Bakery Feasibility Study

2015-2016

TABLE OF CONTENTS.

- Operating assumptions.
- Sales Revenue assumption.

1. PURPOSE OF THE DOCUMENT.

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and in order to serve this objective, the document / study covers various aspects of project concept development, start-up, production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in Bakery Business by providing them a general understanding of the business with the intention of supporting potential investors in crucial investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises by trial and error, and certain industrial norms that become a guiding source regarding various aspects of business set-up and it's successful management.

Apart from carefully studying the whole document one must consider critical aspects provided later on, which form basis of any Investment Decision.

2.BRIEF DESCRIPTION OF THE PROJECT:

The proposed Bakery shop is a small scale project with a production area and sales out-let. It will be equipped with basic machinery and fixtures. The sales outlet will remain open for business for 24 hours, all the day around the year.

Product will be bread. This merchandise will be prepared and acquired according to the demand of local customers and in quantities directly proportional to expected sales.

Maximum sales are expected in mornings and Fridays afternoons. First year revenues of the project are estimated to be 1,022,000 NIS. It is expected that production growth rate will be 5% per year and the sales price will be constant**.**

3.METHODOLGY:

The methodology employed in this study consists of review of published data as well as exhaustive interviewers of the owner's of bakeries.

We would also like to thank those individuals who are working in Gaza Municipality that helped us in collecting a lot of data.

The data collected has been analyzed using quantitative and qualitative techniques. Where required necessary assumptions have been made which have been mentioned in the report.

6.SWOT ANALYSIS:

Strength:

1. No competitors in the same place.
2. Potential customers in neighborhood**.**
3. High quality and more producing.

4. Competitive pricing.

Weakness:
1. Lack of acceptance.
2. Repeated closing the passages.

Opportunities:
1. Employ number of workers (employment).
2. Expand the line of product.
3. Being the only one in the place.

Threats:
1. Increasing in prices when the passages are closing, then the price of the bread will be constant.
2. Existing of competitors at the same place.

7.Legal study:
There are three main forms of business: Sole Proprietorship, Partnership and Company. An enterprise can be a proprietorship or a partnership.
Although selection totally depends upon the choices of an entrepreneur, but this feasibility study has been based on a private limited company.

7.1 Registrations:
When the owners of the professions want to hire a place to begin their business , they must get the practicing certificate from the municipality which will examine the suitability of the place then the owners will pay a specific costs for this and then get the necessary licenses.
General Information about the economy and the sector.

Preparation of the study and data Collection methodology Methods:

Field: by collecting information about the bread and pastry production factories in the Gaza Strip for the establishment of the factories , raw materials ,sources obtained and other matters relating to the establishment of a new factory and costs.

Office: access to the previous studies in this area.

First: The Nature Of The Project:

Project manufactures bread and processed for consumption directly where this factory to knead flour then fermented then be cut , bread and fill in the appropriate bags.

The project also introducing modern technology and sophisticated machines, which have a positive impact on the development of the industry in Palestine, and it helps to reduce the economic burden on the state, which is caused by the external import is a industrial project belongs industrial projects

Second: Objectives of the project:

- encourage Palestinian investment.
- assist in the elimination of unemployment run through a number of the workforce.
- provide local product less than competitors' prices.
- adding national economic product.
- make a profit.

Third: justification for the project:

- availability of raw materials
- provide production technology, modern and developed machinery
- availability of cheap and skilled labor force.
- increasing demand for products.
- high proportion of unemployed graduates and other

Fourth, information and other notes:

we prepared a study of the location where a lot of considerations into account the most important of which, given permission to work in this area, and the project will be on a piece of ground with an area of three hundred and fifty meters, where the ground segment will be performed by the project is located

Environment Conditions of the project:

First: Economic conditions: economic conditions play an important role in determining the success of this project is noticeable that there is create conditions suitable to encourage investment by creating and providing the appropriate investment climate, and through investment laws incentive to encourage projects that produce national quality products suitable and affordable prices.

Second: Social conditions: project will provide a large number of job opportunities for labor and increase cash flow, as well as providing a local producer price fits citizens, as well as the project should not interfere with the customs and traditions that will appeal to all consumers.

Third: Legal conditions: the legal form of the project is a project owned by the head of capital without resorting to loans and creditors

Fourth: Political conditions : although the lack of political stability in the Gaza Strip, but there was no reason not to the work of the project , the sale and marketing of these products because they are targeting all consumers

Fifth: Technical and technological conditions: where the project will be to keep up with scientific ,technological progress , buy the best modern machinery and equipment, which aims to provide the best product image.

Clients: It is worth mentioning that these products as a necessary products they belong to many categories of the most important young people, but this does not mean that these products are not consumed by other age groups since all categories consume this product, especially the age group in question, that is, they belong the entire market.

Suppliers: Excellence on availability of raw material in the domestic market and abundant but untapped and can be accessed from wholesale traders quickly.

Legal form of the project: it is limited joint stock company owned by a group of owners, and consists of capital (700,000) $ at the moment

Marketing study:

Determine the degree of freedom of the market: After studying the market and see the products, marketing and found that the competitive situation of a free and not a monopoly as the production is not enough daily consumption.

Size is evaluated marketing slide, using the percentage of the gap in the production capacity of the machines light: that total demand minus total width results in a market gap and then hitting the market gap in the proportion of the company in the market.

Demand analysis: The expected demand for the commodity and to be provided by the bakery will be as follows:

- from neighboring schools of bakery site, which will provide them with more orders.
- there are some shops nearby and the neighboring supermarket.
- near the site of the market place where people gather, which increases demand.
- proximity to the street.

It also noted that the demand for this commodity is increasing day after day to shift a lot of people ready to buy bread instead of a manufactured home. also a high percentage of working women, leading to an increase in the need for the international quality of that item as soon as possible

Expected demand for the project: Due to the difficulty of obtaining accurate statistics for the number of residents in the area to determine the expected demand , we have several meetings with similar entrepreneurs and based on their personal experience of this area has provided us with requests expected to baker them in the following period.

The expected demand in the coming year equal to (3726000) bread bundle as each bundle containing (50) loaf.

Supply analysis: it has no competitors in the region offer the same item so it is expected to achieve the project's success in meeting the needs of individuals even though he can not provide all the required quantities due to being almost the only bakery in the area.

Expected supply for the project: that supply (1380000) a bundle any (30) each batch (24) where the two-hour one day and the other is working on at night.

Determine the marketing gap: marketing gap = demand – supply

3726000 - 1380000 = 2346000

Since there is no excess demand can say that the project is economically feasible in principle.

marketing Share: is 21.18%

This ratio has been given based on the market price of bread, which is less than the original market price.

Analysis of pricing policies: Due item to the fact that very necessary for all segments of society and the various classes, it is somewhat be adhered at the market price, whether the project under full competition or not, and as the project is not in the competitive market, it will add a margin of simple profit covers the cost as the bread in the prices the market are: **Wholesaling:** price per rabta 6 NIS $ 1.62 dollar = 3.7 u $

Retail: price per rabta 7 shekels equivalent to $ 1.89

Will be selling in our project as follows:

Wholesaling: Price per rabta 5 shekels equivalent to $ 1.35

Retail: price of NIS 6.5 per rabta the equivalent of $ 1.75

Technical and engineering study:

Site Study

Through the study, we found that the best site for the project is the Sheikh Radwan area where congestion of population in that region and to provide all classes and segments of society targeted by

the project, as it will be close to the market where they will be renting an entire floor in the first floor of an apartment building on the main road which is a quotients open for each other and can be held on the (300) meters away but we will hire 400 meters with the situation into account the possibility of future expansion taking into account the storage of raw materials in the remaining region of space as it is characterized by several features of the site, including:

- proximity to transportation
- presence in the vital area
- provide all services in this region for ease of supply, such as water and electricity.

Sales forecasting:

Economic life span	Expected operating rate Rt	The expected quantity of sales RT.Q
1	.60	240
2	.65	325
3	.70	420
4	.75	525
5	.80	640

Note: the quantity for the first year is 400 units (1 bag of flour gives 20 bags of bread and in the first year we will start with 20 bags of flour and we will increase 5 bags of flour per year.
So the quantity at year one is 20*20=400 bags of bread
400*.60=240.
For year two the quantity of flour will increase by 5, so 25*20=500
500*.65=325. And so on for the remaining years.

Targeted costumer analysis:

- Families
- Supermarkets
- Restaurants
- Hotels
- Hospitals
- Schools

Competitors analysis:

There is no competitors because the project will be established in an area that hasn't bakeries.
So the project will be created in a monopoly market, and will be the only bakery in Al-bassa city.

Geographical potential for investment:

The appropriate location for the project will be in a residential area that has lack of bakeries and hasn't any competitors**.**
Then we found Al Zahra City the most suitable place to create the business there.

Potential target market:

Areas having presence of middle income groups in the smaller cities will be an ideal location for opening sales outlet of the business. Ideally, production facility of the workshop should be located alongside the sales outlet; however, if the rental costs are a constraint, production facility can be established at a distant economical location. In such a case, higher transportation costs may need to be factored in.

Market entry timing:
Since the bread is a basic product, the time to enter the market is open for all, so any time we can enter the market and start the project.

Technical Feasibility Study

Capital Investment Requirements:

No.	**Description**	**Amount in $**
1	Machinery and equipment: Spiral +sieve / 1 Cutter/1 Chip/1 Oven/1 makes on gas and electricity Production line	22000
2	Boarding (100) + carts(2)	1000
3	Furniture and fixture	500
4	Rent expense	5000 (year)
5	Pre-operating cost	3000
6	Generator	4000
Total		**35500**

Depreciation:

No.	**Assets**	**Life span**	**description**	**Real value**	**Value**
1	Production line	20 years	20%	22000$	4400$
2	Generator	20 years	20%	4000$	800$
Total					5200$

Consumption per month = 5200/12= 433$

Quantity needed for mixing:

	Flour	**Yeast**	**Sugar**	**Salt**	**Water**	**Final weight**
Quantities	50 kg.	200 g.	2 kg.	150 g.	20 liter	73 kg.

Raw material requirement for every 50 kg. flour:

No.	**Description**	**Unit**	**Quantity**	**Price (NIS)**	**Total (NIS)**
1	Flour(50kg.)	Number	1	93	93
2	Yeast	Kg.	.2	6	1.2
3	Sugar	Kg.	2	3	6
4	Salt	Kg.	.15	1.5	.25
5	Water	Liter	20	1	1
6	Nylon bags for filling	Kg.	.27	11	2.97
Total					**105NIS**

Cost per 20 bags flour = 105*20 = 2100 NIS

Building and space requirement :

Description	**Space**	**Rent/month**	**Rent per year**
Rent cost/ month	100 square meters	417$	5000$

Human resources and salary requirements:

No.	**Jobs**	**Numbers**	**Salary per day(NIS)**	**Total**
1	Workers	2	40	80
2	Worker-professional	1	40	40
3	Accountant-(for collection)	1	40	40
Total				**160**

Daily operational cost:

Description	**NIS**	**Notes**
Raw material for 20 bags of flour	2100	
Salaries	160	For the four workers
Depreciation	60	
Maintenance	15	

Rent expense	55	
Miscellaneous exp.	5	
Gas	20	
Solar	75	
Electricity	120	
Total	**2610 NIS**	

Revenues:

- Bag of flour =20 bags of bread.
- 1 bag of bread= 50 loafs.

Description	**Quantity**	**Selling Price NIS**	**Total NIS**
Bag of bread (weight 2.4 kg.)	400	7	2800
Total			**2800**

Estimated return per day:

Description	**Value per NIS_ Dr.**	**Value per NIS_ Cr.**
Revenues		2800
Cost	2610	
Total		**190**

Return per year=190*30*12= 68400 NIS. /3.9=17538 $

Economics and financial feasibility study:

Selling price =7 NIS per bag (constant price), according to the ministry of economic, as the bread is a basic good.

Future gross benefits and revenue generation, future costs and future net returns.

Year	**Future revenues**	**Future costs**	**Future net returns**	**PV@10%**	**NR@10%**
1	1022000	952650	69350	0.909	63039
2	1277500	1144275	133225	0.826	110044
3	1533000	1335900	197100	0.751	148022
4	1788500	1527525	260975	0.683	178246
5	2044000	1719150	324850	0.621	201732
Total	**7665000 NIS**	**6679500 NIS**	**985500 NIS**		**701083 NIS**

Notes:

According to the project's revenues, we will increase the production by 5 bags of flour per year.

Revenue for Year 1: (we start the project with 20 bags of flour, every bag of flour gives 20 bags of bread).

20*20=400 bags of bread.

400*7 NIS= 2800 NIS per day.

2800*365= 1022000 NIS per year.

Cost for year 1:

Total costs (Fixed and variable costs) = 2610: 105 variable for 1 bag of flour and we will make 20 bags of flour at year one
Which mean that the variable costs will be 105*20=2100 NIS
And the fixed costs is 510 NIS. So 2100+510=2610 NIS per day.
2610*365=952650 NIS per year for 20 bags of flour.

Testing the feasibility of the project:

Sensitivity analysis if TR decreased by 5%

Total Revenue	Operation Cost	Depreciation	T… Cost	…before taxes	…Taxes	…after taxes	…NR	…%	NR@10%
0			138450				-138450	1	-138450
1022000	952650	20280	972930	49070	7115	41955	62235	0.909	56571
1277500	1144275	20280	1164555	112945	28236	84709	104989	0.826	86721
1533000	1335900	20280	1356180	176820	44205	132615	152895	0.751	114824
1788500	1527525	20280	1547805	240695	60174	180521	200801	0.683	137147
2044000	1719150	20280	1739430	304570	76143	228428	248708	0.621	154447

NPV	**411261**
IRR	**57.5%**
PI	**2.97**
ARR	**1.11**
NARR	**0.91**
Discounted ARR	**0.79**
Discounted NARR	**0.59**
Payback period	**1.726**
Discounted payback period	**1.944**
Benefit / Cost Ratio	**3.97**
Pay-off period Rate	**0.58**

Accept the project because IRR is bigger than hurdle rate

Note: the hurdle rate (RR) is 29%

Sensitivity analysis when OC increased by 5%

Y	Total	Oper	New	Depre	New	Profit	Tax	Profit	NR	PV@10	NR@

Year	Total Revenue	New TR	Operation Cost	Depreciation	Total Cost	Profit before taxes	Taxes
0	0	0			138450		
1	1022000	970900	952650	20280	972930	-2030	-294
2	1277500	1213625	1144275	20280	1164555	49070	7115
3	1533000	1456350	1335900	20280	1356180	100170	14525
4	1788500	1699075	1527525	20280	1547805	151270	21934
5	2044000	1941800	1719150	20280	1739430	202370	29344

ear	Revenue	ation Cost	OC	ciation	Total Cost	before taxes	es	after taxes		%	10%
0	0				138450				-138450	1	-138450
1	1022000	952650	1000283	20280	1020563	1438	208	1229	21509	0.909	19552
2	1277500	1144275	1201489	20280	1221769	55731	13933	41798	62078	0.826	51277
3	1533000	1335900	1402695	20280	1422975	110025	27506	82519	102799	0.751	77202
4	1788500	1527525	1603901	20280	1624181	164319	41080	123239	143519	0.683	98024
5	2044000	1719150	1805108	20280	1825388	218613	54653	163959	184239	0.621	114413

NPV	**222017**
IRR	**32.1 %**
PI	**1.60**
ARR	**0.74**
NARR	**0.54**
Benefit / Cost Ratio	**2.60**

Accept the project because IRR is bigger than hurdle rate

Sensitivity analysis when TR decreased by 5% and OC increased by 5%

Year 7	Total Revenue	Operation Cost	New TR	New OC	Depreciation	New Total Cost	Profit before taxes	Taxes	Profit after taxes	NR	PV@ 10%	NR @10 %

0	0					138450				-138450	1	-138450
1	1022000	952650	970900	1000283	20280	1020563	-49663	0	-49663	-29383	0.909	-26709
2	1277500	1144275	1213625	1201489	20280	1221769	-8144	-1181	-6963	13317	0.826	11000
3	1533000	1335900	1456350	1402695	20280	1422975	33375	4839	28536	48816	0.751	36661
4	1788500	1527525	1699075	1603901	20280	1624181	74894	10860	64034	84314	0.683	57587
5	2044000	1719150	1941800	1805108	20280	1825388	116413	16880	99533	119813	0.621	74404

NPV	**14492**
IRR	**2.2 %**
PI	**0.10**
ARR	**0.34**
NARR	**0.14**
Benefit / Cost Ratio	**1.10**

Reject the project because IRR is less than hurdle rate

Break-even point:
The break-even point for the project will be at Q=291 unit.

Income Statement for year one:

sales	1022000
Cost of goods sold	65700
Gross profit	95630
Expenses : Building rental expense	19500
Depreciation expense	20280
Mes. Expense	1825
Total expenses	41605
Operating income before tax	54025
Taxes	7834
Net income	46191

Note: tax rate is 14.5%

Year	Price	Quantity Sold at full capacity	Operation rates	Estimated quantity sold	Total Revenue	Material Inputs	Depreciation	Value Added = TR - (MI + D)	Total Wages	Social Surplus	P 1
1	7	146000	0.6	87600	613200	2100	20280	590820	160	590660	0
2	7	182500	0.65	118625	830375	2625	20280	807470	160	807310	0
3	7	219000	0.7	153300	1073100	3150	20280	1049670	160	1049510	0
4	7	255500	0.75	191625	1341375	3675	20280	1317420	160	1317260	0
5	7	292000	0.80	233600	1635200	4200	20280	1610720	160	1610560	0

Absolute Efficiency Test " Es = TR - (MI + D)

Year	Price	Quantity Sold at full capacity	Operation rates	Estimated quantity sold	Total Revenue	Material Inputs	Depreciation	Value Added = TR - (MI + D)	Total Wages	Social Surplus
1	7	146000	0.6	87600	613200	2100	20280	590820	160	590660
2	7	182500	0.65	118625	830375	2625	20280	807470	160	807310
3	7	219000	0.7	153300	1073100	3150	20280	1049670	160	1049510
4	7	255500	0.75	191625	1341375	3675	20280	1317420	160	1317260
5	7	292000	0.80	233600	1635200	4200	20280	1610720	160	1610560

Employment effect:

Effect	Unskilled workers	Skilled workers	total	Capital investment in $
Direct employment	3	1	4	35500
Total	3	1	4	**35500**

Impact of direct skilled workers= JOd/Id

=4/35500=.000112

Hence ,10000 $ of total investment of direct investment creates 12 direct new job opportunities.

Assumptions:

Operating assumptions:

No of Working Days	365
No. of Working Hours / day	24
No. of Shifts / day	2

Sales Revenue assumptions (1st Year)

Product Mix	1st Year Sales Revenue (NIS)
Bakery Sales	1022000
Total Sales	1022000