continuing business operations would not be difficult. If we look at specific chocolate segment, competition is quite high as this specific segment is quite mature in the country. Competition will grow further in coming years. In order to prosper, our business needs to keep an eye on the marketing programs and strategies used by our competitors. Competitors are trying to offer different products so that they could make their own separate identity in the market. Aggressive promotion and distribution strategies are also being pursued by competitors in this regard. Many confectioners are also offering their products at lower prices to entice customers. In bakery confections, Mondelez International is the largest player. The retail value sales of the company were estimated at US\$125.6 million in Saudi Arabia.
- Any company could easily enter the confectionary market of Saudi Arabia that is why many new companies are entering. High growth potential is attracting many local and foreign players. But as mentioned above, market is not saturated, so all different companies could grow their business.
- Substitute products are big threat and limit scope of a price increase. If consumers are better organized, have a choice in terms of product available and can create pressure on profits, making segment un-attractive. Similarly,
- On-time supply of high quality raw material is essential for smooth functioning of gourmet network. This factor plays a key role in final output but as many raw material suppliers are there and they are not very well organized, so suppliers' bargaining power is not a threat for the organization.

3.4 First Year Sales Projections

We are going to focus on the following particular issues demonstrated in Table 2, on which our sales projections would depend.

we will provide wrapped chocolate of different shapes and size. We will provide plain milk chocolate as well as chocolate coated products. In cakes we will provide Chocolate cake, Chocolate Demise, Chocolate Truffle (mousse), Pistachio Cake, Caramel Cheese Cake, Blueberry Cheese Cake, Raspberry Cheese Cake, Date Cheese Cake and Lemon Cheese Cake. In maamoul category, we are going to offer Cinnamon Maamoul, Date Maamoul, Chocolate Maamoul, Spices Maamoul, Coffee Maamoul. Various types of biscuits and candies would be provided by us.

3.5 Marketing Plan

Marketing plan is a crucial part of marketing feasibility study, it will help in identifying targeted customers and based on this we will articulate a powerful and distinctive value proposition. It will help in aligning pricing policy to positioning policy. Distribution strategy will highlight the distribution channels that our firm will use to reach customer. Online marketing is also essential nowadays for attracting customers especially in the context of Saudi Arabia where youth is getting tech-savvy. Conversion strategy throws light on our initiatives for converting prospects into customers. Retention strategy would show how we would entice our existing customers for doing repeated business with us.

Table 2: First Year Sales Projections

Product	Category	Annual Demad	Unit	Price	1st Year Shops	1st Year Revenue
Cake	Chocolate	2,380	Piece	200	2	952,000
	Cheese	1,700	Piece	200	2	680,000
	Fresh Cream	1,020	Piece	180	2	367,200
	Sponge	1,700	Piece	140	2	476,000
	Total	6,800				2,475,200
Chocolate	Chocolate - Outlets	5,000	Kg	200	2	2,000,000
	Chocolate - Super Markets	200,000	Piece	5		1,000,000
	Total					3,000,000
Maamoul	Maamoul - Outlets	720	Kg	85	2	122,400
	Maamoul - Direct Sales	1,440	Kg	70		100,800
	Maamoul - Super Markets	36,000	Wrape	20		720,000
	Total					943,200
Biscuit	Biscuit - Outlets	10,800	Packet	14	2	302,400
	Biscuit - Corporate	5,400	Packet	12		64,800
	Biscuit - Super Markets	72,000	Packet	14		1,008,000
	Total					1,375,200
Coffee	Cups	18,000		15	2	540,000
	Roasted - Outlet	1,800	Kg	70		126,000
	Roasted - Super Market	14,400	Kg	70		1,008,000
	Total					1,674,000
Candies	Candies - Outlet	3,600	Packet	10	2	72,000
	Candies - Super Market	72,000	Packet	10		720,000
	Total					792,000
Total Annual Sales						10,259,600

We are going to sell chocolate, cakes, biscuits, coffee, customized maamoul and candies. Our product mix is not very wide because we are just about to start our business. Initially focusing on these products would help us in enhancing our product share.

We are going to offer a wide variety of all different products which we will provide. With regard to chocolate

Our product mix is quite consistent as all different products are edible and are group under the head of confections. All of the products produced would be distributed through three distribution channels: through our own retail outlets, super markets and selected corporate offices.

We will offer high and premium priced goods, as this price is in accordance to our positioning strategy. We are going to deliver high quality,

fresh products to our customers. But if a product is found defective, then the confectionary will take responsibility and will return the full payment and would apologize. Table 3 provides prices of our different products.

Table 3: Product Prices

	Products	Price (SAR)
Cake	Chocolate	160
	Cheese	170
	Pistachio	150
	Sponge	150
Chocolate	Chocolate-Outlets	150
	Chocolate-Super Markets	5
Maamoul	Maamoul-Outlets	60
	Maamoul-Direct Sales	55
	Maamoul-Super Markets	15
Biscuit	Biscuit-Outlets	10
	Biscuit-Corporate	10
	Biscuit-Super Markets	10
Coffee	Cups	15
	Roasted-Outlet	70
	Roasted-Super Market	70
Candies	Candies-Outlet	10
	Candies-Super Market	10

3.6 Marketing Proposal

We engaged Koraspond to submit their marketing proposal for our business. Following is the Marketing proposal submitted by them. Koraspond is a 360 Digital Media-Marketing Agency that is born out of passion for creative edge to build and deliver exceptional digital solutions. It is a young, ambitious company that seeks to attract digital clients with a well- defined vision, and creative strategy thereby aiming to excel in the thriving digital media marketing industry. Koraspond is a good choice because of the following advantages in creativity: do things differently, work irrelevant of clock, are committed to deliver, are young and vibrant, and believe in making trends, not following one. It is also professionalism: do smart media acquisitions and bidding, do smart platform selection, offer comprehensive digital media services in-house, and are always partners in progress, budgets and results.

3.7 Assessment Relative to Competitors

Table 4 compares our company’s marketing mix with other players in the market:

Table 4: Assessment Relative to Our Competitors

	Poor	Equal	Better	Description
Product				
Product Mix		√		No. of items company is selling.
Quality			√	Quality of products.
Design			√	Efficiency and effectiveness to develop new products.
Packaging			√	Effectiveness of packaging for storage and display.
Return Possibility		√		Possibility of return of defective products.
Price				
Price Positioning		√		Difference in price positioning.
Rebates & Discounts			√	Frequency of rebates and discounts offered
Promotion				
Advertising		√		Advertising channel to promot products.
Sales Promotion		√		Sales promotions to increase overall sales.
Branding		√		Views of public about your brand.
CRM		X		Customer relation management
Place				
Sales Channel			X	No. of channels used
Lead Time		X		Time from factory to customer.
Supply Chain		X		Distribution of raw material and final products.

We provide services in comprehensive areas such as Social Media Management, Mobile App Development, Online Solutions, Web Application & Design, Creative Artwork (Branding and copywriting), SEO’s, and

2D/3D animations. Our services are available across all the major cities in the Kingdom. We believe in building e-partners through our unique ideas & marketing brilliance.

4. Technical and Engineering Feasibility Study

In order to produce and deliver the products to the end consumers, we would need raw material and labor. How much material would be needed and the decision about number and quality of labor that will be required to convert the raw material into final products comes under technical and engineering feasibility study. Transportation arrangements for raw material and final products, information about production and storage of products, flowchart for developing products are also parts of this section.

4.1 Ingredients and Variable Cost Breakdown

Table 5 demonstrates all products with required ingredients and their respective costs.

Table 5: Variable Costs

Chocolates							
Ingredients		Quantity (Grams)		Cost/Kg (SR)		Cost for 1 Kg Chocolate	
Cocoa Butter		250		55		13.8	
Virgin Coconut Oil		50		45		2.3	
Milk		250		5		1.3	
Raw Organic Cocoa Powder		180		70		12.6	
Agave Syrup		220		60		13.2	
Other Preservatives		50		150		7.5	
Total Variable Cost per Kg						50.6	
Sponge Cake				Chocolate Cake			
Item	Quantity	Price	Total	Item	Quantity	Price	Total
Cream	2.5	10.0	25	Cream	2.5	10	25.0
Sponge	1	10.0	10	Gelatin	1	4	4.0
Fruits	0.6	3.0	1.8	Dark Chocolate	1	9	9.0
Biscuit	3	3.0	9	Milk Chocolate	2	14	28.0
Jam	0.4	4.0	1.6	Total Variable Cost		66.0	
Total Variable Cost			47.4				
Cheese Cake				Pistachio Cake			
Item	Quantity	Price	Total	Item	Quantity	Price	Total
Sauce	2	8.0	16.0	Cream	2.5	10	25.0
Eggs	3	1.3	4.0	Sponge	1	10	10.0
Cheese	0.6	9.0	5.4	Sugar	3	3	9.0
Sugar	1	3.0	9.0	Pistachio	0.4	8	3.2

Cream	0.5	10.0	5.0		
Total Variable Cost			33.4	Total Variable Cost	47.2
Average Variable Cost per Cake (SR)				49.0	
Coffee Cups	Unit	Quantity (Grams)	Price (SR/Kg)	Cost (SR)	
Sugar	Grams	25	10	0.25	
Coffee	Grams	50	50	2.50	
Milk	Liters	150	4	0.60	
Chocolate Powder	Grams	30	50	1.50	
Total Variable Cost					5
Roasted Coffee	Unit	Price (SR)	Roasting Cost (SR)	Total	
Raw Coffee	Kg	35	5	40	
Packaging	Pack	4		4	
Total Variable Cost					44
Candies	Unit	Price per Unit	Quantity Used (Grams)	Total	
Cream and Honey	Kg	30.0	70.0	2.1	
Sugar	Kg	3.0	50.0	0.2	
Sucrose	Kg	10.0	80.0	0.8	
Ghee	Kg	20.0	50.0	1.0	
Total Variable Cost for a Packet of 12 Candies					4.1

4.2 Plant Capacity

With the chosen machinery and labor, our factory would be able to produce about 30,000 cakes annually. It would be able to produce 500,000 chocolate bars and additionally 20,000 Kg of chocolate. Our factory would also be able to produce 20,000 Kg of Maamoul. which is the industry average of food processing companies. Table 6 shows the capacity utilization for the first year of production.

4.3 Break Even Analysis

Breakeven point in production capacity is the point at which confectionary is able to produce the output at which it is neither incurring profit nor losses. At this point the total cost and total revenues of the firm would be equal. After reaching this point, firm would start earning profit. Before this point, confectionary's costs including both fixed and variable would be more than its revenues. Through break-even analysis, management comes to know that sale of how many units of different products would be able to cover their expenses. It helps them in setting realistic sales targets. After knowing this point, factory would try to produce more than this point so that it could not only cover costs but also it would come in a position where it would start fulfilling profits and satisfy the demands of customers. Table 7 represents the data needed for the calculation of the break-even point.

Table 6: Capacity Utilization

#	Product	Designed Capacity	1st Year Production	Capacity Utilization (1st Yr.)
1	Cake	30,000	6,800	22.7%
2	Chocolate	32,500	10,000	30.8%
3	Maamoul	20,000	12,446	62.2%
4	Biscuit	200,000	88,200	44.1%
5	Coffee	40,000	16,200	40.5%
6	Candies	200,000	75,600	37.8%
Average				39.7%

Table 7: Data for the Calculation of the Break-Even Point

Product		Share in Sales (%)	Price (SAR)	Variable Cost (SAR)	Fixed Cost (%)	Breakeven Point (Units)	Breakeven Point (SAR)
Cake	Chocolate	9%	160	104	187,892	5,186	829,748
	Cheese	7%	170	100	142,596	3,936	669,077
	Pistachio	3%	150	91	75,492	2,084	312,545
	Sponge	6%	150	93	125,820	3,473	520,908
Chocolate	Chocolate-Outlets	17%	150	61	370,060	10,214	1,532,082
	Chocolate- Markets	11%	5	2	246,706	6,809	34,046
Maamoul	Maamoul-Outlets	1%	60	21	21,315	588	35,299
	Maamoul-Direct	1%	55	21	19,539	539	29,661
	Maamoul-Markets	6%	15	6	133,221	3,677	55,155
Biscuit	Biscuit-Outlets	2%	10	7	53,289	1,471	14,708
	Biscuit-Corporate	1%	10	7	13,322	368	3,677
	Biscuit-Markets	8%	10	7	177,629	4,903	49,027
Coffee	Cups	6%	15	5	133,221	3,677	55,155
	Roasted-Outlet	1%	70	44	31,085	858	60,058
	Roasted-Market	11%	70	44	248,680	6,864	480,461
Candies	Candies-Outlet	1%	10	5	17,763	490	4,903
	Candies-Market	8%	10	5	177,629	4,903	49,027
Total / Weighted Average		100%	79	43	2,175,260	60,039	4,735,536

4.4 Selection of Machinery

The following machinery and equipment shown in Table 8 are required to produce different products at the factory.

Table 8: Selection of Machinery

Chocolate Production Line	Unit Cost (SR)
Tempering Machine	90,000
Coating Machine	90,000
Wrapping Machine	120,000
Coffee Production Line	
Roaster Machine	150,000
Packaging Machine	180,000
Maamoul Production Line	
Maamoul Making Machine	750,000
Flow Wrapping Machine	50,000
Shrink Wrapping Machine	38,000
Candy Machine	60,000
Biscuit Machine	50,000

Table 9: Location and Site Assessment

Criteria	Weight	Site A		Site B		Site C	
		1 st City	Industrial	2 nd City	Industrial	3 rd City	Industrial
Capital Cost	10	2		10		10	
Availability of Lands	9	1		9		9	
Infrastructure	9	6		9		9	
Availability of Utilities	5	5		3		2	
Functional Integrity	7	7		7		7	
Urban Environment	4	3		4		4	
Aesthetic Environment	4	3		4		4	
Accessibility and Parking	4	3		4		4	
Town Planning	5	2		5		5	
Community & Clinic Providers Preference	3	3		2		2	
Public Presence	2	2		0		0	
Size and Room for Growth	10	4		10		10	
Site-Related Costs	5	5		2		2	
Climatic Conditions	6	6		5		5	
Near to the Production Inputs	8	7		6		4	
Near to the Market & Outlets	9	9		4		4	
Total	100	68		84		81	

5. Economic Feasibility Study

A financial feasibility is conducted to have valuable analysis of our different products. Table 9 indicates the detailed capital Expenditures for the factory and warehouse, branches, delivery vehicles, chocolate production line, coffee production line, maamoul production line, candy machine, biscuit machine, and the working capital reserve. Table 10 represents the income and cash flow statements for the first 3 working years.

Table 11 represents the profitability margins containing gross margin, net income margin, return on equity, and return on assets. Table 12 represents the product wise analysis for cake, chocolate, maamoul, biscuit, coffee, and candies.

Table 13 represents the final Economic Viability including: total Initial investment required, assumed cost of capital, steady growth rate, payback period, discounted payback period, net present value, expected IRR, and profitability index.

6. Site Selection

The factory plant has been designed with the application of industrial planning and engineering aspects, taking into consideration all architectural and engineering criteria suitable for the conditions prevailing in the Kingdom of Saudi Arabia. The sites are determined in accordance with local and international codes, standards and regulations. Table 9 indicates the criteria used for assessing the candidate sites, demonstrates the scores for each individual criterion and the total weighted scores for each site. Site B has obtained the highest weighted score, and is chosen as the best site.

Table 9: Capital Expenditures for Factory and Warehouse

Item Description	Quantity	Unit Cost (SR)	Total
Construction Cost	1	4,000,000	3,500,000
Large Refrigerator	4	160,000	640,000
Mixer (100 Kg Capacity)	10	8,000	80,000
Oven	8	65,000	520,000
Cross Sheeter	10	10,000	100,000
Deep Freezer	6	6,000	36,000
Stainless Steel Tables	20	4,000	80,000
Wash Basins	8	3,000	24,000
Gas Stove	6	4,000	24,000
Trays	500	100	50,000
Moving Trolleys	50	1,000	50,000
Microwave	7	2,000	14,000
Molds	500	100	50,000
Cake Rings	1000	50	50,000

Shelves	140	500	70,000
Forklift	4	90,000	360,000
Cleaning Equipment	10	15,000	150,000
Miscellaneous Equipment	1	150,000	150,000
Package Air Conditioning	10	40,000	400,000
Duct	10	30,000	300,000
Lighting			50,000
Total Factory & Warehouse			7,198,000
Branches			
Package Air Conditioning	2	40,000	80,000
Duct	2	30,000	60,000
Display Refrigerator	2	25,000	50,000
Sinage	1	2,000	2,000
Total Branches			192,000
Delivery Vehicles			
Delivery Trucks	3	190,000	570,000
Cars	2	130,000	260,000
Total Delivery Vehicles			830,000
Chocolate Production Line			
Tempering Machine	1	90,000	90,000
Coating Machine	1	90,000	90,000
Wrapping Machine	1	120,000	120,000
Total Chocolate	1		300,000
Coffee Production Line			
Roaster Machine	1	150,000	150,000
Packaging Machine	1	180,000	180,000
Total Coffee			330,000
Maamoul Production Line			
Maamoul Making Machine	1	750,000	750,000
Flow Wrapping Machine	1	50,000	50,000
Shrink Wrapping Machine	1	38,000	38,000
Total Maamoul		838,000	838,000
Candy Machine	1	60,000	60,000
Biscuit Machine	1	50,000	50,000
Total Capex			9,798,000
Working Capital Reserve (6 months of direct & indirect costs)			3,780,000

Table 10: Income and Cash Flow Statements

First 3 Years Income Statement (SAR)		31-Dec-17	31-Dec-18	31-Dec-19
Total Revenue		8,817,200	10,404,296	11,652,812
	Cake	2,155,600	2,543,608	2,848,841
	Chocolate	2,500,000	2,950,000	3,304,000
	Maamoul	705,600	832,608	932,521
	Biscuit	990,000	1,168,200	1,308,384
	Coffee	1,674,000	1,975,320	2,212,358
	Candies	792,000	934,560	1,046,707
Cost of Goods Sold		5,361,257	5,686,632	5,793,158
	Cake	757,563	795,441	795,441
	Chocolate	913,445	959,117	959,117
	Maamoul	267,382	280,751	280,751
	Biscuit	744,592	781,822	781,822
	Coffee	920,115	966,121	966,121
	Candies	477,301	501,166	501,166
	Salaries of Direct Labor	840,000	882,000	926,100
	Other Direct Expenses	440,860	520,215	582,641
Gross Profit		3,455,943	4,717,664	5,859,654
	<i>Gross Margin</i>	<i>39%</i>	<i>45%</i>	<i>50%</i>
Indirect Expenses		2,175,260	2,533,555	2,781,941
	Depreciation	464,900	743,840	929,800
	Factory Rent	17,500	17,500	17,500
	Outlet Rent	200,000	200,000	200,000
	Electricity	180,000	180,000	180,000
	Water	36,000	36,000	36,000
	Salaries of Indirect Employees	576,000	576,000	576,000
	Packaging Material	240,000	240,000	240,000
	GOSI	20,000	20,000	20,000
	Others	440,860	520,215	582,641
Income before Zakat		1,280,683	2,184,109	3,077,713
	Zakat	32,017	54,603	76,943
Net Income		1,248,666	2,129,507	3,000,771
	<i>Net Margin</i>	<i>14%</i>	<i>20%</i>	<i>26%</i>
First 3 Years Cash Flow Statement		31-Dec-17	31-Dec-18	31-Dec-19
Net Income		1,248,666	2,129,507	3,000,771
Depreciation		464,900	743,840	929,800
GOSI		20,000	20,000	20,000

Prepaid Expenses	(440,860)	(79,355)	(62,426)
Account Receivables	(881,720)	(158,710)	(124,852)
Accrued Expenses	160,838	9,761	3,196
Account Payables	428,901	26,030	8,522
Cash Flow from Operations	1,000,724	2,691,073	3,775,011
Investing Cash Flows	(464,900)	(464,900)	(464,900)
Cash Flow to Firm	535,824.1	2,226,173.5	3,310,111.1

Table 11: Profitability Margins

Profitability Margins	31-Dec-17	31-Dec-18	31-Dec-19
Gross Margin	39%	45%	50%
Net Income Margin	14%	20%	26%
Return on Equity	13%	20%	24%
Return on Assets	12%	17%	20%

Table 12: Product Wise Analysis

Product Wise Analysis	1st Year Gross Profit
Best Performing Items:	
Cake	64.9%
Chocolate	63.5%
Maamoul	62.1%
Average Performers:	
Biscuit	24.8%
Coffee	45.0%
Candies	39.7%

Table 13: Economic Viability

Economic Feasibility		
Total Initial Investment Required	SAR	13,578,000
Assumed Cost of Capital	%	12%
Steady Growth Rate	%	3%
Payback Period	Years	5.2
Discounted Payback Period	Years	6.4
Net Present Value	SAR	17,743,084
Expected IRR	%	33%
Profitability Index		2.3

7. Conclusions

Confectionary business is going to capitalize due to increasing proportion of young population in the overall population of the country, increasing disposable incomes and growing quest for westernization as well. The project will concentrate at the beginning on Jeddah and western region of Saudi Arabia markets, and will expand in other geographical regions of Saudi Arabia. Expansion decision will depend on the future production capacity. The project will follow a product differentiation strategy; the products will be premium priced according to the aligned positioning strategy. Aggressive marketing and distribution strategies will help in increasing the project market share.

There is a growing trend of health and wellness among Saudis. Most of them want to stay fit and for this they are altering their diet habits. So, demand for those bakery products that are developed by using whole wheat is growing along with demand for low sugar and low fat bakery products. Saudi Arabian economy is doing very well since last years, so consumers are in a very good position to pay a premium price for healthy products. Looking at this trend we have also included the research with respect to inclusion of healthy bakery and chocolate products in our product line. The research indicates that catering the segment of health conscious customers would help us in not only surviving but growing in coming years.

All parts of the feasibility studies are based on solid evidence and not on opinions. The marketing feasibility study facts and figures are used related to demand and competitors to indicate intensity of competition. Sales projections, and anticipated future market potential is not only based on the information about past sales and market growth rate but forecast about future of confectionary market and present market trends are also used to make these predictions.

In order to develop better understanding of our customers, we have collected information from very authentic secondary sources that include Euro monitor International, Food Navigator, Neilson and Food business news etc.

Research related to industry as well as the current market analysis indicate that the industry will continue to grow and pace of growth would be quite high. Demand analysis also shows that in order to fulfill the rising demands, Saudi Arabia is importing chocolate and other high end confectionary from west.

In the engineering feasibility study, the needed machinery, plant capacity, raw material, ingredients and labor are determined. Are also included are the transportation arrangements for raw material and final products, information about production and storage of products, flowchart for developing products are also parts of this section. Related fixed and variable costs are also evaluated.

The site selection criteria has been chosen with the application of industrial planning and engineering aspects, taking into consideration all architectural and engineering criteria suitable for the conditions prevailing in the Kingdom of Saudi Arabia. The sites are determined in accordance with local and international codes, standards and regulations. The weighted scores method is used to evaluate 3 candidate sites in three industrial cities in Jeddah.

A complete economic feasibility is conducted to have valuable analysis of different products. The detailed capital expenditures are calculated for: the factory and warehouse, branches, delivery vehicles, chocolate production line, coffee production line, maamoul production line, candy machine, biscuit machine, and the working capital reserve. The income and cash flow statements for the first 3 working years are computed. The profitability margins containing gross margin, net income margin, return on equity, and return on assets and the represents the final economic viability including: total Initial investment required, assumed cost of capital, steady growth rate, payback period, discounted payback period, net present value, expected IRR, and profitability index are also evaluated.

As a final conclusion of all parts of the feasibility study, we can say that; a confectionary that will produce a variety of high end gourmet products along with chocolates and coffee do have a potential to survive and grow.

References

- [1] Philip T. Kotler. Marketing Management. New York: Pearson, 2015, pp. 233-38.
- [2] John M. Stopford and Baden Fuller. Creating Corporate Entrepreneurship. New Jersey: Wiley, 1994, pp. 521-536.
- [3] Michael E. Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors, New York, The Free Press, 1998, pp 563-512.
- [4] International Cocoa Organization. "Estimates of world cocoa stocks, <https://www.icco.org/statistics/other-statistical-data.html>, Dec 31, 2015 [Feb. 3, 2016]
- [5] Trade Arabia. "Sugar-free confectionary makers 'eye' sweet gains in Dubai, http://www.tradearabia.com/news/IND_289234.html, Aug 31, 2015 [Sep. 22, 2015].
- [6] Country Meters. "Saudi Arabia Population, http://countrymeters.info/en/Saudi_Arabia, Dec 27, 2015 [Jan. 12, 2016].
- [7] Alarbia English. "UAE and Saudi Arabia top Middle East chocolate importers. <http://english.alarabiya.net/en/business/markets/2015/11/24/UAE-and-Saudi-Arabia-top-Middle-East-chocolate-importers.html>, Feb 9, 2015 [Mar. 2, 2015].
- [8] Williams, S., "Confectionary in Saudi Arabia, <http://mronarabi.over-blog.com/2016/09/confectionery-in-saudi-arabia.html>, Feb 9, 2016 [Mar. 2, 2016].
- [9] Alarbi Ahmed, "UAE and Saudi Arabia top Middle East chocolate importers". Saudi Gazzete. (Nov. 14, 2015), sec. B p.9.
- [10] Manley, D. (1998, March 10). Biscuit, Cookie, and Cracker Manufacturing, (1st edition). [On-line]. 27(3). Available: <https://www.elsevier.com/books/biscuit-cookie-and-cracker->

manufacturingmanuals/manley/978-1-85573-292-6, [Jun 15, 2016].

- [11] EuroMonitor International. "Coffee in Saudi Arabia, <http://www.euromonitor.com/coffee-in-saudi-arabia/report>, Jan 1, 2016 [Jan. 10, 2016]
- [12] Global Agriculture Information Network (GAIN). Confectionary and coffee report in gulf countries, <https://gain.fas.usda.gov/Pages/Default.aspx>, Dec 31, 2015 [Feb. 3, 2016].
- [13] Wllings, Cathy. "Doing business in Saudi Arabia - cultural considerations for HR. HR zone, <http://www.hrzone.com/perform/business/doing-business-in-saudi-arabia-cultural-considerations-for-hr>, Aug 28, 2013 [Jan. 21, 2016].