

# Pre-Feasibility Study

## PRINTING PRESS



### Small and Medium Enterprises Development Authority

### Ministry of Industries & Production

### Government of Pakistan

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## 1 DISCLAIMER

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## **2 EXECUTIVE SUMMARY**

The market for printed material in Pakistan has been developing steadily over the last decade. This pre-feasibility aims to highlight the basic information for setting up a printing press business in any of the major urban city in Pakistan. 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, catalogues, posters, calendars, diaries and visiting cards, etc.), office stationary (letterheads, printed files, vouchers, invoices, inward / outward documents, etc.), published materials (literature and text books, etc.) and packing material printings.

Currently in Pakistan, majority of printing presses are using Solna and Rota machines, as they are easily available in local market at economical rates and cheap maintenance. Accordingly, in this feasibility study it is recommended to install two conventional machines (i.e. Solna and Rota) along with one Digital XEROX 5,000 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 proposed unit has an installed capacity of producing 14,175 impressions per hours, with Rota Machine 4,000, Solna 10,000 and Digital Printing 175 impressions per hour, respectively. Therefore, on 8 hours single shift basis proposed press will produce more than 37 million impressions annually. The unit will operate at 60% of the installed capacity during first year with a gradual increase of 5% in subsequent years to achieve the maximum capacity (i.e. 95%).

The estimated total cost of the proposed printing press is Rs. 7.18 million out of which Rs. 5.37 million is the capital cost and Rs. 1.81 million is for working capital. The project is to be financed through 50% debt and 50% equity. The project NPV is around Rs. 5.43 million, with an IRR of 30% and Payback Period of 4.79 years. The project will provide direct employment opportunities to 13 people including owner manager. The legal business status of this project is proposed as '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 text books 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 Stationary; Company Letter Heads, Files, Vouchers, Invoices, Visiting Cards, Book of Accounts, etc.
- ⇒ Publishing Material; Text Books, 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**

### **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 pre-press 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 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.

A typical job such as an 8.5 x 11 newsletter may include:

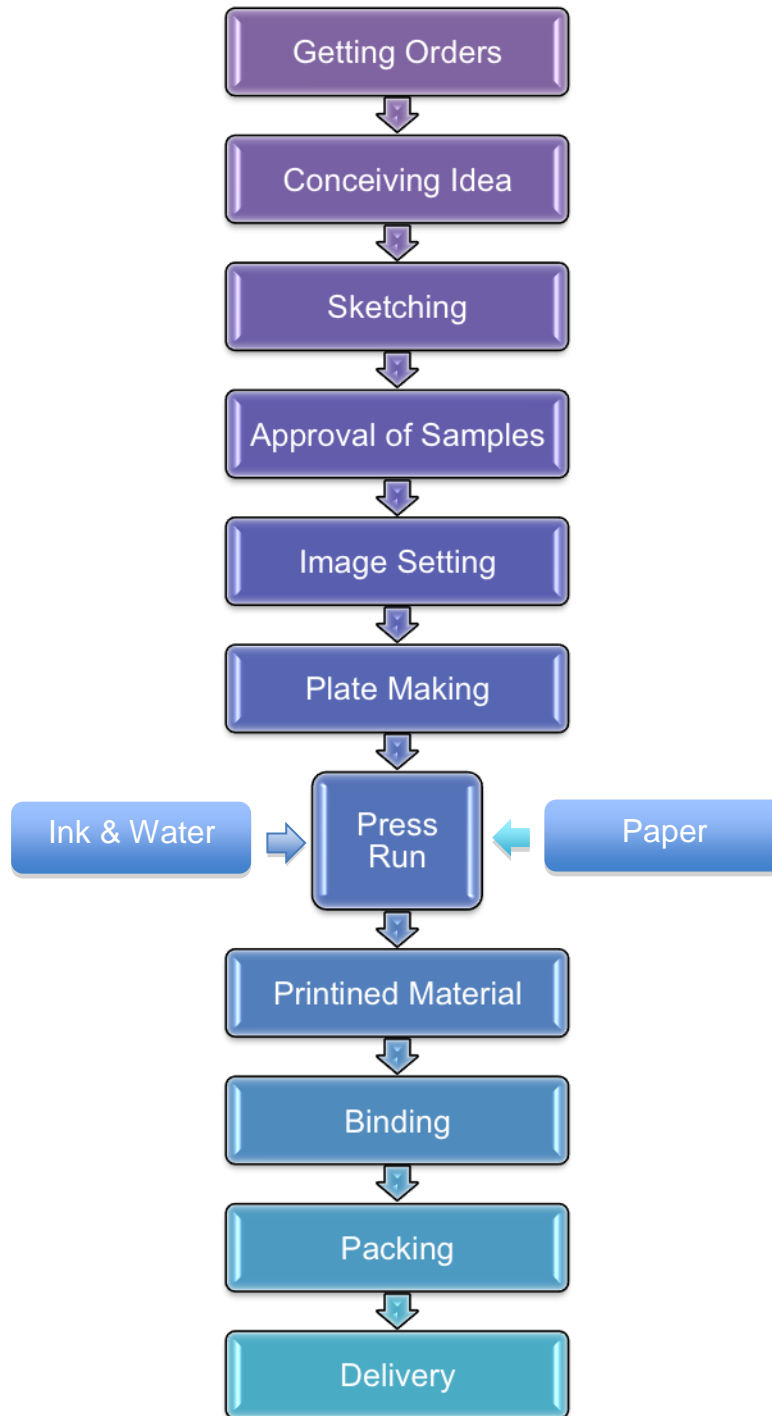
- i. A post press cut

- ii. A half fold
- iii. A double parallel fold

For the purpose of this feasibility, this process will be outsourced because the process is labor intensive and to perform the process in-house the business requires steady orders of binding.



**Figure: Production Process Flow Diagram**



## 5.2 Installed and Operational Capacity

The proposed printing press unit has an installed capacity of printing 14,175 impressions per hour with combination of three (03) machines (i.e. Rota, Solna and Digital Printing) having different printing technologies. The installed production capacities of Rota, Solna and Digital printing mainly comprises of 4,000 imp / hr, 10,000 imp / hr and 175 imp / hr, respectively.

The project would initially operate at 60% 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 95% 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 330 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	Installed Capacity (Units)	Maximum Capacity Utilization (95%)	Capacity Utilization in Year 1 (60%)
<b>Solna 125</b>		<b>26,400,000</b>	<b>25,080,000</b>	<b>15,840,000</b>
Financial Report	25%	6,600,000	6,270,000	3,960,000
Brochure	15%	3,960,000	3,762,000	2,376,000
Book	50%	13,200,000	12,540,000	7,920,000
Pamphlet	5%	1,320,000	1,254,000	792,000
Letterhead	5%	1,320,000	1,254,000	792,000
<b>Rota</b>		<b>10,560,000</b>	<b>10,034,000</b>	<b>6,336,000</b>
Vouchers	40%	4,224,000	4,013,000	2,534,000
Visiting Cards	5%	528,000	502,000	317,000
Packing Material	35%	3,696,000	3,512,000	2,218,000
Invitation Cards	20%	2,112,000	2,007,000	1,267,000
<b>Digital Printing Machine</b>		<b>462,000</b>	<b>439,000</b>	<b>277,000</b>

## 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 the proposed 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 on the basis of printing capacity of 14,175 impressions per hours, while unit will operate on 8 hours single shift basis for 330 days per year. The capacity utilization during year one is worked out at 60% with 05% increase in subsequent years up to the maximum capacity utilization of 95%.

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)	30%
Payback Period (Yrs.)	4.79
Net Present Value (Rs.)	5,433,263

### 9.2 Project Financing

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

**Table 3: Project Financing**

Description	Details
Total Equity (50%)	Rs. 3,591,751
Bank Loan (50%)	Rs. 3,591,751
Markup to the Borrower (%age / annum)	16%
Tenure of the Loan (Years)	5 Years

### 9.3 Project Cost

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

**Table 4: Project Cost**

Description	Amount Rs.
<b>Capital Cost</b>	
Machinery & Equipment	4,205,000
Furniture & Fixtures	553,500
Office Equipment	211,250
Pre-operating Costs	208,880
Security Deposit	195,000
<b>Total Capital Cost</b>	<b>5,373,630</b>
<b>Working Capital</b>	
Raw Material Inventory	1,269,395
Equipment Spare Part Inventory	45,478
Upfront Building Rent	195,000
Cash	300,000
<b>Total Working Capital</b>	<b>1,809,873</b>
<b>Total Project Cost</b>	<b>7,183,503</b>

### 9.4 Space Requirement

For establishing the proposed printing press unit with installation of three (03) machines approximately 1,450 sq. ft. area is required. Detail of covered area requirement for the project is given in below table:

**Table 5: Space Requirements**

Description	Covered Area (Sq. Ft)
Design Section	150
Printing Hall	700
Cutting Hall	200
Owner's Office	100

Accounts & Admin. Office	150
Store	150
<b>Total</b>	<b>1,450</b>

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. 65,000, besides that three (3) months' rent will be paid in advance.

### 9.5 Machinery & Equipment Requirement

The project is machine oriented and nature of jobs to be undertaken mostly depends upon the availability of machinery. Therefore, selection of machinery is the most important aspect of this project. Following is the detail of machinery required for this project:

**Table 6: Machinery & Equipment Requirement**

Description	Qty.	Unit Cost (Rs.)	Total Cost (Rs.)	Availability
Offset Printing Machine (Rota Reconditioned)	1	400,000	400,000	Imported but Locally Available
Offset Printing Machine (Solna 125, Sweden Reconditioned)	1	1,000,000	1,000,000	Imported but Locally Available
Cutting Machine (920 mm)	1	120,000	120,000	Locally Manufactured
Die Cutting Machine (660 x 930 mm)	1	120,000	120,000	Locally Manufactured
Digital Printing Machine	1	1,515,000	1,515,000	Imported
Generator Set (45 kva)	1	600,000	600,000	Local
Stabilizer for Digital Machine	1	450,000	450,000	Local
<b>Total</b>			<b>4,205,000</b>	

Technical specifications of these machines are given in the following table:

**Table 7: Technichal Specification of Machines**

Machine	Max. Sheet Size (mm)	Max. Capacity (imp/hr)	Installation Area (LxW) (mm)	Power (KW)	Expected Useful Life (Years)
Rota	345 x 454	6,000	1840 x 1030	1.15	20

Solna 125	483 x 640	8,000	1960 x 1304	3.70	20
XEROX (Digital Printing machine ) DC 5000	320 x 488	3,000 PP / hr	2400 x 2400	200 - 240 Vac, 50 / 60 Hz, 30A	20

In addition to the above stated machinery, latest more efficient alternative technologies (i.e. Offset Printing Machines) from Ronald and Hamada brands are also available in the market. However, the prices of these machines are higher compared to the proposed machines.

It is suggested that, initially project should be started with above proposed mix of machines and later on adaptation of latest technologies would be considered as business grows.

## 9.6 Furniture & Fixtures Requirement

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

**Table 8: Furniture & Fixture**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Furniture	1	150,000	150,000
Interior Designing	400	250	100,000
Electric Wiring and Lighting	1	100,000	100,000
Air Conditioners (1.5 ton Split)	3	60,000	180,000
Fans	7	2,500	17,500
Tube Lights	12	500	6,000
<b>Total</b>			<b>553,500</b>

## 9.7 Office Equipment Requirement

Following office equipment will be required for the proposed project.

**Table 9: Office Equipment and Vehicles**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
-------------	----------	-----------------	------------------

Laptop	4	42,000	168,000
Color Printer (DeskJet HP)	1	15,750	15,750
Printer Mono Laser Jet (HP)	1	8,000	8,000
Scanner- Flat Bed (BEN Q)	1	7,500	7,500
Fax Machine	1	12,000	12,000
<b>Total</b>			<b>211,250</b>

## 9.8 Raw Material Requirement

Papers, plates and ink of different colors are the major raw material used for the printing purposes. 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:

**Table 10: Major Raw Material Required**

Description	Unit	Unit Cost Price (Rs.)	Availability
Mat Art Paper 135 gram	Rim	4,800	Imported
Mat Art Paper 115 gram	Rim	4,830	Imported
Mat Art Card 310 gram	Rim	2,400	Imported
Offset Paper 100 gram	Rim	3,360	Imported
Art Card 310 gram	Rim	2,520	Imported
Flying Paper 68 gram	Rim	1,785	Local
Plate		174	Imported

## 9.9 Human Resource Requirement

The project is machine oriented but skilled labor (machine man) is required to operate the machines efficiently and effectively. Skilled machine man will result in lower wastage of paper and ink, lower maintenance cost of machines and also longer life of machines. This will enhance quality of product and timely delivery of order and hence, help in creating a good image among customers.



The table below shows Human Resource requirement and the proposed salary:

**Table 11: Human Resource Requirement**

Description	No. of Staff	Monthly Salary (Rs.)
Owner / Manager	1	40,000
Graphic Designer	1	35,000
Account Officer	1	18,000
Supervisor	1	20,000
Composer	2	17,000
Machine Man	3	14,000
Cutting Master	1	12,000
Office Boy	1	12,000
Security Guard	2	13,000
<b>Total Salaries</b>	<b>13</b>	

### 9.10 Utilities and Other Costs

The other essential cost to be borne by the project is the cost of electricity and diesel expenses for generator, which are assumed as Rs. 100,000 during first year of operations. An increase of 10% in electricity and diesel expenses is assumed in subsequent years. Similarly, travelling expenses are estimated as 10% of administrative expenses and communication expenses are estimated at Rs. 8,000 per month. Furthermore, promotional expense being essential for marketing of the unit is estimated as 1% of total revenue.

### 9.11 Revenue Generation

Based on the capacity utilization of 60%, sales revenue during the first year of operations is estimated as under:

**Table 12: Revenue During 1<sup>st</sup> Year of Operations**

Description	Impressions During 1st Year	Sale Price Per Impression	Sales During 1st Year
Financial Report	36,000	207.22	7,459,825
Brochure	180,000	36.22	6,518,700

Book	54,545	203.13	1,079,993
Pamphlet	360,000	5.59	2,012,868
Letterhead	1,440,000	2.68	3,855,456
Voucher	4,608,000	2.23	10,269,896
Visiting Cards	576,000	1.99	1,146,142
Packing Material	372,230	6.85	2,550,237
Invitation cards	41,030	37.06	1,520,605
Digital Prints	277,200	31.97	8,861,160
<b>Total</b>			<b>55,274,880</b>

## 10 CONTACT DETAILS

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

### 10.1 Machinery Suppliers

Name of Supplier	Address	Phone / Fax	E-mail / Website
Pakistan Machinery And Equipment Co. (Pvt.) Ltd.	303, Aamir Trade Centre, 233-1/A, PECHS, Block II, Shahrah-e-Quaideen, Karachi	+92-21-34551798, 34522776 Fax: +92-21-34522786	<a href="mailto:pme@super.net.pk">pme@super.net.pk</a>
Pakistan Printing Equipment Co. (Pvt.) Ltd.	C-11/3, Sidco Avenue Centre, 264 R.A. Lines, Stretchen Road, Karachi	+92-21-35656981, 35656982 Fax: +92-21-35653620	<a href="mailto:ppe@ppecl.com">ppe@ppecl.com</a>
Pakistan Machinery And Equipment Co. (Pvt.) Ltd.	303, Aamir Trade Centre, 233-1/A, PECHS, Block II, Shahrah-e-Quaideen, Karachi	+92-21-34551798, 34522776 Fax: +92-21-34522786	<a href="mailto:pme@super.net.pk">pme@super.net.pk</a>
Pakistan Printing Equipment Co. (Pvt.) Ltd.	C-11/3, Sidco Avenue Centre, 264 R.A. Lines, Stretchen Road, Karachi	+92-21-35656981, 35656982 Fax: +92-21-35653620	<a href="mailto:ppe@ppecl.com">ppe@ppecl.com</a>

### 10.2 Raw Material Suppliers

A few of the prominent suppliers of papers, plates and ink are listed below:

Name of Supplier	Address	Phone	Fax
Akbari Paper Store	15-Shahrah-e-Millat, (Ganpat Rd.) Lahore	92-42-7232599	92-42-7236484
Javed Commercial Corporation	4-Ahtesham Chambers, Paper Market, Shahrah-e-Millat, Lahore	92-42-7248509, 7357635	92-42-7244671
Grapho Scan Supplies (Pvt.)	Kashif Centre, 2nd Floor, 55-A, Chamberlaine	92-42-7232582, 7351200	92-42-7351100

Limited	Road, Lahore		
Malik Paper Mart	Ganpat Road, Lahore	92-42-7353482, 7311553, 7224255	92-42-7248115, 5837408
Royal Paper House	10 Royal Park, Lahore	92-42-6313265, 6363266	92-42-6363266
Zap Traders	Paper Market, 473 Shahrah-e-Liaquat, Karachi	92-21-2621423, 2628387	

## 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 Balochistan	<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 Jamu 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 (PSIC)	<a href="http://www.psic.gop.pk">www.psic.gop.pk</a>
Sindh Small Industries Corporation (SSIC)	<a href="http://www.ssic.gos.pk">www.ssic.gos.pk</a>
Punjab Vocational Training Council (PVTC)	<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>
Punjab Industrial Estates (PIE)	<a href="http://www.pie.com.pk">www.pie.com.pk</a>
Faisalabad Industrial Estate Development and Management Company (FIEDMC)	<a href="http://www.fiedmc.com.pk">www.fiedmc.com.pk</a>
Pakistan Association of Printing and Graphic Arts Industry (PAPGAI)	<a href="http://www.papgai.pk">www.papgai.pk</a>
Print Pak	<a href="http://www.printpak.com.pk">www.printpak.com.pk</a>
National College of Arts (NCA)	<a href="http://www.nca.edu.pk">www.nca.edu.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	55,274,880	65,869,131	78,029,729	91,963,544	107,904,057	126,112,710	146,884,413	170,548,934	187,603,828	206,364,210
<i>Cost of sales</i>										
Cost of goods sold 1	45,698,203	54,456,952	64,510,644	76,030,361	89,209,073	104,262,991	121,435,859	141,000,387	155,100,426	170,610,469
Operation costs 1 (direct labor)	1,260,000	1,419,142	1,557,549	1,709,421	1,876,070	2,058,938	2,259,604	2,479,804	2,725,226	2,990,558
Operating costs 2 (machinery maintenance)	1,091,475	1,334,978	1,581,677	1,864,367	2,187,777	2,557,226	2,978,687	3,458,868	3,810,326	4,191,358
Operating costs 3 (direct electricity + Gen Expen)	1,200,000	1,320,000	1,452,000	1,597,200	1,756,920	1,932,612	2,125,873	2,338,461	2,572,307	2,829,537
Total cost of sales	49,249,678	58,531,071	69,101,870	81,201,349	95,029,841	110,811,767	128,800,023	149,277,520	164,208,284	180,621,922
Gross Profit	6,025,203	7,338,060	8,927,859	10,762,195	12,874,216	15,300,943	18,084,390	21,271,414	23,395,544	25,742,289
<i>General administration &amp; selling expenses</i>										
Administration expense	1,572,000	1,725,052	1,893,006	2,077,311	2,279,561	2,501,503	2,745,052	3,012,315	3,305,598	3,627,436
Administration benefits expense	47,160	51,752	56,790	62,319	68,387	75,045	82,352	90,369	99,168	108,823
Building rental expense	780,000	858,000	943,800	1,038,180	1,141,998	1,256,198	1,381,818	1,519,999	1,671,999	1,839,199
Electricity expense	600,000	660,000	726,000	798,600	878,460	966,306	1,062,937	1,169,230	1,286,153	1,414,769
Water expense	60,000	66,000	72,600	79,860	87,846	96,631	106,294	116,923	128,615	141,477
Travelling expense	157,200	172,505	189,301	207,731	227,956	250,150	274,505	301,231	330,560	362,744
Communications expense (phone, fax, mail, internet, etc.)	96,000	105,600	116,160	127,776	140,554	154,609	170,070	187,077	205,785	226,363
Office expenses (stationary, entertainment, janitorial services, etc.)	78,600	86,253	94,650	103,866	113,978	125,075	137,253	150,616	165,280	181,372
Promotional expense	552,749	658,691	780,297	919,635	1,079,041	1,261,127	1,468,844	1,705,489	1,876,038	2,063,642
Professional fees (legal, audit, consultants, etc.)	276,374	329,346	390,149	459,818	539,520	630,564	734,422	852,745	938,019	1,031,821
Depreciation expense	496,975	496,975	496,975	496,975	496,975	496,975	496,975	496,975	496,975	496,975
Amortization of pre-operating costs	41,776	41,776	41,776	41,776	41,776	-	-	-	-	-
Bad debt expense	276,374	329,346	390,149	459,818	539,520	630,564	734,422	852,745	938,019	1,031,821
Subtotal	5,035,209	5,581,295	6,191,652	6,873,665	7,635,572	8,444,746	9,394,943	10,455,714	11,442,209	12,526,441
Operating Income	989,994	1,756,765	2,736,207	3,888,530	5,238,644	6,856,197	8,689,447	10,815,700	11,953,334	13,215,848
<i>Earnings Before Interest &amp; Taxes</i>										
Earnings Before Interest & Taxes	989,994	1,756,765	2,736,207	3,888,530	5,238,644	6,856,197	8,689,447	10,815,700	11,953,334	13,215,848
<i>Interest on short term debt</i>										
Interest on short term debt	125,543	184,376	58,833	-	-	-	-	-	-	-
<i>Interest expense on long term debt (Project Loan)</i>										
Interest expense on long term debt (Project Loan)	429,890	367,380	294,869	210,755	113,183	-	-	-	-	-
<i>Interest expense on long term debt (Working Capital Loan)</i>										
Interest expense on long term debt (Working Capital Loan)	80,331	-	-	-	-	-	-	-	-	-
Subtotal	635,765	551,757	353,702	210,755	113,183	-	-	-	-	-
Earnings Before Tax	354,229	1,205,009	2,382,505	3,677,775	5,125,461	6,856,197	8,689,447	10,815,700	11,953,334	13,215,848
<i>Tax</i>										
Tax	-	103,251	324,001	641,943	1,060,138	1,622,168	2,263,806	3,007,994	3,406,166	3,848,046
<b>NET PROFIT/(LOSS) AFTER TAX</b>	<b>354,229</b>	<b>1,101,757</b>	<b>2,058,504</b>	<b>3,035,831</b>	<b>4,065,323</b>	<b>5,234,029</b>	<b>6,425,641</b>	<b>7,807,705</b>	<b>8,547,168</b>	<b>9,367,802</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	300,000	-	-	430,577	2,356,977	4,968,388	9,108,492	14,061,951	20,406,886	27,142,075	48,148,447
Accounts receivable		1,514,380	1,659,507	1,971,217	2,328,675	2,737,912	3,205,709	3,739,687	4,348,402	4,906,202	5,396,822
Finished goods inventory		1,407,134	1,629,345	1,923,312	2,259,778	2,644,309	3,083,142	3,583,308	4,152,669	4,561,341	5,017,276
Equipment spare part inventory	45,478	58,405	72,658	89,927	110,802	135,989	166,322	202,791	234,566	270,924	-
Raw material inventory	1,269,395	1,663,962	2,168,274	2,811,011	3,628,083	4,664,350	5,975,862	7,632,496	9,235,320	11,174,738	-
Pre-paid building rent	195,000	214,500	235,950	259,545	285,500	314,049	345,454	380,000	418,000	459,800	-
<b>Total Current Assets</b>	<b>1,809,873</b>	<b>4,858,382</b>	<b>5,765,734</b>	<b>7,485,590</b>	<b>10,969,815</b>	<b>15,464,997</b>	<b>21,884,982</b>	<b>29,600,233</b>	<b>38,795,844</b>	<b>48,515,080</b>	<b>58,562,545</b>
<i>Fixed assets</i>											
Security Deposit	195,000	195,000	195,000	195,000	195,000	195,000	195,000	195,000	195,000	195,000	195,000
Machinery & equipment	4,205,000	3,784,500	3,364,000	2,943,500	2,523,000	2,102,500	1,682,000	1,261,500	841,000	420,500	-
Furniture & fixtures	553,500	498,150	442,800	387,450	332,100	276,750	221,400	166,050	110,700	55,350	-
Office equipment	211,250	190,125	169,000	147,875	126,750	105,625	84,500	63,375	42,250	21,125	-
<b>Total Fixed Assets</b>	<b>5,164,750</b>	<b>4,667,775</b>	<b>4,170,800</b>	<b>3,673,825</b>	<b>3,176,850</b>	<b>2,679,875</b>	<b>2,182,900</b>	<b>1,685,925</b>	<b>1,188,950</b>	<b>691,975</b>	<b>195,000</b>
<i>Intangible assets</i>											
Pre-operation costs	208,880	167,104	125,328	83,552	41,776	-	-	-	-	-	-
<b>Total Intangible Assets</b>	<b>208,880</b>	<b>167,104</b>	<b>125,328</b>	<b>83,552</b>	<b>41,776</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL ASSETS</b>	<b>7,183,503</b>	<b>9,693,261</b>	<b>10,061,862</b>	<b>11,242,967</b>	<b>14,188,441</b>	<b>18,144,872</b>	<b>24,067,882</b>	<b>31,286,158</b>	<b>39,984,794</b>	<b>49,207,055</b>	<b>58,757,545</b>
<b>Liabilities &amp; Shareholders' Equity</b>											
<i>Current liabilities</i>											
Accounts payable		1,993,646	2,384,912	2,835,339	3,354,806	3,953,309	4,642,290	5,434,925	6,325,855	7,000,948	7,183,637
Short term debt	-	1,457,507	794,440	-	-	-	-	-	-	-	-
<b>Total Current Liabilities</b>	<b>-</b>	<b>3,451,153</b>	<b>3,179,352</b>	<b>2,835,339</b>	<b>3,354,806</b>	<b>3,953,309</b>	<b>4,642,290</b>	<b>5,434,925</b>	<b>6,325,855</b>	<b>7,000,948</b>	<b>7,183,637</b>
<i>Other liabilities</i>											
Long term debt (Project Loan)	2,686,815	2,296,127	1,842,929	1,317,219	707,395	-	-	-	-	-	-
Long term debt (Working Capital Loan)	904,936	-	-	-	-	-	-	-	-	-	-
<b>Total Long Term Liabilities</b>	<b>3,591,751</b>	<b>2,296,127</b>	<b>1,842,929</b>	<b>1,317,219</b>	<b>707,395</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<i>Shareholders' equity</i>											
Paid-up capital	3,591,751	3,591,751	3,591,751	3,591,751	3,591,751	3,591,751	3,591,751	3,591,751	3,591,751	3,591,751	3,591,751
Retained earnings		354,229	1,447,830	3,498,657	6,534,489	10,599,812	15,833,841	22,259,482	30,067,187	38,614,355	47,982,157
<b>Total Equity</b>	<b>3,591,751</b>	<b>3,945,981</b>	<b>5,039,581</b>	<b>7,090,409</b>	<b>10,126,240</b>	<b>14,191,563</b>	<b>19,425,592</b>	<b>25,851,233</b>	<b>33,658,939</b>	<b>42,206,107</b>	<b>51,573,908</b>
<b>TOTAL CAPITAL AND LIABILITIES</b>	<b>7,183,503</b>	<b>9,693,261</b>	<b>10,061,862</b>	<b>11,242,967</b>	<b>14,188,441</b>	<b>18,144,872</b>	<b>24,067,882</b>	<b>31,286,158</b>	<b>39,984,794</b>	<b>49,207,055</b>	<b>58,757,545</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		354,229	1,093,601	2,050,827	3,035,831	4,065,323	5,234,029	6,425,641	7,807,705	8,547,168	9,367,802
Add: depreciation expense		496,975	496,975	496,975	496,975	496,975	496,975	496,975	496,975	496,975	496,975
amortization of pre-operating costs		41,776	41,776	41,776	41,776	41,776	-	-	-	-	-
Accounts receivable		(1,514,380)	(145,127)	(311,710)	(357,458)	(409,237)	(467,797)	(533,977)	(608,715)	(557,800)	(490,620)
Finished goods inventory		(1,407,134)	(222,211)	(293,968)	(336,465)	(384,531)	(438,834)	(500,166)	(569,361)	(408,672)	(455,934)
Equipment inventory	(45,478)	(12,927)	(14,253)	(17,268)	(20,876)	(25,187)	(30,333)	(36,469)	(31,775)	(36,358)	270,924
Raw material inventory	(1,269,395)	(394,568)	(504,312)	(642,737)	(817,072)	(1,036,266)	(1,311,512)	(1,656,634)	(1,602,824)	(1,939,417)	11,174,738
Pre-paid building rent	(195,000)	(19,500)	(21,450)	(23,595)	(25,955)	(28,550)	(31,405)	(34,545)	(38,000)	(41,800)	459,800
Accounts payable		1,993,646	391,266	450,427	519,467	598,503	688,981	792,634	890,931	675,093	182,688
Cash provided by operations	(1,509,873)	(461,883)	1,116,265	1,750,727	2,536,224	3,318,806	4,140,105	4,953,459	6,344,935	6,735,189	21,006,372
<i>Financing activities</i>											
Project Loan - principal repayment		(390,688)	(453,198)	(525,710)	(609,824)	(707,395)	-	-	-	-	-
Working Capital Loan - principal repayment		(904,936)	-	-	-	-	-	-	-	-	-
Short term debt principal repayment		-	(1,457,507)	(794,440)	-	-	-	-	-	-	-
Additions to Project Loan	2,686,815	-	-	-	-	-	-	-	-	-	-
Additions to Working Capital Loan	904,936	-	-	-	-	-	-	-	-	-	-
Issuance of shares	3,591,751	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares											
Cash provided by / (used for) financing activities	7,183,503	(1,295,624)	(1,910,706)	(1,320,150)	(609,824)	(707,395)	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(5,373,630)	-	-	-	-	-	-	-	-	-	-
Acquisitions											
Cash (used for) / provided by investing activities	(5,373,630)	-	-	-	-	-	-	-	-	-	-
<b>NET CASH</b>	<b>300,000</b>	<b>(1,757,507)</b>	<b>(794,440)</b>	<b>430,577</b>	<b>1,926,400</b>	<b>2,611,410</b>	<b>4,140,105</b>	<b>4,953,459</b>	<b>6,344,935</b>	<b>6,735,189</b>	<b>21,006,372</b>

## 13 KEY ASSUMPTIONS

### 13.1 Operating Cost Assumptions

Description	Details
Machinery Maintenance	Rs. 0.05 per unit of Production
Office Expenses (Janitorial Services, Stationery, Entertainment etc)	5% of Administrative Cost
Communication Expenses	Rs. 8,000 Per Month
Travelling Expenses	10% of Administrative Cost
Promotional Expenses	1% of Revenues
Operating Expense Growth Rate	10%
Depreciation Method	Straight Line
Depreciation Rate for Furniture & Fixtures & Office Equipment	10% each

### 13.2 Production Assumptions

Description	Details
Days Operational / Year	330
Hours Operational / Day	8
No of Shifts	1 Shift
Installed Capacity of Printing Machines	14,175
Production Capacity Utilization in First Year	60%
Percentage Increase in Production Capacity every Year	5%
Maximum Production Capacity Utilization	95%
Cost of Goods Sold Growth Rate	10%

### 13.3 Revenue Assumptions

Description	Details
Sales Price Growth	10%
<b>Percentage of Profit on</b>	
Financial Report	25%
Brochure	15%



Book	50%
Pamphlet	5%
Letterhead	5%
Voucher	40%
Visiting Cards	5%
Packing Material	35%
Invitation cards	20%

### 13.4 Financial Assumptions

Description	Details
Debt	50%
Equity	50%
Interest Rate on Debt	16%
Debt Tenure	5 Years
Debt Payments / Year	12