



Pre-Feasibility Study

(Engineering Workshop-Subcontracting)

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Note: All Services / information related to PM's Youth Business Loan are Free of Cost

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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, and production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in Engineering Workshop - Subcontracting, 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.

INTRODUCTION TO PCSIR, PSTC, LAHORE

Ministry of Science of Technology, Government of Pakistan has established “Precision Systems Training Centre (PSTC), Lahore” under the umbrella of Pakistan Council of Scientific & Industrial Research (PCSIR), located on canal side at PCSIR Campus, Ferozepur Road, Lahore.

Since most of the Engineering Industry of the country is in the province of Punjab and, therefore, industrialists of the province were long demanding PSTC at Lahore. The demand of the province is fulfilled and PSTC – Lahore came into being in early 2004.

EXECUTIVE SUMMARY

This particular pre-feasibility is for setting up an “Engineering Workshop - Subcontracting” in any industrial cluster of any major city of Pakistan. “Engineering Workshop - Subcontracting” falls in the segment of light engineering sector. The workshop is proposed to cater to machining work on parts for automobile sector, electrical home appliances, pumps, and other engineering products. Most “Engineering Workshop - Subcontracting” workshops are part of small and medium scale industry and are operating in cities like Peshawar, Lahore, Gujranwala, Faisalabad, Karachi etc., as a service provider.

The workshop is proposed to operate 8 hours daily. The maximum jobs for the project are assumed to be 50,000 per year. The business will provide employment opportunity to 06 individuals including the owner.

The total project cost for setting up this workshop is estimated at Rs. 2.106 million. The business will provide employment opportunity to 06 individuals including the owner manager. The workshop is proposed to operate 8 hours daily. Higher return on investment and steady growth of business is expected with the person having some prior experience or education related to field of business. This pre feasibility encompasses essential information regarding various aspects of starting a Engineering Workshop – Subcontracting.

INTRODUCTION TO SCHEM

Prime Minister’s ‘Youth Business Loans’ Programme, for young entrepreneurs, with an allocated budget of Rs. 5.0 Billion for the year 2013 -14, is designed to provide subsidized financing at 8% mark-up per annum for one hundred thousand (100,000) beneficiaries, through designated financial institutions, initially by National Bank of Pakistan (NBP) and First Women Bank Ltd. (FWBL).

Loans from Rs. 0.1 million to Rs. 2.0 million with tenure up to 8 years inclusive of 1 year grace period, and a debt : equity of 90 : 10 will be disbursed to SME beneficiaries across Pakistan, covering; Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan, Gilgit Baltistan, Azad Jammu & Kashmir and Federally Administered Tribal Areas (FATA).

BRIEF DESCRIPTION OF PROJECT & PRODUCT

Engineering Workshop - Subcontracting, may manufacture its own products, and it will also provide job work machining facilities to the light engineering sector and Auto parts manufactures. This practice is prevalent in the majority of such workshops. The workshop will provide services to Auto

parts manufactures, the manufacturers of electrical home appliances, pumps, textile sector, machinery repair shops, etc. This business activity is more suitable for an entrepreneur related to mechanical technology. The entrepreneurs for this business activity are also recommended to have previous workshop floor experience. Major capital investment is in the procurement and installation of different machines.

The workshop will provide machining facility for engineering products such as Auto parts, house hold items etc. A variety of machining services can be carried out on the machinery set proposed under this project.

The workshop will require services of 03 machinists, 02 helper and 01 owner to carry out requisite job orders.

The business will be setup in rented premises, having covered area of **1500 sq ft**.

CRITICAL FACTORS

Following are the factors critical for success of this business venture:

- Availability of production works / parts regularly & continuously.
- If in manufacturing, should be able to read engineering drawings, inspect the dies ordered for different operations, understand fabrications, know where to find proper grade sheet metal / alloy bars etc.
- Success of the project is based on the quality of service rendered to the clients in terms of 'as per specifications' adherence for a manufactured product, in time.
- Technical know-how and relevant experience of entrepreneur.
- Availability of skilled labor having technical knowledge.
- Ability to generate work orders through industrial networking, direct marketing and negotiation long term contracts.

INSTALLED & OPERATIONAL CAPACITIES

The installed capacity of the project is to perform 50,000 per year. During the first year it will operate at 60% capacity. The total human resource strength will be 06, including the entrepreneur / owner. The workshop will operate for 8 hours daily.

GEOGRAPHICAL POTENTIAL FOR INVESTMENT

The subcontracting workshop clusters are mostly being operated near industrial areas of Lahore, Peshawar, Quetta, Faisalabad, Karachi, Hyderabad and Gujranwala etc. The ideal location for the project may be outside municipal and cantonment limits, preferably in a small

industrial cluster / estate. Other options could be near an industrial complex like large fertilizer, oil or power units off major highways, Auto parts manufactures and house hold items manufacturers.

POTENTIAL TARGET MARKETS

The potential target markets are local clusters of home appliances manufacturers, Auto part manufacture and electrical pumps manufacturers. The suitable cities for marketing can be Gujranwala, Gujrat, Lahore, Faisalabad Karachi, Hyderabad, Peshawar, Gilgit and Quetta.

PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of this project under the 'Prime Minister's Youth Business Loan' Scheme. Various costs and revenue related assumptions along with results of the analysis are outlined in this section.

PROJECT ECONOMICS

It is assumed that during first year of the operations the project will initiate from zero manufacturing orders per week to 10000 per month during the first year and then slowly progress towards 8 orders per month after a few years.

The following table shows internal rate of return, payback period and NPV for injection molding plastic products project operation at 60% of capacity in its first year of operations.

Project Economics	
Description	Details
Internal Rate of Return (IRR)	80%
Payback Period (yrs)	----
Net Present Value (NPV)	----

PROJECT FINANCING

Following table provides details of the equity required and variables related to bank loan:

Project Financing	
Description	Details
Total Equity (10%)	2106500
Bank Loan (90%)	18958500
Markup to the Borrower (%age/annum)	8%
Tenure of the Loan (Years)	8
Grace Period (Year)	1

PROJECT COST

Following requirements have been identified for the operation of the proposed business. A rental premise has been recommended for this project.

Project Economics	
Description	Amount (Rs.)
Machinery	18,55000
Furniture and fixture office equipment	41,500
Salary for 01 months	90,000
Tooling & Raw Material	50,000
Rent for 01months	25,000
Total Capital Cost:-	21,065000

SPACE REQUIREMENT

The area has been calculated on the basis of space requirement for production, management and storage. However, the units operating in the industry do not follow any set pattern. Project space requirement will be **Total Area:-** 1500sft

Premises will be obtained on rent @ Rs. 25000/- per month.

ACHINERY AND EQUIPMENT

Following table provides list of machinery and equipment required for an average 10000 unit raw to finish.

Machinery and Equipment			
Description	Quantity	Cost Rs./Unit	Total Rs.
Lathe Machine (used)	1	2,50,000	2,50,000
Milling Machine (used)	1	3,00,000	3,00,000
Drill Machine(used)	1	30,000	30,000
Welding Plant Gas /Arc Welding (used)	1	40,000	40000
CNC Turning Centre(used)	1	12,00,000	1200000
Power Saw(used)	1	25,000	25000
Tool Grinder(used)	1	10,000	10000
Total:-	07	1955000	1855000

Note:- The cost may vary at the time of purchase.

The workshop will take work orders for parts having cylindrical profiles, mostly the rotor shafts of electrical motors and pumps. Lathe machine will be used to bring the shaft to desired diameters, CNC Turning machine for fine machining production of parts and power saw machine to cut raw material, etc. Other equipment will be used to support the main machines for finishing of facilitating work.

FURNITURE & FIXTURE

Following furniture and fixture will be required for the unit:

Furniture & Office Equipment Costs

Description	Quantity	Cost	Amount
Chairs	3	2,000	6000
Table	1	3,000	3000
Steel Cupboard	2	8,000	16000
Metal Working Table	1	15,000	15000
Measuring Instruments Set	1	1,000	1000
Telephone	1	5,00	500
Total:-	09	29,500	41500

RAW MATERIAL REQUIREMENTS

Significant amount of raw materials is not required. Since the job work involves metal forming operations, cost of tooling along with jigs and fixtures has been incorporated.

Cost of Raw Material

Description	Amount
Tooling	25,000
Raw Material	25,000
Total:-	50,000

HUMAN RESOURCE REQUIREMENT

Following table provides details of human resource required for this venture:

Human Resource Requirement

Description	Qty	Amount
Owner Manager	1	25,000
Machinist Rs. 15000/per month	3	45,000
Helper Rs.10000/ per month	2	20,000
Total:-	6	90,000

Contact Details

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