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# Pre-Feasibility Study

## PRINTING PRESS UNIT



**Small and Medium Enterprises Development Authority**

**Ministry of Industries & Production**  
**Government of Pakistan**

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## Table of Contents

<b>1</b>	<b>DISCLAIMER</b> .....	<b>3</b>
<b>2</b>	<b>EXECUTIVE SUMMARY</b> .....	<b>4</b>
<b>3</b>	<b>INTRODUCTION TO SMEDA</b> .....	<b>4</b>
<b>4</b>	<b>PURPOSE OF THE DOCUMENT</b> .....	<b>5</b>
<b>5</b>	<b>BRIEF DESCRIPTION OF PROJECT &amp; PRODUCT</b> .....	<b>5</b>
5.1	Production Process Flow .....	6
5.1.1	The Design / Creative Stage .....	7
5.1.2	The Prepress Stage .....	7
5.1.3	The Printing Stage .....	7
5.1.4	The Bindery Stage .....	8
5.2	Installed and Operational Capacities .....	8
<b>6</b>	<b>CRITICAL FACTORS</b> .....	<b>9</b>
<b>7</b>	<b>GEOGRAPHICAL POTENTIAL FOR INVESTMENT</b> .....	<b>9</b>
<b>8</b>	<b>POTENTIAL TARGET CUSTOMERS / MARKETS</b> .....	<b>9</b>
<b>9</b>	<b>PROJECT COST SUMMARY</b> .....	<b>10</b>
9.1	Project Economics .....	10
9.2	Project Cost .....	11
9.3	Space Requirement .....	12
9.4	Machinery & Equipment Requirement .....	12
9.5	Furniture & Fixtures Requirement .....	13
9.6	Office Equipment Requirement .....	13
9.7	Raw Material requirements .....	14
9.8	Human Resource Requirement .....	14
9.9	Utilities and other costs .....	15
9.10	Revenue Generation .....	15
<b>10</b>	<b>CONTACT DETAILS</b> .....	<b>15</b>
<b>11</b>	<b>USEFUL WEB LINKS</b> .....	<b>16</b>
<b>12</b>	<b>ANNEXURES</b> .....	<b>18</b>
12.1	Income Statement .....	18
12.2	Balance Sheet .....	19
12.3	Cash Flow Statement .....	20
<b>13</b>	<b>KEY ASSUMPTIONS</b> .....	<b>21</b>
13.1	Operating Cost Assumptions .....	21
13.2	Production Assumptions .....	21
13.3	Revenue Assumptions .....	22

## 1 DISCLAIMER

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## 2 EXECUTIVE SUMMARY

The market for printed material in Pakistan has been developing steadily over the last decade. The proposed business venture is presumed to produce different types of printing material for a variety of client segments including business enterprises, educational sector and others. The printed materials produced by the unit mainly include promotional material (Brochures, Pamphlet, Voucher, Visiting Cards, Packing Mat, Invitation cards etc.), office stationery (Financial Report, letterheads, printed files, vouchers, invoices, inward / outward documents, etc.), published materials (literature and textbooks, etc.) and packing material printings.

The proposed capacity of the Printing Press is 36,000,000 impressions per annum. Initial capacity utilization is estimated at 40% per annum with a gradual increase of 5% in subsequent years to achieve the maximum operational capacity (i.e. 80%). This production capacity is estimated to be economically viable and justifies the capital as well as operational cost of the project. The proposed unit has an installed capacity of producing 15,000 impressions per hour, with Heidelberg72 Machine (7,000 / Hour), Heidelberg GTO52 Machine (6,500 / Hour) and Digital Printing (1,500 / Hour). The unit will operate on 8 hours single shift per day.

Currently in Pakistan, majority of printing presses are using Heidelberg 72 and Heidelberg GTO 52 machines, as they are easily available in local market at economical rates and cheap maintenance. Accordingly, in this Pre-feasibility study it is proposed to install two conventional machines (Heidelberg72 and Heidelberg GTO 52) along with one Digital Laser 4 Color Printer HP to cater for the needs of high-end quality-oriented customers. The potential of digital printing presses in local market is very huge and it is further increasing with changing market trends and technologies.

The total project cost for setting up this unit is estimated at Rs. 7.217 million out of which Rs. 6.757 million is capital cost and Rs. 0.459 million is working capital. Considering all the assumptions on which the pre-feasibility has been made, the IRR, Payback and Net Present Value of the project are 55%, 2.82 years and Rs. 21.012 million respectively based on 100% equity financed model. The project will provide employment opportunities to 15 people including the Owner. The legal business status of this project is assumed to be 'Sole Proprietorship'.

## 3 INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with an objective to provide fresh impetus to the economy through development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out 'sectoral research' to identify policy, access to finance, business development services, strategic initiatives and institutional collaboration and networking initiatives.

Preparation and dissemination of prefeasibility studies in key areas of investment has been a successful hallmark of SME facilitation by SMEDA.

Concurrent to the prefeasibility studies, a broad spectrum of business development services is also offered to the SMEs by SMEDA. These services include identification of experts and consultants and delivery of need based capacity building programs of different types in addition to business guidance through help desk services.

#### **4 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 **Printing Press Unit** by providing them with 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.

#### **5 BRIEF DESCRIPTION OF PROJECT & PRODUCT**

The importance of printing and graphic arts sector is often under-estimated. However, due to continual increase in advertisement and promotion trends vis-à-vis massive expansion of educational sector, the business of printing press is experiencing a large scale of turnover in Pakistan. Currently, print media is recognized as one of the most effective and economical mode of communication and promotion by all type of businesses.

There is huge variety of printing materials / products which are being produced by the printing presses mainly for business users of industrial as well as educational sector. Educational textbooks have the largest share in the local printing industry followed by the promotional materials.

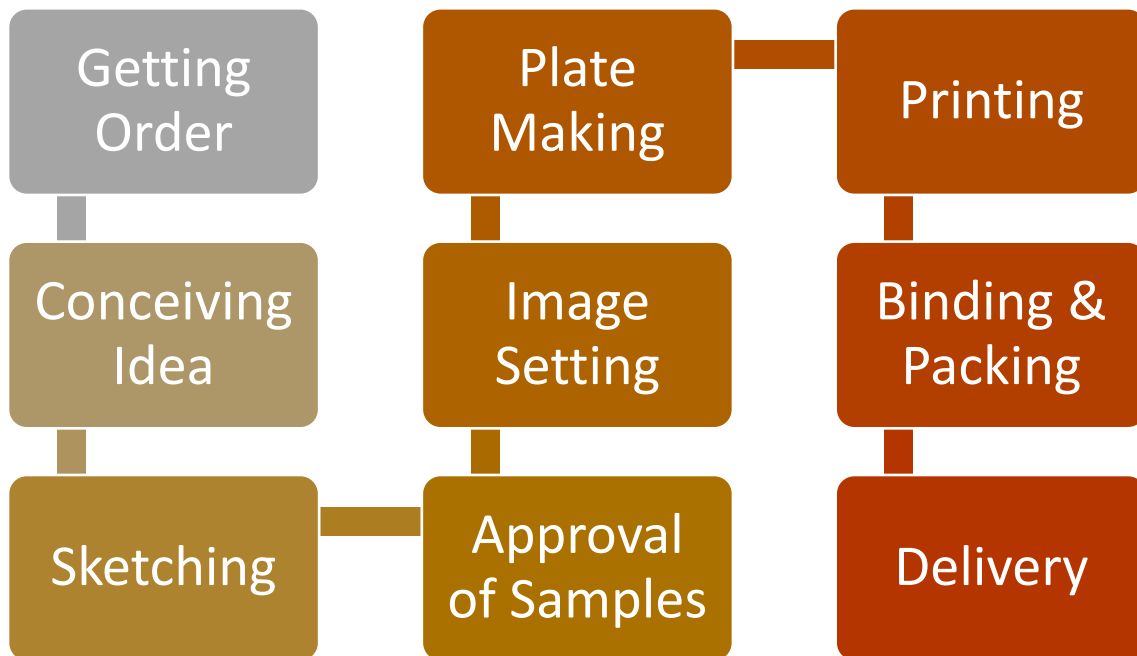
Accordingly, the proposed printing press would mainly cater for the printing requirements of following four business categories:

- ⇒ Promotional Material; Printing material such as, Brochures, Product Catalogues, Posters, Annual Reports, Calendars, Diaries, etc.
- ⇒ Office Stationery; Company Letter Heads, Files, Vouchers, Invoices, Visiting Cards, Book of Accounts, etc.
- ⇒ Publishing Material; Textbooks, Literature Books, etc.
- ⇒ Packaging Material; Printing of packing material of all kinds, such as, Boxes, Cartons, Shopping Bags, etc.

The project is proposed to be set up in any of the four provincial capitals or major urban city of Pakistan. The business legal status of the proposed project can either be sole proprietorship or partnership. However, this pre-feasibility assumes the legal status to be Sole Proprietorship.

### 5.1 Production Process Flow

Figure 1: Printing Process Flow



### **5.1.1 The Design / Creative Stage**

In the Design Stage the designer prepares the design of the product taking into account the overall look and feel of the paper. Text to be printed is typed and graphics to be shown are created. Designing of graphics is of two types, halftone and line art. Halftone is the reproduction of continuous-tone artwork (such as a photograph) through the application of a screen that converts the image into dots of various sizes. Line art is the art that is made up of continuous lines such as pen & ink drawings or typefaces. There is no tonal difference from one area to another. After designing the designer sets page layout and the design is sent to the prepress department

### **5.1.2 The Prepress Stage**

In the Pre-press Stage the artwork is taken from its delivered state (either reflective art or digital file) all the way to the press plates. In pre-press stage: The artwork is transformed to negative film either by imaging a digital file through an image setter, or by shooting reflective artwork with a copy camera. The pages are stripped together into a flat that reflects how the pages will be printed on the press sheet. The flat is burned onto a metal plate. After the flat is burned onto the plate, the plate is washed in the developing chemical. This developed plate is wrapped around the press cylinder. For the purpose of this Pre-feasibility, this process will be outsourced because of the high capital cost of machinery and equipment used in the process and the infrequent use of machinery.

### **5.1.3 The Printing Stage**

The Printing Stage covers the transfer of an image to paper. Offset lithography is based upon the principle that, “the ink and water do not mix”. The paper is fed through the press from a pile of paper already cut to the size of the machine. Offset printing presses print at a high speed. When a printing plate is made, the printing image is rendered ink-receptive and water-repellent, while the non-printing areas are rendered water-receptive and ink-repellent. The ink is distributed to the plates through a series of rollers. On the press, the plates are dampened, first by water rollers, and then ink rollers.

The rollers distribute the ink from the ink fountain onto the plates. The image area of the plates picks up ink from the ink rollers. The water rollers keep the ink off of the non-image areas of the plate. Each plate then transfers its image to a rubber blanket that in turn transfers the image to paper. The plate itself does not actually touch the paper. All of this occurs at a high speed. During the process the machine man checks the blending of inks to maintain the color control. Print quality is checked frequently by the press operator.

### 5.1.4 The Bindery Stage

The Bindery Stage is when any trimming, folding, perforating, collating, stitching, or gluing is performed as required. Mostly, Printing Press performs the trimming and folding in-house, and works closely with an outside bindery on the collating, stitching and gluing.

### 5.2 Installed and Operational Capacities

The proposed printing press unit has an installed capacity of printing 15,000 impressions per hour with combination of three (03) machines (i.e. Heidelberg72, Heidelberg GTO52 and Digital Printing) having different printing technologies. The installed production capacities of Heidelberg72, Heidelberg GTO52 and Digital printing mainly comprises of 7,000 imp / hr, 6,500 imp / hr and 1,500 imp / hr, respectively.

The project would initially operate at 40% production capacity in year 1, and 5% capacity utilization growth is assumed in the subsequent years. The maximum capacity utilization of the unit is worked out at 80% of installed capacity, because of the wastage of time during cleaning and trial runs of the machines. The unit will operate on 8 hours single shift basis with 300 operational days in a year.

Details of operational and installed capacity according to product mix are provided in the table below.

**Table 1: Installed and Operational Capacity**

Description of Machine / Product Mix	Production Proportion	Total Capacity (Units)	Maximum Capacity Utilization in Year 10 (80%)	Capacity Utilization in Year 1 (40%)
<b>Heidelberg GTO52</b>		<b>15,600,000</b>	<b>12,480,000</b>	<b>6,240,000</b>
Voucher	40%	6,240,000	4,992,000	2,496,000
Visiting Cards	10%	1,560,000	1,248,000	624,000
Packing Mat	25%	3,900,000	3,120,000	1,560,000
Invitation Cards	25%	3,900,000	3,120,000	1,560,000
<b>Heidelberg72</b>		<b>16,800,000</b>	<b>13,440,000</b>	<b>6,720,000</b>
Financial Report	20%	3,360,000	2,688,000	1,344,000
Brochure	25%	4,200,000	3,360,000	1,680,000
Book	30%	5,040,000	4,032,000	2,016,000
Pamphlet	10%	1,680,000	1,344,000	672,000
Letterhead	15%	2,520,000	2,016,000	1,008,000



Laser 4 Colour Printer		3,600,000	2,880,000	1,440,000
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## 6 CRITICAL FACTORS

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

- ⇒ Relations in business sector are important in success of a printing press, as it is an order-based business.
- ⇒ Technical skills are vital for effectively operating the business, as skilled workers can reduce wastage; insure lower machine maintenance cost, in-time delivery and quality finish of the product.
- ⇒ Order size is of a great importance for profitability of the business, as major cost of printing is the designing, image setting and plate making i.e. fixed costs. So, if the order size is large the cost per unit will be lower.
- ⇒ Well-organized company profile with client's information and nature of job done is very effective from marketing point of view. Normally Multi-National companies go through the profile of company before ordering any assignment.
- ⇒ Trained staff should be engaged and comprehensive staff training programs to be adopted for capacity building.
- ⇒ Careful selection of good location and purchase of land at competitive price.

## 7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

As the major customers of printing press are industrial buyers, so the unit can be established in any major city comprising of large industrial and educational sector bases. Therefore, cities like Karachi, Lahore, Peshawar, Quetta, Faisalabad, Sialkot, Multan, Rawalpindi and Hyderabad can be suitable locations for setting up printing press. Subsequently, availability of skilled labor, raw material and close customer proximity is extremely important for the success of this business. Concerning to that, Karachi, Lahore, Sialkot and Faisalabad are considered as the most appropriate location for the proposed venture.

## 8 POTENTIAL TARGET CUSTOMERS / MARKETS

Potential target customers for the produced printed material will mainly comprise of buyers from local business enterprises, educational institutions and other organizations. As majority of the target customer belongs to business segments, therefore, the business clients operating in major big cities, such as Lahore, Karachi, Peshawar, Quetta, Faisalabad, Sialkot, Rawalpindi and Hyderabad will be key potential markets for the proposed venture.

## 9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of Printing press unit. Various costs and revenue related assumptions along with results of the analysis are outlined in this section.

The projected Income Statement, Cash Flow Statement and Balance Sheet are also attached as annexure.

### 9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 53,879,828 in the year one. The capacity utilization during year one is worked out at 40%.

The following table shows internal rate of return, payback period and net present value of the proposed venture.

**Table 2: Project Economics**

Description	Details
Internal Rate of Return (IRR)	55%
Payback Period (yrs.)	2.82
Net Present Value (Rs.)	21,011,774

Calculation of break-even analysis is as follows:

**Table 3: Breakeven (100% Equity Based)**

Break-Even Analysis	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Break Even Revenue	49,815,161	51,421,340	54,288,449	58,101,863	62,538,223	67,369,527	73,490,114	80,292,945	87,987,246	96,254,947
Break-Even Units	1,825,392	1,712,952	1,644,056	1,599,582	1,565,198	1,532,832	1,520,083	1,509,813	1,504,086	1,495,834
Margin of Safety	8%	23%	33%	41%	47%	52%	56%	59%	62%	62%

However, for the purposes of further explanation the Project Economics based on Debt:Equity (i.e. 50: 50) Model has also been computed. On the basis of Debt:Equity model the Internal Rate of Return, Payback Period and Net Present Value of the proposed project are provide in the table below.

**Table 4: Project Economics Based on Debt (50%) : Equity (50%)**

Description	Details
Internal Rate of Return (IRR)	54%
Payback Period (Yrs.)	2.86
Net Present Value (Rs.)	20,768,024

The financial assumptions for Debt:Equity are as follows:

**Table 5: Financial Assumptions for Debt:Equity Model**

Description	Details
Debt 50%	3,623,509
Equity 50%	3,623,509
Interest Rate on Debt	12%
Debt Tenure	5 Years
Debt Payment / Year	Annual

The projected Income Statement, Cash Flow Statement and Balance Sheet, enclosed as annexures are based on 100% Equity Based Business Model

## 9.2 Project Cost

Following fixed and working capital requirements have been identified for operations of the proposed business.

**Table 6: Project Cost**

Description	Amount Rs.
<b>Capital Cost</b>	
Machinery & Equipment	5,180,000
Furniture & Fixture	829,900
Office equipment	297,500
Security Deposit	225,000
Pre-operating costs	225,000
<b>Total Capital Cost</b>	<b>6,757,400</b>
Equipment spare part inventory	249,739
Cash	197,607

Equipment spare parts	11,972
<b>Total Working Capital</b>	<b>459,318</b>
<b>Total Project Cost</b>	<b>7,216,718</b>

### 9.3 Space Requirement

The space requirement for the proposed Printing Press Unit is estimated considering various facilities including management office, printing and cutting halls, storage and open space, etc. In order to reduce the initial capital investment, it is recommended to start the project in a rented building. Monthly rent assumed for the project is Rs. 75,000, besides that three (3) months' rent Rs. 225,000 will be paid as security deposit. Detail of covered area requirement for the project is given in below table:

**Table 7: Space Requirement**

Description	Covered Area (Sq. Ft)
Owners Office	100
Accounts & Admin Office	170
Design Section	150
Printing Hall	750
Cutting Hall	180
Store	200
<b>Total</b>	<b>1,550</b>

### 9.4 Machinery & Equipment Requirement

Plant, machinery and equipment for the proposed project are stated below.

**Table 8: Machinery & Equipment**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Heidelberg 72 (Imp / Hour)	1	2,000,000	2,000,000
Heidelberg GTO 52 Machine (Above 93)	1	1,600,000	1,600,000
Generator Set (20 kva)	1	980,000	980,000
Laser 4 Color Printer HP (Print / Hour)	1	250,000	250,000
Cutting Machine (920mm)	1	175,000	175,000
Die Cutting Machine (660x930 mm)	1	175,000	175,000

<b>Total</b>			<b>5,180,000</b>
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## 9.5 Furniture & Fixtures Requirement

Details of the furniture and fixture required for the project are given below.

**Table 9: Furniture & Fixture**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Table & Chairs (Owner)	1	35,000	35,000
Visitor Chairs (Owner)	3	8,000	24,000
Sofas(owner)	2	20,000	40,000
Cupboard(owner)	1	15,000	15,000
Table & Chairs	3	18,000	54,000
Visitor & Office Chairs	10	6,000	60,000
Sofas	2	20,000	40,000
Cupboard	2	15,000	30,000
Air Conditioner (1 ton)	3	60,000	180,000
LED Bulbs	18	350	6,300
Fans	7	4,000	28,000
Fridge	1	51,500	51,500
Stools	7	2,300	16,100
Renovation	1	250,000	250,000
<b>Total</b>			<b>829,900</b>

## 9.6 Office Equipment Requirement

Following office equipment will be required for the project are given below.

**Table 10: Office Equipment**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Personal Computers	3	30,000	90,000
Laptop	1	70,000	70,000
UPS Batteries	4	10,800	43,200
UPS	2	21,400	42,800
Computer Printer	1	23,000	23,000
Water Dispenser	1	19,000	19,000
Scanner- flat bed (BEN Q)	1	9,500	9,500
<b>Total</b>			<b>297,500</b>

## 9.7 Raw Material requirements

Papers, plates, and ink of different colors are the major raw material used for the printing purpose. Imported as well as local paper and board is being used by the industry. Imported paper is normally used in annual reports, brochures, catalogues, prospectus and visiting cards etc. Imported paper is also readily available in local markets. Majority of business is done on order basis therefore, raw material inventory is maintained on the nature and scope of ongoing orders. The list of different types of papers and other raw material required by the unit is provided in the following.

**Table 11: Major Raw Material Required**

Description	Unit	Unit Cost (Rs.)	Availability
Mat Art Paper 135 gram	Rim	3,675	Imported
Mat Art Paper 115 gram	Rim	3,200	Imported
Mat Art Card 310 gram	Rim	1,800	Imported
Offset Paper 100 gram	Rim	3,175	Imported
Art Card 310 gram	Rim	1,800	Imported
Flying Paper 68 gram	Rim	2,300	Local
Plate		250	Imported
<b>Total</b>			

## 9.8 Human Resource Requirement

In order to run operations of Printing Press Unit smoothly, details of human resources required along with number of employees and monthly salaries are recommended as under.

**Table 12: Human Resource Requirement**

Description	No. of Employees	Monthly Salary per person (Rs.)
Owner/Manager	1	40,000
Graphic Designer	1	35,000
Accounts Officer	1	25,000
Machine Man	4	25,000
Composer	1	20,000
Helper	3	20,000

Cutting Master	1	20,000
Office Boy	1	20,000
Security Guards	2	20,000
<b>Total</b>	<b>15</b>	

### 9.9 Utilities and other costs

An essential cost to be borne by the project is the cost of electricity. The electricity expenses are estimated to be around Rs. 80,854 (Direct & In-direct) per month. Furthermore, promotional expense being essential for marketing of printing press unit is estimated as 0.75% of Revenue.

### 9.10 Revenue Generation

Based on the capacity utilization of 40%, sales revenue during the first year of operations is provided in the table below.

**Table 13: Revenue Generation – Year 1**

Description	No. of Units Produced (No.)	Sale Price / unit (Rs.)	Sales Revenue (Rs.)
Financial Report	12,218	170.63	2,084,700
Brochure	127,272	27.11	3,449,967
Book	13,884	152.68	2,119,852
Pamphlet	305,454	5.14	1,571,451
Letterhead	1,832,727	3.02	5,527,592
Voucher	4,538,181	3.08	13,962,319
Visiting Cards	1,134,545	2.40	2,727,743
Packing Mat	133,242	12.88	1,715,997
Invitation Cards	40,330	46.42	1,871,957
Digital Printing	1,440,000	13.09	18,848,250
<b>Total</b>			<b>53,879,828</b>

## 10 CONTACT DETAILS

In order to facilitate potential investors, contact details of private sector Service Providers relevant to the proposed project be given.

**Table 14: Machinery Suppliers**

Name of Supplier	Address	Phone
Saleh Muhammad & Sohail Printers	18- Victoria Park, The Mall Lahore	0300-9426644
Jaffery Foundry Engineering Workshop	20/A, Abdali Road , Islampura, Lahore	0300 -4210068
Universal Engineering Works	Main Band Road Opposite Sandha Ptl Exchange Sandha Khurd Service Road, Lahore, Punjab 54000	0324-9431198

**Table 15: Raw Material Suppliers**

Name of Supplier	Address	Phone
Abbasi paper & bleach Board Mart	Urdu Bazar Lahore	042-37351956-57
Hussnain Paper	Urdu Bazar Lahore	042-37244206 & 37352352
Bahu Traders	Urdu Bazar Lahore	042-37642990

## 11 USEFUL WEB LINKS

Small & Medium Enterprises Development Authority (SMEDA)	<a href="http://www.smeda.org.pk">www.smeda.org.pk</a>
Government of Pakistan	<a href="http://www.pakistan.gov.pk">www.pakistan.gov.pk</a>
Ministry of Industries & Production	<a href="http://www.moip.gov.pk">www.moip.gov.pk</a>
Government of Punjab	<a href="http://www.punjab.gov.pk">www.punjab.gov.pk</a>
Government of Sindh	<a href="http://www.sindh.gov.pk">www.sindh.gov.pk</a>
Government of Khyber Pakhtunkhwa	<a href="http://www.khyberpakhtunkhwa.gov.pk">www.khyberpakhtunkhwa.gov.pk</a>
Government of Baluchistan	<a href="http://www.balochistan.gov.pk">www.balochistan.gov.pk</a>
Government of Gilgit Baltistan	<a href="http://www.gilgitbaltistan.gov.pk">www.gilgitbaltistan.gov.pk</a>
Government of Azad Jammu Kashmir	<a href="http://www.ajk.gov.pk">www.ajk.gov.pk</a>
Trade Development Authority of Pakistan (TDAP)	<a href="http://www.tdap.gov.pk">www.tdap.gov.pk</a>



Security Commission of Pakistan (SECP)	<a href="http://www.secp.gov.pk">www.secp.gov.pk</a>
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	<a href="http://www.fpcci.com.pk">www.fpcci.com.pk</a>
State Bank of Pakistan (SBP)	<a href="http://www.sbp.org.pk">www.sbp.org.pk</a>
Punjab Small Industries Corporation	<a href="http://www.psic.gop.pk">www.psic.gop.pk</a>
Sindh Small Industries Corporation	<a href="http://www.ssic.gos.pk">www.ssic.gos.pk</a>
Punjab Vocational Training Council (PVTTC)	<a href="http://www.pvtc.gop.pk">www.pvtc.gop.pk</a>
Technical Education and Vocational Training Authority (TEVTA)	<a href="http://www.tevta.org">www.tevta.org</a>
Printing Corporation of Pakistan	<a href="http://www.pcp.gov.pk/">www.pcp.gov.pk/</a>
All Pakistan Paper Merchant Association	<a href="http://www.appma.com.pk">www.appma.com.pk</a>

## 12 ANNEXURES

### 12.1 Income Statement

Calculations											SMEDA
Income Statement											
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
Revenue	53,879,828	66,676,193	81,493,162	98,606,545	118,328,250	141,007,613	167,039,836	196,868,222	230,992,497	254,091,747	
<i>Cost of sales</i>											
Cost of goods sold	44,952,999	55,629,265	67,991,343	82,269,381	98,723,584	117,645,432	139,364,612	164,251,031	192,721,580	211,993,739	
Direct labour Cost	2,400,000	2,633,667.39	2,890,084.97	3,171,467.73	3,480,246.31	3,819,088	4,190,920	4,598,954	5,046,714	5,538,070	
Machinery maintenance cost	287,336	314,717	384,654	465,432	558,518	665,567	788,441	929,235	1,090,302	1,199,332	
Direct electricity + Gen Expen Cost	774,353	851,788	936,967	1,030,664	1,133,730	1,247,103	1,371,813	1,508,995	1,659,894	1,825,883	
Total cost of sales	48,414,688	59,429,437	72,203,049	86,936,944	103,896,079	123,377,190	145,715,787	171,288,214	200,518,491	220,557,024	
Gross Profit	5,465,140	7,246,756	9,290,113	11,669,601	14,432,171	17,630,423	21,324,049	25,580,008	30,474,006	33,534,723	
<i>General administration &amp; selling expenses</i>											
Administration Salaries expense	1,920,000	2,106,934	2,312,068	2,537,174	2,784,197	3,055,270	3,352,736	3,679,163	4,037,371	4,430,456	
Administration benefits expense	57,600	63,208.02	69,362.04	76,115	83,526	91,658	100,582	110,375	121,121	132,914	
Building rental expense	900,000	990,000	1,089,000	1,197,900	1,317,690	1,449,459	1,594,405	1,753,845	1,929,230	2,122,153	
Electricity expense	195,899	215,488	237,037	260,741	286,815	315,497	347,046	381,751	419,926	461,919	
Water expense	66,000	72,600	79,860	87,846	96,631	106,294	116,923	128,615	141,477	155,625	
Travelling expense	96,000	105,347	115,603	126,859	139,210	152,764	167,637	183,958	201,869	221,523	
Communications expense (phone, fax, mail, internet, etc.)	72,000	79,200	87,120	95,832	105,415	115,957	127,552	140,308	154,338	169,772	
Office expenses (stationary, entertainment, janitorial services, etc)	192,000	210,693	231,207	253,717	278,420	305,527	335,274	367,916	403,737	443,046	
Promotional expense	404,099	500,071	611,199	739,549	887,462	1,057,557	1,252,799	1,476,512	1,732,444	1,905,688	
Professional fees (legal, audit, consultants, etc.)	134,700	166,690	203,733	246,516	295,821	352,519	417,600	492,171	577,481	635,229	
Depreciation expense	700,157	700,157	700,157	715,788	715,788	715,788	733,883	733,883	733,883	754,830	
Amortization of pre-operating costs	45,000	45,000	45,000	45,000	45,000	-	-	-	-	-	
Bad debt expense	269,399	333,381	407,466	493,033	591,641	705,038	835,199	984,341	1,154,962	1,270,459	
Subtotal	5,052,853	5,588,770	6,188,812	6,876,071	7,627,615	8,423,327	9,381,635	10,432,838	11,607,840	12,703,612	
Operating Income	412,287	1,657,986	3,101,301	4,793,530	6,804,556	9,207,096	11,942,414	15,147,171	18,866,167	20,831,111	
Earnings Before Interest & Taxes	434,440	1,724,136	3,406,490	5,002,545	7,125,383	9,965,333	12,582,453	16,008,873	20,386,233	22,269,227	
Subtotal	-	-	-	-	-	-	-	-	-	-	
Earnings Before Tax	434,440	1,724,136	3,406,490	5,002,545	7,125,383	9,965,333	12,582,453	16,008,873	20,386,233	22,269,227	
Tax	1,722	148,620	471,623	920,764	1,613,884	2,607,866	3,523,858	4,723,105	6,255,181	6,914,229	
<b>NET PROFIT/(LOSS) AFTER TAX</b>	<b>432,718</b>	<b>1,575,516</b>	<b>2,934,868</b>	<b>4,081,782</b>	<b>5,511,499</b>	<b>7,357,467</b>	<b>9,058,595</b>	<b>11,285,767</b>	<b>14,131,052</b>	<b>15,354,998</b>	

## 12.2 Balance Sheet

Calculations											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Assets</b>											
<i>Current assets</i>											
Cash & Bank	197,607	1,574,578	3,717,416	6,417,682	10,303,506	15,362,634	21,625,456	29,577,618	39,358,529	51,274,756	63,774,550
Accounts receivable		1,476,159.66	1,651,452	2,029,717	2,467,119	2,971,710	3,552,546	4,219,828	4,985,042	5,861,106	6,644,990
Equipment spare part inventory	11,972	13,769	17,670	22,450	28,287	35,394	44,024	54,480	67,120	77,523	81,399
Raw material inventory	249,739	339,957	457,053	608,336	803,007	1,052,606	1,371,627	1,778,216	2,295,088	2,777,056	3,054,762
<b>Total Current Assets</b>	<b>459,318</b>	<b>3,404,463</b>	<b>5,843,591</b>	<b>9,078,186</b>	<b>13,601,919</b>	<b>19,422,344</b>	<b>26,593,653</b>	<b>35,630,142</b>	<b>46,705,779</b>	<b>59,990,441</b>	<b>73,555,701</b>
<i>Fixed assets</i>											
Security Deposit	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000	225,000
Machinery & equipment	5,180,000	4,662,000	4,144,000	3,626,000	3,108,000	2,590,000	2,072,000	1,554,000	1,036,000	518,000	-
Furniture & fixtures	829,900	746,910	663,920	580,930	497,940	414,950	331,960	248,970	165,980	82,990	-
Office equipment	297,500	198,333	99,167	344,393	229,596	114,798	398,678	265,786	132,893	461,520	307,680
<b>Total Fixed Assets</b>	<b>6,532,400</b>	<b>5,832,243</b>	<b>5,132,087</b>	<b>4,776,323</b>	<b>4,060,536</b>	<b>3,344,748</b>	<b>3,027,638</b>	<b>2,293,756</b>	<b>1,559,873</b>	<b>1,287,510</b>	<b>532,680</b>
<i>Intangible assets</i>											
Pre-operation costs	225,000	180,000	135,000	90,000	45,000	-	-	-	-	-	-
<b>Total Intangible Assets</b>	<b>225,000</b>	<b>180,000</b>	<b>135,000</b>	<b>90,000</b>	<b>45,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL ASSETS</b>	<b>7,216,718</b>	<b>9,416,707</b>	<b>11,110,678</b>	<b>13,944,509</b>	<b>17,707,455</b>	<b>22,767,092</b>	<b>29,621,292</b>	<b>37,923,898</b>	<b>48,265,652</b>	<b>61,277,951</b>	<b>74,088,381</b>
<b>Liabilities &amp; Shareholders' Equity</b>											
<i>Current liabilities</i>											
Accounts payable		1,873,728.51	2,318,577	2,835,895	3,434,224	4,124,799	4,920,273	5,835,031	6,885,307	8,082,183	8,890,242
<b>Total Current Liabilities</b>	<b>-</b>	<b>1,873,729</b>	<b>2,318,577</b>	<b>2,835,895</b>	<b>3,434,224</b>	<b>4,124,799</b>	<b>4,920,273</b>	<b>5,835,031</b>	<b>6,885,307</b>	<b>8,082,183</b>	<b>8,890,242</b>
<b>Total Long Term Liabilities</b>	<b>-</b>	<b>1,722</b>	<b>150,342</b>	<b>621,965</b>	<b>1,542,729</b>	<b>3,156,612</b>	<b>5,764,478</b>	<b>9,288,336</b>	<b>14,011,441</b>	<b>20,266,623</b>	<b>27,180,852</b>
<i>Shareholders' equity</i>											
Paid-up capital	7,216,718	7,216,718	7,216,718	7,216,718	7,216,718	7,216,718	7,216,718	7,216,718	7,216,718	7,216,718	7,216,718
Retained earnings		324,538	1,425,040	3,269,931	5,513,785	8,268,963	11,719,822	15,583,813	20,152,185	25,712,428	30,800,569
<b>Total Equity</b>	<b>7,216,718</b>	<b>7,541,256</b>	<b>8,641,758</b>	<b>10,486,649</b>	<b>12,730,503</b>	<b>15,485,681</b>	<b>18,936,540</b>	<b>22,800,531</b>	<b>27,368,903</b>	<b>32,929,146</b>	<b>38,017,287</b>
<b>TOTAL CAPITAL AND LIABILITIES</b>	<b>7,216,718</b>	<b>9,416,707</b>	<b>11,110,678</b>	<b>13,944,509</b>	<b>17,707,455</b>	<b>22,767,092</b>	<b>29,621,292</b>	<b>37,923,898</b>	<b>48,265,652</b>	<b>61,277,951</b>	<b>74,088,381</b>

### 12.3 Cash Flow Statement

Calculations											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Operating activities</i>											
Net profit		432,718	1,575,516	2,934,868	4,081,782	5,511,499	7,357,467	9,058,595	11,285,767	14,131,052	15,354,998
Add: depreciation expense		700,157	700,157	700,157	715,788	715,788	715,788	733,883	733,883	733,883	754,830
amortization of pre-operating costs		45,000	45,000	45,000	45,000	45,000	-	-	-	-	-
Deferred income tax		1,722	148,620	471,623	920,764	1,613,884	2,607,866	3,523,858	4,723,105	6,255,181	6,914,229
Accounts receivable		(1,476,160)	(175,293)	(378,265)	(437,402)	(504,590)	(580,837)	(667,282)	(765,214)	(876,064)	(783,884)
Equipment inventory	(11,972)	(1,797)	(3,901)	(4,780)	(5,837)	(7,107)	(8,631)	(10,456)	(12,639)	(10,404)	(3,876)
Raw material inventory	(249,739)	(90,218)	(117,096)	(151,283)	(194,670)	(249,600)	(319,021)	(406,588)	(516,872)	(481,968)	(277,706)
Accounts payable		1,873,729	444,848	517,318	598,328	690,575	795,475	914,757	1,050,276	1,196,876	808,059
<b>Cash provided by operations</b>	<b>(261,711)</b>	<b>1,485,151</b>	<b>2,617,851</b>	<b>4,134,637</b>	<b>5,723,752</b>	<b>7,815,449</b>	<b>10,568,107</b>	<b>13,146,767</b>	<b>16,498,306</b>	<b>20,948,556</b>	<b>22,766,651</b>
Issuance of shares	7,216,718	-	-	-	-	-	-	-	-	-	-
<b>Cash provided by / (used for) financing activities</b>	<b>7,216,718</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<i>Investing activities</i>											
Capital expenditure	(6,757,400)	-	-	(344,393)	-	-	(398,678)	-	-	(461,520)	-
<b>Cash (used for) / provided by investing activities</b>	<b>(6,757,400)</b>	<b>-</b>	<b>-</b>	<b>(344,393)</b>	<b>-</b>	<b>-</b>	<b>(398,678)</b>	<b>-</b>	<b>-</b>	<b>(461,520)</b>	<b>-</b>
<b>NET CASH</b>	<b>197,607</b>	<b>1,485,151</b>	<b>2,617,851</b>	<b>3,790,244</b>	<b>5,723,752</b>	<b>7,815,449</b>	<b>10,169,429</b>	<b>13,146,767</b>	<b>16,498,306</b>	<b>20,487,036</b>	<b>22,766,651</b>

## 13 KEY ASSUMPTIONS

### 13.1 Operating Cost Assumptions

Description	Details
Machinery Maintenance	Rs. 0.03 per unit of Production
Office Expenses (Janitorial Services, Stationery, Entertainment etc)	10% of Administration expenses
Communication Expenses	Rs. 6,000 Per Month
Travelling Expenses	5% of Administration expenses
Promotional Expenses	0.75% of Revenues
Operating Expense Growth Rate	10%
Depreciation Method	Accelerated depreciation
Depreciation Rate for Furniture & Fixtures & Office Equipment	10% each
Inflation Growth Rate	10%
Electricity Price Growth Rate	10%
Salaries Growth Rate	10%
Water price growth rate	10%
Gas price growth rate	10%
Wage growth rate	10%

### 13.2 Production Assumptions

Description	Details
Days Operational / Year	300
Hours Operational / Day 8	8
No of Shifts 1 Shift	1 Shift
Installed Capacity of Printing Machines per hour	15,000
Production Capacity Utilization in First Year	40%
Percentage Increase in Production Capacity every year	5%
Maximum Production Capacity Utilization	80%
Cost of Goods Sold Growth Rate.	10%

### 13.3 Revenue Assumptions

Description	Details
Sale Growth Price	10%
<b>Production Percentage for Heidelberg 72</b>	
Financial Report	20%
Brochure	25%
Book	30%
Pamphlet	10%
Letterhead	15%
<b>Production Percentage for Heidelberg GTO 52</b>	
Voucher	40%
Visiting Cards	10%
Packing Mat	25%
Invitation Cards	25%