

# **BUSINESS PROCESS OUT SOURCING (BPO)**

## **A. INTRODUCTION**

In simple words, Business Process Outsourcing is the transfer of operational responsibility of either business process or functions to an external service provider, together with information technology that supports these processes. Thus while the corporation continues to function commercially in the field of its core competence, it necessarily fans out every other aspect of its venture that it does not do itself.

The Global major companies have rated India as a prime destination for outsourcing. Recent surveys suggest that most US companies consider India as the best destination for offshore outsourcing. The BPO is made possible by new forms of encryption and faster methodologies that allow confidential data to dart instantly around the world.

Initially low end work such as data entry, setting up of call centres etc were considered as India based investment form global companies, but now the back office operations by several IT, Finance companies are being done from here.

Presently the share of outsourcing from India in sectors like Finance & Accounting, HR/ Payroll services, settlement and Clearing, Administration, occupies the major share. Several factors have acted as catalysts to the phenomenal growth of outsourcing.

## **B. MARKET POTENTIAL**

Over the past decade, the Indian BPO segment has witnessed significant transformation. Starting with basic data entry tasks, the industry graduated to a high proportion of voice-based services and a range of back-office processing activities. The last 3-4 years have seen the scope of services expanding to include increasingly complex processes involving rule-based decision making and even research services requiring informed individual judgment.

The rapid expansion in scope of BPO has been accompanied by an equally rapid adoption across a range of vertical industries. This wide range of services may be summarised into four broad categories comprising Finance and Accounting (F&A), Customer Interaction Services (CIS) and Human Resource Administration (HRA), and a wide range of other vertical-specific and niche services.

The BPO industry grew by 33.5% in 2006-07 contributing Rs 37,800 crore to software and services exports: Nasscom

A growth of 33.5% to reach Rs 37,800 crore, as estimated by Nasscom, is just one measure of the Indian offshore BPO industry's evolution in FY 2007. More importantly, FY 2007 is a year in which three significant trends marked the coming of age of the industry as a whole.

The sector saw a steady growth across horizontals like Finance and Accounting, Customer Interaction Services and Human Resource Administration. The expansion of emerging service lines like legal and risk management along with M & A, complemented the organic growth of this segment. Indian ITES-BPO exports grew from USD 6.3 billion in FY 2005-06 to USD 8.4 billion in FY 2006-07 and is expected to grow to USD 10.5-11bn in FY08.

➤ ITES-BPO employee base has grown to 553,000 in FY 07 from 415,000 in FY 06

## Key Highlights of Domestic BPO industry

- BPO demand in the domestic market has witnessed noticeable growth over the past few years. The annual revenue aggregate of the domestic market for ITES–BPO grew to USD 1.2 billion in FY 2006–07 from USD 0.9 billion in FY 2005–06, illustrating a significant increase in demand. While the high growth rate may be attributed to a small–base effect, the rapid adoption of BPO in the domestic market is receiving well–deserved attention.
- As the Indian economy becomes more globally integrated, businesses in India are beginning to face increasing levels of global competition and being pushed to deliver world class levels of product and service quality. BPO has emerged as an effective means of entrusting specialists with the task of consistently delivering the desired high–levels of quality – leaving the client organisations to focus on their core businesses.

India has already made its presence felt in business process outsourcing by leveraging on its cost advantage vis–a–vis other countries. However these operations can be further scaled up to provide employment to the teeming educated millions in the country.

The major market segments include voice based call centres, health care segments (medical transcription, billing, claims, coding, claim adjudication, information services, etc), etc. Telemarketing call centres offers services in Tele–banking, Airline Bookings, Records Verification, etc. India with its huge English speaking population is already leveraging on this strength.

It is estimated that by 2008, US healthcare industry alone will outsource business process worth US\$ 4.5 billion offering employment to 200,000 people. According to estimates by Frost & Sullivan, Indian call center industry will be worth US\$ 750 million by 2008 growing at a CAGR of 21%.

During 2006–07, hiring of lawyers was stepped up with legal outsourcing in India which is expected to grow more than ten-fold by 2010. LPOs are headed for consolidation as only a few are doing high-end legal work.

- Operating costs of ITES/BPO per full time employee in India is typically 20% of the US costs.
- A well-established IT/BPO industry with a proven track record in terms of quality of service, reliability and productivity.
- A large and growing pool of highly skilled professionals fluent in English.
- The geographical advantage for 24/7 operations.
- World-class infrastructure facilities for outsourcing.

There is wide scope for Indian BPO companies to tap the global healthcare industry in the advanced areas such as Imaging, Disease Management and Claims Processing.

The major BPOs of India and their growth in last two years were as under.

<b>The BPO Top 20</b>							
<b>Rank 2006- 07</b>	<b>Rank 2005- 06</b>	<b>Company</b>	<b>Ownership</b>	<b>Revenue 2006-07</b>	<b>Revenue Growth</b>	<b>Manpower as on 31 March 2007</b>	<b>Manpower Growth</b>
1	1	Genpact	Listed on NYSE	2,220	36.2	26,731	27.3
2	23	Transworks	Subsidiary of AV Birla Group	1,510	826.4	9,978	174.9
3	7	IBM Daksh	Subidiary of IBM	1,260	72.1	22,000	22.2
4	20	TCS BPO	Division of TCS	1,107	521.9	6,450	160.3
5	New	Cambridge Solutions	Listed on BSE, NSE	1,000	16.6	2,800	16.7
6	3	WNS Global Services	Listed on NYSE	990	51.8	14,600	39.9
7	4	Wipro BPO	Subsidiary of Wipro	935	21.9	17,464	8.6
8	2	Convergys India	Subsidiary of Convergys	890	27.1	12,000	20.0
9	9	Firstsource Solutions	Listed on BSE, NSE	809	50.7	14,396	72.4
10	8	HCL BPO	Subsidiary of HCL	746	38.4	12,354	42.1
11	5	Aegis BPO	Subsidiary of Essar Group	736	25.6	13,132	65.3
12	10	Infosys BPO	Subsidiary of Infosys	657	76.1	11,226	59.9
13	11	EXL Service	Listed on NASDAQ	631	84.0	8,966	45.1
14	13	Sutherland Global Services	Privately held	493	59.5	9,000	50.0
15	12	vCustomer	Privately held	443	25.5	3,600	20.0
16	17	HTMT Global	Listed on BSE, NSE	353	16.9	10,061	50.1

17	15	24/7 Customer	Privately held	347	14.1	5,240	-19.4
18	19	Aptara	Privately held	336	36.0	3,968	13.4
19	14	e4e	Privately held	330	22.2	3,516	20.8
20	16	Mphasis BPO	Subsidiary of EDS, Listed on NSE, BSE	301	17.6	9,485	13.5
		<b>Total</b>		<b>16,094</b>	<b>59.4</b>	<b>216,967</b>	<b>36.3</b>

The significant difference between manpower growth and revenue growth is not because of productivity gains, but manpower base tilting toward onshore, because of large onshore acquisitions. Two companies from last years list Office Tiger and GTLdont feature in the list. While Office Tiger got acquired by RR Donelley and operates as its captive unit, GTL exited the BPO business

Source: The Hindu Business line

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## **C. TECHNICAL ASPECTS**

### **1. Installed capacity**

The installed capacity proposed is 50 seated Pay roll Processing Outsourcing unit .This can process about 8000 Pay rolls per day. The charges are about US\$ 0.50 per Pay roll processing.

### **2. Process of BPO**

Accounting firms based abroad in Canada or USA are currently providing Accounting and Payroll Services to various companies.

The details of these companies are passed on to the Indian Company.

Each of these companies requires its own cheque stationery to be used when the cheques get printed. The reporting requirements also vary from company to company .

A set of employees are responsible to carry out these activities which is non optimal and time consuming as they have to mount and dismount various types of stationeries depending on the company for which they are processing. The frequency of the payroll run also varies from company to company and can be once a week , once in two weeks or once in a month.

There would be basically two types of data elements to be captured for processing the Pay Roll system

- A. The Master or One Time Information and
- B. The Transactions for a period of processing on a continuous basis

### **MASTER or One Time Information**

This contains the following

- A. Company Information
- B. Number of Employees with their social Insurance Number (SIN) associated with the Company
- C. Personal Information containing
  - 1. First Name
  - 2. Middle Name
  - 3. Last Name
  - 4. Street
  - 5. City
  - 6. Province
  - 7. Country
  - 8. Postal Code
  - 9. Phone
  - 10. SIN

11. DOB
12. Hire Date
13. Active/ Inactive Status
14. Current Designation
15. Other

D. Tax

1. Tax Rate
2. Federal
3. Provincial
4. Social Insurance Tax
5. Additional Tax if any
6. Other deductions

E. Income

1. Hours worked
2. Rate per Hour
3. Over Time -1 hour
4. Overtime-2 Hours
5. Salary per period
6. Benefits per period
7. Commission etc per period

F. Deductions

1. Pension
2. Medical
3. Other deduction-1
4. Deduction-2

The BPO Unit has to purchase and install a software Fortune 1000 Package for Pay roll processing



Receiving Master data to India

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Process data

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Generate Cheque Images and other Reports as available in Fortune 1000 in Text

Format

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Send processed reports

### **3. MACHINERY AND EQUIPMENT**

The following machinery and equipments are required to be purchased.

<b>Items</b>	<b>Qty</b>	<b>Value Rs. lakhs</b>
Computers	50	15.00
Routers & communication Equipments and Generator	1 set	2.00
Software Payroll Process	1	15.00
Recruitment & training	1	5.00
Miscellaneous furniture etc		3.00
<b>Total</b>		<b>40.00</b>

### **4. RAW MATERIALS**

There is no raw material for the process other than computer stationery.

### **5. LAND & BUILDING**

An area of 4000 sq.ft is required. A rented place can be taken The monthly rent is Rs.1.00 lakh. An advance of Rs.10.00 lakhs is provided.

## **6. UTILITIES**

### **POWER**

The power requirement is about 50 HP which can be taken from the Electricity Board. A standby generator can also be provided

### **WATER**

Water is required for human consumption only.

### **MANPOWER**

Senior Management Personnel	3
Middle Management	3
Operating Staff	50

## **7. IMPLEMENTATION SCHEDULE**

As the equipments are available easily, if financing arrangements are made, the project can be implemented in 1 month's time.

## **8. ASSUMPTIONS**

1. Installed Capacity of the unit is estimated at 2400000 Nos Pay Roll processing per annum.
2. The rate assumed is US \$0.50 per Roll Processed. ( Rs. 20.00 per Pay Roll)
3. During first year capacity utilisation is assumed at 60%. This will be increased to 70% and 80 % in subsequent years.

4. Salary Rs 90.00 lakhs per annum for 50 operating employees at Rs 15000 per month.
5. Rent is estimated at Rs 1.00 lakh per month.
6. Electricity charges Rs.1.25 lakhs per month.
7. Employees welfare Rs 1.25 lakhs per month
8. Communication Expenses Rs.2.50 lakhs per month
9. Transport expenses Rs.1.25 lakhs per month
- 10 .Executives salary Rs 4.50 lakhs per month
11. Depreciation is provided at 60% on written own value method.
12. Interest on Term Loan 12% per annum
13. Interest on working capital is not provided as the working
14. Capital finance is not envisaged.

## **SUPPLIERS OF EQUIPMENT**

### **Routers**

1. Skylark Information Technologies Pvt Ltd, "Lakshmi House" No:42,40 Ft Scheme Road, Kamdhar Nagar, Mahalingapuram, Nungambakkam, Chennai-600 034

## Computers

1. Wipro systems, Alwarpet Chennai, Several Other Dealers/ manufacturers

### **COST OF PROJECT & MEANS OF FINANCE**

<b>Cost of project</b>	<b>Rs. lakhs</b>
Land & Building –Advance	10.00
Computers	15.00
Routers& communication Equipment	2.00
Software	15.00
Recruitment & training	5.00
Misc Assets	3.00
Pre–operative expenses	10.00
Working capital	15.00
<b>TOTAL</b>	<b>75.00</b>

### **MEANS OF FINANCE**

Capital	51.00
Term loan	24.00
<b>TOTAL</b>	<b>75.00</b>

### **COST & PROFITABILITY STATEMENT**

<b>Year</b>	<b>1</b>	<b>2</b>	<b>3</b>
No of pay rolls processed	2400000	2400000	2400000
INCOME 2400000 0.5 40			
INCOME Rs. Lakhs	480.00	480.00	480.00
Capacity Utilisation	60%	70%	80%

Income	288.00	336.00	384.00
Salary	90.00	94.50	99.23
Rent	12.00	12.00	12.00
Employee welfare	15.00	15.75	16.54
Electricity	15.00	15.75	16.54
Communication expenses	30.00	31.50	33.08
Transport	15.00	15.75	16.54
Salary to Executives	54.00	56.70	59.54
Interest on Term Loan	4.32	3.46	2.59
Interest on Working capital	0.00	0	0
Depreciation	39.60	15.84	6.34
	274.92	261.25	262.38
Profit before tax	13.08	74.75	121.62
Provision for Taxes	4.69	26.82	43.64
Profit after taxes	8.39	47.93	77.98
add Depreciation	39.60	15.84	6.34
Cash Accruals	47.99	63.77	84.32

#### **WORKING CAPITAL**

Expenses	2 months	15.00
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#### **BREAK EVEN LEVEL**

##### **Fixed Cost**

Rent	12.00
Electricity-50%	8.27
Communication expenses-50%	16.54

Salary to Executives		59.54			
Interest on Term Loan		2.59			
Depreciation		6.34			
<b>Total</b>		<b>105.27</b>			
Profit before Tax		121.62			
BEL	FCX100	105.27	X	80	100
	FC+P	226.89		100	
		37.12	%		

#### **PROFITABILITY RATIOS BASED ON 80% UTILISATION**

Profit after Tax	77.98	20%
Sales	384.00	
Profit Before Interest and Tax	124.21	166%
Total Investment	75.00	
Profit after Tax	77.98	153%
Promoter's capital	51.00	

# CALL CENTRE

## A. INTRODUCTION

A typical call center is a service center which has adequate telecom facilities, trained consultants, access to wide database, internet and other on-line information support infrastructure to provide information and support to a customer. It operates to provide round the clock and year round service i.e. 365 days and 24 hour service.

India has emerged as destination for international companies to set up their Call Centres. Some of the reasons for this are Indian companies leveraging on the booming IT Industry, English speaking population and low cost.

## B. MARKET POTENTIAL

The following services are being provided by the call centres.

### 1. Automatic Call Distributor (ACD)

Calls may be distributed in various ways to optimize usage of the call centre resources and allow the best possible agent to service the customer calls. Call Centre performs all the tasks of an automatic call distribution system with powerful skills and rules based routing functionalities that apply across all media types.

### 2. Interactive Voice Response (IVR) Fax on Demand (FoD)

These allow routing information dissemination using fax on pre-recorded voice messages, which reduces the time spent by the agent in providing unnecessary details, thus increasing his efficiency and reducing fatigue. Call Centre's Interactive Voice Response functionality includes self-service, speech recognition and fax management capabilities.

### **3. Outbound call management & predictive dialing**

Predictive dialing goes beyond just automating the dialing process to eliminate time which would otherwise be wasted in the calling process and improves productivity. This is done by dialing calls according to a complex calling algorithm to smooth out the centre's workflow. The calling process is also made efficient by screening out no answer, busy, out of order and answering machine calls.

### **4. Computer Telephony Integration (CTI)**

A common perception is that CTI is just for a "Screen pop", in which customer information "pops up" on an agent's screen as a call is received. However CTI encompasses much more as the coordination of real time voice events and database events allows real time feedback for Dynamic Routing Schemes, Call Flow Scripting, workforce Management and Real Time Reporting.

### **5. Email Management**

Automated Email responses; Knowledge base and intelligent routing features enable agents to effectively address the needs of customers.

### **6. Web Chat and Web collaboration**

Using Web Chat and Collaboration, agents are able to assist customers visiting a company's web site via live interactive chat sessions and collaborative assistance through agent/customer browser synchronization.

A recent study by the National Association of Software and Service Companies (Nasscom) McKinsey has estimated that this industry can earn almost \$17 billion of revenue and provide jobs to more than one million work force.



## **Advantage of getting Call Centres done in India**

- Availability of huge English speaking population
- Infrastructure – communications, technology, geography
- Emerging open economic policy
- Dollar to Rupee conversion.
- Customized and excellent Call Centre Training
- Pioneers in the business with a varied and rich experience spreading 5 years.
- Time tested and proven comprehensive training program developed for the Indian scenario
- Direct Marketing and business development experience
- Direct clients and links to IT Service industry.
- Front office marketing and administrative hubs all over the United States.
- Have one of the largest communication lines and infrastructure facility.
- Comprehensive consulting program in setting up and running a viable Call Centres operation.
- Readily available work that can be outsourced.
- Specially designed "Train the Trainer" module that covers a novice to a full fledged trainer in month.

Currently the Indian market has about 50 computer telephony integrated (CTI) enabled centres while non CTI Call Centres are between 400 and 700.

## **The Call Centres can be used in the following areas of application**

- Automobiles
- Airlines
- Banking
- Financial Services
- Manufacturing
- Hospitality, Hotels
- Telecom services
- Govt. Institutions, Police, Electricity
- Computer companies etc.

## **Major Call Centres in India**

- GTL, Bangalore, Chennai, Hyderabad
- IT & T, New Delhi.
- Zenta Technologies, New Delhi.
- I Energizer, New Delhi.
- Daksh eService, New Delhi.
- Customr Asset, Bangalore
- Cybiz Call, Bangalore
- Msource India, Bangalore
- Transworks, Bangalore
- Tracmail, Mumbai
- Intelenet, Mumbai
- World Net Work Service, Mumbai
- Global eCMS, Mumbai
- Nortel Network India, Bangalore
- Servion Global Solutions Ltd., Chennai.
- Enhancement Technologies, Chennai.
- Allsec Technologies Ltd., Chennai.

## **The Operation**

The US company's computers will receive calls from clients. The data is then compressed and encrypted. This data is then piped through the  $n \times 64$  kbps satellite link to India. In India the data is received by the gateway earth-station (STPI/VSNL) and is sent via Microwave link to the office. Data is uncompressed and stored on a server and then fed via the LAN to the individual workstations. Each workstation comprises a computer with a sound card and an audio-feed mechanism and software and voice telephone. The Call Centreists convert the queries data into electronic text. The host computer keeps track of productivity and error rate of each caller. The data is later post-processed for errors and formatted and is then compressed and uploaded back to US as voice via the satellite link.

## **Objectives**

The Indian operation will have to engineer very high levels of quality into its operations since this is a critical criterion which can affect the future of the company. To this end, the best quality of infrastructure has to be set up and high caliber staff will need to be recruited. The training component is a very important criterion in producing high quality output.

Call centers cater to international clientele and they need people with the right skills and attitude. It's also a fast-growing business: last year the Indian IT-enabled services industry recorded a growth rate of 60 percent plus in the middle of an economic recession. Recruitment is only the first step in the process. Thousands of fresh recruits have to be put through crash courses on their specific jobs on a continuous basis.

Right now, the companies providing IT-enabled services are doing most of their own recruiting and training. But this will be hard to sustain as the numbers keep growing.

The global business in IT-enabled services is expected to cross \$ 600 billion in 2005. According to Nasscom-McKinsey estimates, the IT-e industry will create employment for over 1.1 million Indians by 2008. India is currently the preferred destination for this business because of the availability of large numbers of people with fluency in English and basic computing skills, and the relatively low cost of employing them in India.

Analysts say India has the potential to get more than a third of the total business in IT-enabled services, which includes call centers. However translation of that potential into reality will require relevant manpower, specially trained for this market

## **C. TECHNICAL ASPECTS**

### **1. Installed capacity**

A small Call Centre with 30 seaters is proposed to be set up.

In India, call center operates may have to take a special NOC ( No Objection Relations) from Deputy Director General ( Customer Relations ) at Department of Telecommunications, Government of India at New Delhi. This NOC is issued with the aim of generating a special permission to use voice circuits over international gateways with the Dedicated and stated purpose of serving overseas customers,

and accompanied by a bond that it will not be routed within India for any other purpose

## 2. Equipment

The following Software & Hardware are required.

- Premises
- Leased circuit
- Data Compression and Decompression equipment
- Voice enabled PCs connected to high performance servers.
- Predictive Dialers ( Considered an advantage as they help to maximize efficiency of infrastructure of a well as call taker)

<b>Particulars</b>	<b>[Rs. lakhs]</b>
License, S/w, H/w & Implementation	50.00
CRM Licensing cost	10.00
Server cost (Exchange, Web etc.) 6 Nos.	8.00
IPLC Cost & Multiplexer	15.00
Net working cost	5.00
Furnishing cost	11.00
Library	1.00
Computer and Hardware	10.00
A/c's UPS, Generators etc.	7.00
Vehicle	5.00
Training cost	5.00
Rent Advance	9.00
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<b>Total Capital Expenditure</b>	<b>136.00</b>
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<b>Pre-Operative Expenses</b>	<b>25.00</b>

- Working Capital 1.5 times of months expenses
- CRM cost is based on the requirement of the US client
- Except the client work station and training, other costs are all guideline values.
- Sqft. required per agent is 60 sqft.
- Training cost per agent is Rs.15,000/- (one and half shift)

#### PRE-OPERATIVE EXPENSES BREAK-UP

	Months	[Rs.lakhs]
IPLC Cost	1	6.00
Rent	3	3.00
Salary	2	8.00
Travel	4	1.00
Conveyance	3	1.00
Electricity	3	2.00
Repairs & Maintenance	4	0.50
Staff Welfare	3	0.50
Telephone	5	0.50
Office maintenance	5	0.50
Advertisement	3	2.00
		-----
<b>Total</b>		<b>25.00</b>
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## CIC SOFTWARE LICENSE

<b>Component</b>	<b>qty</b>
CIC Interaction server	1
CIC Database Tools	1
CIC Web Services	1
CIC Interaction Designer	1
Interaction Recorder	1
Interaction attendant (N/C)	
COM Interface Server License	1
Call Center Bundle License Bundle 1	15
Call Center Bundle License Bundle 2	15
Call Center 1 Workstation Only license	3
Supervisor Add on license	3
D/480 SC-2T1	1
MSI/240SC-R	1
MSI/80SC-R	1
MSI Global Power supply	2
SA/240 Station Interface Kit	2
Adtran 1200T1 CSU	2
VFX/40ESC plus	1
<b>Server Hardware</b>	
Server	1
Alliance I-9000	1
<b>Dataprobe Components</b>	
1 slot redundant power supply chassis	1
25pin cable	2
Control Card	1
Control Card to switch card cable	1
RS-232 Switch card	1
Switch Card to CIC systems cable	4
T-1 Switch Card	2
50 pin analog switch card	2
50 pin Dataprobe Station to MSI Cable	4
50 pin Dataprobe Station to Telcon Cable	2

<b>Back up Server</b>	
Server Hardware - Alliance I-9000	1
<b>Others</b>	
Dialogic Cards - D/480SC-2T1	1
<b>Station Boards</b>	
MSI/240SC-R	1
MSI/80SC-R	1
MSI Global Power Supply	2
SA/240 Station Interface Kit	2
VFX/40 ESC plus	1
<b>Total Cost Rs.50.00 lakhs</b>	

### 3. Land & Building

The Building area required - 18000 sq. ft.

(Space required on an average 60 sq. ft. per seater - Agent)

### 4. Utilities

#### Man Power:

Category	Nos.	Monthly Salary	Total Salary p.m.
Operators	30	12000	360000
Executives	4	25000	100000
			460000
Total salary per annum (Rs.lakhs)		Rs.55.20 lakhs	

### 5. Implementation Schedule

The machines are available from local supplier within two weeks period. The project can be implemented within one month period.



## ASSUMPTION

- Installed capacity of the proposed Call Center is 30 seaters.
- Income per seater per hour is \$6 at 100% utilisation. The unit works for 12 hours a day – 300 days per annum. The annual income works out to Rs.259.20 lakhs.(1 US\$=Rs.40.00)  $6 \times 30 \times 12 \times 300 = 648000$  US \$
- Salary is estimated at Rs.55.20 lakhs per annum.
- Rent is provided at the rate of Rs.2.70 lakhs p.m.
- Electricity charge is estimated at Rs.12.00 lakhs p.a. at 100% utilisation.
- Repairs & Maintenance is estimated at Rs.20000 per month.
- Depreciation is calculated on WDV method.
- Selling, General & Adm. Expenses is Rs.200000/- per month.
- Interest on Term loan is calculated at 12% p.a.
- Income tax is provided at 33.99% on taxable income.

## COST OF PROJECT AND MEANS OF FIANANCE

COST OF PROJECT	[Rs.lakhs]
Building (Advance)	27.00
Plant & Machinery	136.00
Contingencies	0.00
Electrical	0.00
Other Misc. assets	0.00
Pre-Operative expenses	25.00
Margin for WC	21.00
<b>Total</b>	<b>209.00</b>

## MEANS OF FINANCE

Capital	107.00
Term Loan	102.00
<b>Total</b>	<b>209.00</b>

## COST OF PRODUCTION & PROFITABILITY STATEMENTS

Years	1	2	3
Installed Capacity			
Income p.a. at 100% (Rs.lakhs)	259.20	302.40	345.60
Utilisation	60%	70%	80%
Income p.a.	155.52	211.68	276.48
Electricity	7.20	8.40	9.60
Salaries	55.20	57.96	60.86
Rent	32.40	34.02	35.72
Repairs & Maintenance	2.40	2.64	2.90
Depreciation	20.40	17.34	14.74
Cost of Production	117.60	120.36	123.82

Admin. & General expenses	24.00	25.20	26.46
Selling expenses	0.00	0.00	0.00
Interest on Term Loan	12.24	10.71	7.65
Interest on Working Capital	0.00	0.00	0.00
Total	153.84	156.27	157.93
Profit Before Tax	1.68	55.41	118.55
Provision for tax	0.57	18.83	40.30
Profit After Tax	1.11	36.58	78.25
Add: Depreciation	20.40	17.34	14.74
Cash Accruals	21.51	53.92	92.99

#### WORKING CAPITAL:

	Months	Values	%	Margin	Bank
	Consumptions			Amount	Finance
Raw Materials	0.00		25%	0.00	0.00
Consumables	0.00		25%	0.00	0.00
Finished goods	0.00		25%	0.00	0.00
Debtors	0.00		10%	0.00	0.00
Expenses	1.00	21.00	100%	21.00	0.00
		21.00		21.00	0.00

#### PROFITABILITY RATIOS BASED ON 80% UTILISATION

<u>Profit after Tax</u>	<u>78.25</u>	28%
Sales	276.48	
<u>Profit before Interest and Tax</u>	<u>126.20</u>	60%
Total Investment	209.00	
<u>Profit after Tax</u>	<u>78.25</u>	73%
Promoters Capital	107.00	

## BREAK EVEN LEVEL

**Fixed Cost (FC):** **[Rs.lakhs]**

Salaries 60.86

Rent 35.72

Repairs & Maintenance 2.90

Depreciation 14.74

Admin. & General expenses 26.46

Interest on TL 7.65

148.33

Profit Before Tax (P) 118.55

$$\text{BEL} = \frac{\text{FC} \times 100}{\text{FC} + \text{P}} = \frac{148.33}{266.88} \times \frac{80}{100} \times 100$$

44% of installed capacity

# COMPUTER BASED TUTORIAL

## INTRODUCTION

Computer based tutorial is a new method to enhance the learning capabilities by adopting modern technology to the educational arena. Different methods of approach to provide better learning methods by students have to be provided. According to the level of the learner, under graduate, post graduate, national and international should be logically arranged. The material presentation should be accurate and proof reading should be impeccable.

## PRODUCT SPECIFICATIONS

The material developed for learning should have the following features:

**Flexibility:** There should be a provision for presenting as much as material for gifted learners and as small as possible for slow learners, flexible access to different parts of a course, which means, a provision to navigate, to go backward / forward; to pause; to exit or change to any other module as needed by the learner.

**Structure and Organization of Modules:** Each module content should be precisely defined; the sequence should be logically developed, not in jumps and bits and each module should naturally end up in the beginning of the succeeding one. Links between the modules and guided learning posts should be based on learner's responses. There should be suggestions for advanced areas of the subject matter.

**Learner Control:** The learner should have a control on what he learns and how he learnt for which interface design between the computer and the learner, should be user- friendly, the software used should not complicate the learner. The screen format should be in few lines, good fonts, and colour contrast suitable for the topic, graphic, images, dynamic pictures with animation in 2D, 3D wherever necessary, video and suitable audio guiding the learner.

**Links:** Optional linking routes and guided learning posts and freedom of movement, links with menus, control navigational buttons, diagrams, route maps. Zooming for picture, sound, as needed, overview through video and audio, instructions on how to use the program sign posting through help should all be provided for.

**System Performance:** Response should not be too slow or too fast. Learner response should be stored until asked for removal.

**Support Material:** CBT developed should integrate with other resource in the field.

**Production quality:** Graphics, images, pictures, graphs should be clear and the explanation should be proper with necessary mathematical back up, simulation should be used, and not line drawings.

**Effective Presentations:** Simple language, clarity in explanation; avoidance of complex jargon and unnecessary information examples from real life; short sentences and paragraphs and explanation in all technical terms and notational derivations.

**Interactivity:** Allow for two-way interaction through links.

**Testing and monitoring:** This is very much needed at the end of each chapter through, quiz, questionnaire and evaluation exercise.

## **A. MARKET POTENTIAL**

IT enabled services such as computer based Tutorial has good scope to be developed in India on account of several advantages such as large English speaking population and well connected telecommunication system. Cost benefits such as low man power cost etc. persons with good knowledge in academic and other subjects are abundant. CBT can be developed for several foreign customers.

## **B. TECHNICAL ASPECTS**

### **1. Installed capacity**

The small unit for developing CBT can develop 24 titles per annum at the rate of 2 titles per month.

### **2. Equipment required**

The following infrastructure is required.

	<b>Qty.</b>	<b>[Rs.lakhs]</b>
Servers	1 no	1.50
Computers	5 nos.	1.50
Cabling in meters	20 mt.	0.05
Interiors		1.80

Connectivity	0.20
UPS	0.10
	<b>5.15</b>

### **3. Process of Development**

On receipt of orders for development of CBT on various subjects from overseas buyers, the unit has to engage professors on different subjects on a retainer basis for development of the learning material. The materials have to be checked for quality control. The approval has to be obtained from quality control authority for developed programmes. A security deposit of \$ 500 per title is to be paid to the overseas client for successful completion of the project. On successful completion this amount will be refunded. This will be revolving in nature. A commission equivalent to 25% will be to be paid to overseas agent who obtains the order. The commission can also be included in the invoice.

### **4. Land & Building**

An area of 1500 sq. ft will be sufficient. This can be arranged on lease basis, Rent of Rs.12000 p.m., with an advance of Rs.120,000.

### **5. Utilities**

#### **POWER:**

Normal electricity connection is required for office.

#### **MAN POWER:**

<b>Category</b>	<b>Nos.</b>	<b>Monthly</b>	<b>Total</b>
Project Manager	1	15000	15000
Programmer	3	10000	30000
Designer	1	9000	9000



Admin. Assistant	1	6000	6000
			<b>60000</b>

Total salary per annum (Rs.lakhs)                      Rs.7.20 lakhs

Professors                      –                      on retainer basis, Contract.

## **6. Implementation Schedule**

The machines are obtainable from local supplier within two weeks period. The project can be implemented within one month period.

## **7. Assumptions**

- Installed capacity is 24 No. of titles per annum (2 titles Per month)
- Selling price is assumed at Rs.1.00 lakhs per title,
- Electricity charge is calculated at Rs.1.20 lakh per annum at 100% capacity.
- Wages & Salaries is estimated at Rs.7.20 lakhs per annum.
- Rent is provided at Rs.90000 per annum.
- Repairs & Maintenance is estimated at Rs.5000 per month.
- Professors' fees is provided at Rs.1.40 lakhs per annum.
- Depreciation is calculated on WDV method.
- Selling, General & Adm. Expenses is Rs.20000 per month.
- Interest on Term loan is calculated at 12% p.a.

- Income tax is provided at 33.99% on taxable income.

## **COST OF PROJECT AND MEANS OF FINANCE**

### **1. COST OF PROJECT [Rs.lakhs]**

Building (Advance)	1.20
Plant & Machinery	5.15
Contingencies	0.00
Electrical	0.00
Other Misc. assets	0.00
Pre-Operative expenses	1.00
Margin for WC	3.00
<b>Total</b>	<b>10.35</b>

### **2. MEANS OF FINANCE**

Capital	6.49
Term Loan	3.86
<b>Total</b>	<b>10.35</b>

### **3. COST OF PRODUCTION & PROFITABILITY STATEMENTS**

<b>Years</b>	<b>1</b>	<b>2</b>	<b>3</b>
Installed Capacity			
No. of Titles p.a.	24	24	24
Utilisation	60%	70%	80%
No. of Titles to be sold	14	17	19
Selling price per tittle	Rs.1.00 lakhs		

Income p.a (Rs.lakhs)	14.00	17.00	19.00
Power	0.72	0.76	0.79
Rent	1.20	1.26	1.32
Wages & Salaries	7.20	7.56	7.94
Professor fee	1.40	1.54	1.69
Maintenance	0.06	0.07	0.08
Depreciation	0.92	0.78	0.67
Cost of Production	11.50	11.97	12.49
Admin. & General expenses	2.40	2.52	2.65
Selling expenses	0.00	0.00	0.00
Interest on Term Loan	0.46	0.41	0.29
Interest on Working Capital	0.00	0.00	0.00
<b>Total</b>	<b>14.36</b>	<b>14.90</b>	<b>15.43</b>
Profit Before Tax	-0.36	2.10	3.57
Provision for tax	0.00	0.72	1.21
Profit After Tax	-0.36	1.38	2.36
Add: Depreciation	0.92	0.78	0.67
Cash Accruals	0.56	2.16	3.03

#### 4. WORKING CAPITAL:

	Months	Values	%	Margin	Bank
	Consumptions			Amount	Finance
Raw Materials	0.00		25%	0.00	0.00
Consumables	0.00		25%	0.00	0.00
Finished goods	0.00		25%	0.00	0.00

Debtors	0.00		10%	0.00	0.00
Expenses	3.00	3.00	100%	3.00	0.00
		3.00		3.00	0.00

## 6. PROFITABILITY RATIOS BASED ON 80% UTILISATION

<u>Profit after Tax</u>	<u>2.36</u>	12%
Sales	19.00	
<u>Profit before Interest and Tax</u>	<u>3.86</u>	37%
Total Investment	10.35	
<u>Profit after Tax</u>	<u>2.36</u>	36%
Promoters Capital	6.49	

## 7. BREAK EVEN LEVEL

<b>Fixed Cost (FC):</b>	<b>[Rs.lakhs]</b>			
Wages & Salaries	7.94			
Rent	1.32			
Repairs & Maintenance	0.08			
Depreciation	0.67			
Admin. & General expenses	2.65			
Interest on TL	0.29			
	<b>12.95</b>			
Profit Before Tax (P)	3.57			
BEL =	$\frac{FC \times 100}{FC + P}$	=	$\frac{12.95}{16.52} \times 100$	= 78.99%
				63% of installed capacity

# COMPUTER CONTINUOUS STATIONERY PRINTING

## A. INTRODUCTION

This is an age of computers. Computerization is being carried out at an ever increasing rate in all the fields. The consumption of computer stationery has been increasing due to the following reasons:

- (a) The demand for computer stationery and computer forms is dependent on overall growth of computers and usage of computers.
- (b) Computer in modern world has emerged as a major driving force for the progress of a nation.
- (c) No machine has ever undergone such a rapid change over last forty years to the extent the computer has.

The modern computer is known as Fifth Generation Computer. It is small in size (as small as the briefcase in the case of note book computer) speedy and are having a large memory.

The computer is used for preparing pay rolls, Inventory controls, Statistical quality control, Building management and Information System for Production Planning and Control, Project Monitoring and Design Calculations, Analysing and Tabulating data, Monitoring examinations and their results, Storing and Forwarding telegrams, Handling Reservations in Railways and Airlines, Repair of Locomotives, Control of freight movement, Deposit and Credit Management and so on.

The computer industry has been registering remarkable growth as high as 48% during the past 3 years. The computer has been well accepted in all walks of life and, therefore, there is an immediate necessity for making available large number of

computers in-houses, schools, business houses, industries, hotels, hospitals, trading houses etc.

## **B. PRODUCT SPECIFICATION & USES**

IS : 12799 – 1989 prescribes the requirements and methods of sampling and tests for computer papers for use on computer printers or similar machines for recording, transmitting, reproducing and storage of data. The other relevant standards for quality are as follows:

- i. Methods of sampling and test for paper are dealt in  
IS : 1060 (Part I) – 1966 (revised) and  
IS : 1060 (Part II) 1060
- ii. The quality of computer paper shall be in accordance with IS : 1848 – 1981
- iii. The paper is tested for fibre content in accordance with IS : 5285 – 1969
- iv. The smoothness/roughness of paper is checked in accordance with IS : 9894 – 1981
- v. Various requirements for computer paper such as Bulk, Moisture content, Ash content, Tensile index, Burst index, Tear Index, one minute Cobb test, opacity percentage, are specified in IS : 12766 – 1989 and tested in accordance with IS : 1060 (Part I) – 1966. The other characteristics like Brightness and smoothness, which are also specified in IS : 1060 (Part II) and IS : 9894.

The proposed project can produce blank forms, EZR and multi-coloured pre-printed forms of all standard sizes required for use in computer and EDP machines such as

invoice, challans, receipts, pay slips, statements, bank statements, insurance railway defence forms, allotment letter etc.

### **C. MARKET POTENTIAL**

Since 1984, India has witnessed an unprecedented computer boom. Along with it boomed another industry – computer stationery manufacturing. According to available estimates, on an average, each computer consumes 4000 computer forms every month. With over 3.5 million computers in the Indian market, the demand for computer forms works out to a staggering 14 billion forms monthly.

The computer forms industry is one of India's fastest growing industries having a volume growth rate of approximately 30% per annum as against the Indian industry's average growth rate of 5%.

As of now, only 7% of the urban population in India has access to computers. This translates to only 2.3% of the entire Indian population. The computer stationery consumption has already reached a staggering 3600 crores. And this is only the tip of the iceberg. Everyone, from the street corner–restaurant to the big corporations, is using computers. States like Andhra and Karnataka are creating an atmosphere favorable enough for giants like Microsoft to shift their bases to India. All the States are promoting infotech parks to promote e–commerce.

The computers are widely used in all the areas of business and service industries like Airlines, Railways, Hotel industries etc. The following applications of computers have developed in India:

**1. Elementary Tasks:**

- a. For preparing Pay rolls
- b. For inventory controls
- c. For Statistical Quality Control
- d. For Building Management Information System
- e. For Production Planning and Control
- f. For Project Monitoring and Design Calculation.

**2. In Government departments:**

- a. For Planning
- b. For Analysing and Tabulating Data
- c. For Monitoring preparation of statements

**3. In Police Departments:**

- a. For Preparing Crime Statistics
- b. For Maintaining Criminal Records



#### **4. In Educational Departments:**

- a. In Monitoring Examinations and their results
- b. Maintaining Students' Records
- c. In General University Administration.

#### **5. In Posts and Telegraphs & Telephone Departments:**

- a. Storing and Forwarding Telegrams
- b. In the operation of Electronic Exchange Systems
- c. Billing telephones

#### **6. In Transport Sectors:**

- a. For Handling Reservations in Airlines and Railways
- b. For Cargo dispatch and Records
- c. For Ports' Inventory Controls
- d. For General Management Functions
- e. For Repairs of Locomotives in the workshops in railways
- f. For Monitoring Wagon and control of freight movements in Railways

#### **7. In Banking Sectors:**

- a. For Deposit Management
- b. For Credit Management

- c. For Inter-Branch and reconciliation work

## **8. In Manufacturing Units:**

- a. To direct process control in any large units
- b. In Thermal Power Stations.

In developed countries computers are used for personal work also, like assisting family budgeting, keeping records of bills and payments etc. Attempt is being made to incorporate artificial intelligence in computer and USA has already introduced a computer which can learn as well. Japan is planning for a computer city, where no human beings will be required to perform any activity. New invention in this direction will, beyond doubt, increase the utility of computer and thus boost computer and allied industries.

## **D. TECHNICAL ASPECTS**

### **1. Installed capacity**

The installed capacity of the unit proposed is 96,000 forms per day of standard size 10" X 12". This works out to 288 lakhs forms per annum. The capacity is based on single shift basis 8 hours per shift for 300 days.

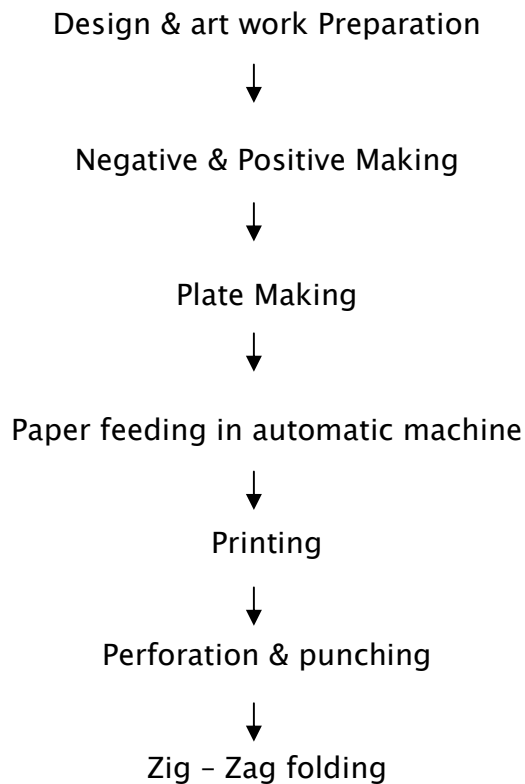
## 2. Plant & Machinery

The following items of plant & machinery are required.

	Item	Value Rs. lakhs
a.	Continuous forms manufacturing machine - Qompac 120	18.00
b.	One colour Pack-to-pack Overprinting M/c. - Quickform	
c.	Multipart pack collator M/c. - Genuss 2000	
d.	Plate Developing	
	<b>Total</b>	<b>18.00</b>

## 3. Manufacturing Process

The process of manufacturing involves the following sequence of operation.



↓  
Packing & Labeling

#### 4. Raw Materials

The main raw materials required for manufacturing are Cream Wove paper 60 GSM and Carbon Paper

Calculation of raw materials requirement are given below.

No. of forms production per MT of material	215517 Nos
Raw Material required p.a. at 100% (MT)	133.64 MT
Material price per MT	Rs. 38,500
Total raw material value p.a. (100%)	Rs. 51.45 lakhs

Other materials such as Flexo Ink, Carbon paper, lubricants, punching dies perforating fluids and polymer stereotypes are to be consumed at 100% as follows:

	[Rs.lakhs]
Ink, Consumables Rs.6000 p.m.	0.72
Packing Materials Rs.2 per 1000 forms	0.57
	<b>1.29</b>

#### 5. Land & Building

Building area of 700 sqft. is required, which may be taken on lease basis. The monthly rent assumed is Rs.5600. The advance will be in the range of Rs.56,000.

#### 6. Utilities

##### POWER:

The total power requirement of the unit will be about 3 HP.

**WATER:**

Water is not required for process. Water for human consumption is estimated 1000 litres per day.

**MAN POWER:**

Category	Nos.	Monthly	Total
Operator	1	5000	5000
Helpers	2	3000	6000
			<b>11000</b>
Add : 20% benefits			2200
			13200
Total salary per annum (Rs. lakhs)			Rs.1.58 lakhs

**7. Implementation Schedule**

As the machineries are available easily, if financing arrangements are made, the project can be implemented in 6 months time.

**8. ASSUMPTIONS**

- Installed capacity is 288 lakhs nos. of forms per annum. During first year 60% capacity utilisation is assumed, This will be increased to 70% and 80% in subsequent years.
- Selling price is assumed at Rs.25000 per one lakh forms. This works out to Rs.72.00 lakhs per annum at 100% capacity utilisation.
- Cost of materials Rs.38,500 per MT, this works out to Rs.50.78 lakhs per annum at 100% capacity utilisation.

- Consumables such as Ink, Chemicals, Packing materials are estimated at Rs.1.22 lakhs per annum, the details are given below:
- Packing material cost per 1000 form is Rs.2/- , this works out to Rs.57,000 per annum.
- Chemicals and Ink costs per month is estimated at Rs.6000, this works out to Rs.72,000 per annum.
- Power charge is estimated at the current rate, which works out to Rs.0.24 lakh per annum.
- Wages & Salaries is estimated at Rs.1.58 lakhs per annum.
- Repairs & Maintenance is estimated at Rs.3000 per month.
- Depreciation is calculated on WDV method
- Selling, General & Adm. expenses is Rs.20000 per month, which include sales promotional expenses and Administrative expenses such as rent, office expenses etc.
- Interest on Term Loan & working capital borrowings are estimated at 12%.p.a.
- Income tax is provided at 33.99% on taxable income.

## **LIST OF MACHINERY SUPPLIERS**

1. Alois Gutenberg Machines Pvt. Ltd., Dealer: Shri Gutenbery Graphics, Plot No.4, Gangai Aman Koil Street, Vijaya Nagar, Sridevikuppam, Valasarvakkam, Chennai 600 087.
2. M/s.Raviraj Computer Forms (P) Ltd., 113, Lawley Road, Coimbatore 641 003
3. M/s. Allegro Consultancy & Marketing (P) Ltd., 4, Illrd Floor, Park View Complex 85, G.N.Complex Chennai 600 017.
4. M/c. Gayathri Machineries, No.30, Jones Street, Chennai 600 0021.

## **LIST OF RAW MATERIAL SUPPLIERS**

### **PAPER:**

1. M/s. Tamil Nadu Newsprint & Papers Ltd., No.16, Whites Road,, Chennai – 14
2. M/s. Pandiyan Paper Co., No.9, Baker Street, Chennai 600 001
3. M/s. ITC Bhadrachalam Paper boards Ltd., No.106, Sardar Patel Road, Secunderabad 500 003., Andhra Pradesh.

### **PRINTING INK**

1. M/s. Reprographic System & Supplies, No.52, Triplicane High Raod, Chennai – 5.
2. M/s.Chemi – Dyes, No.148, Govindappa Naicken Street, Chennai 600 001
3. M/s.Coates of India Ltd., No.92, Shaik Mistry Street, Chennai 600 013.
4. M/s. Kapoor Sales Corporation, No.2, Masilamani Road, Chennai 600 014.

## **RUBBER ROLLERS**

1. M/s. Spasa Spares & Services, No.1, First link Street, Karpagam Gardens, Chennai 600 020.

## **PACKAGING MATERIALS:**

1. M/S. Monna Packaging Products, No.34, Pulla Reddy Avenue, Shenoy Nagar, Chennai 600 030.
2. M/s.Standard Packaging, No.20, Bajani Koil Street, Nandambakkam, Chennai 600 089.
3. M/s. Packers International, No.A-8, Sidco Industrial Estate, Villivakkam Chennai 600 049.
4. M/s. Jayant Packaging (P) Ltd., Super A-12, Industrial Estate, Chennai 600 032.

## **COST OF PROJECT AND MEANS OF FINANCE**

<b>1. COST OF PROJECT</b>	<b>[Rs.lakhs]</b>
Building	
(Advance)	0.35
Plant & Machinery	18.00
Other Misc. assets	0.50
Pre-Operative expenses	1.00
Margin for WC	2.34
<b>Total</b>	<b>22.19</b>



## 2. MEANS OF FINANCE

Capital	8.69
Term Loan	13.50
<b>Total</b>	<b>22.19</b>

## 3. COST OF PRODUCTION & PROFITABILITY STATEMENTS

<b>Years</b>	<b>1</b>	<b>2</b>	<b>3</b>
Installed Capacity per annum			
Forms Production (Nos. in lakhs)	288	288	288
Utilization	60%	70%	80%
Production/Sales (Nos.in lakhs)	173	202	230
Selling Price per lakh forms	Rs.25,000	per lakh form	
Sales Value	43.25	50.50	57.50
Raw Materials	30.87	36.02	41.16
Consumables	0.73	0.85	0.98
Power	0.24	0.25	0.26
Wages & Salaries	1.58	1.66	1.74
Repairs & Maintenance	0.36	0.38	0.40
Depreciation	2.70	2.30	1.95
Cost of Production	36.48	41.46	46.49
Selling, Admin, & General expenses	2.40	2.52	2.65
Interest on Term Loan	1.62	1.42	1.01
Interest on Working Capital	0.96	0.96	0.96
<b>Total</b>	<b>41.46</b>	<b>46.36</b>	<b>51.11</b>
Profit Before Tax	1.79	4.14	6.39

Provision for tax	0.61	1.41	2.17
Profit After Tax	1.18	2.73	4.22
Add: Depreciation	2.70	2.30	1.95
Cash Accruals	3.88	5.03	6.17

#### 4. WORKING CAPITAL:

	Months	Values	%	Margin	Bank
	Consumptions			Amount	Finance
Raw Materials	2.00	5.15	25%	1.29	3.86
Consumables	0.00	0.00	25%	0.00	0.00
Finished goods	0.25	0.76	25%	0.19	0.57
Debtors	1.00	3.60	10%	0.36	3.24
Expenses	1.00	0.50	100%	0.50	0.00
		10.01		2.34	7.67
	Say	Rs.8.00			

#### 6. PROFITABILITY RATIOS BASED ON 80% UTILISATION

Profit after Tax	4.22	7%
-----	-----	
Sales	57.50	
Profit before Interest and Tax	8.36	28%
-----	-----	
Total Investment	30.19	
Profit after Tax	4.22	49%
-----	-----	
Promoters Capital	8.69	

#### 7. BREAK EVEN LEVEL

**Fixed Cost (FC):****[Rs.lakhs]**

Wages & Salaries	1.74
Repairs & Maintenance	0.40
Depreciation	1.95
Admin. & General expenses	2.65
Interest on TL	1.01

**7.75**

Profit Before Tax (P)	6.39
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FC x 100	7.75	80
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BEL =	X	100
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FC +P	7.75+	6.39	100
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44% of installed capacity

# COMPUTER DATA ENTRY

## A. INTRODUCTION

Data in its most useful form is well presented and informative. This is what data processing aims to do. Global corporations with their large numbers of customers, products, dealers, affiliates, and shareholders are finding that their data processing needs are ever-growing and adding to operational overheads. Outsourcing data processing to India provides cost-effective, reliable solutions to the day-to-day running of a business.

A few years ago, data processing was as simple as entering data into a computer. However, the digital revolution has changed this definition. The scope and range of processing have grown and will continue to grow.

Equally diverse is the input-output media and software used in the processing. Since India has become a leader in providing these services to companies around the globe, Indian companies have become skilled enough in managing this diversity.

**Data processing** services include extracting data off the Internet and entering it into an excel spreadsheet, editing and tagging digital photos, online monitoring of competitor pricing and much more. The range also includes more typical services like converting and processing printed documents, forms, vector plans, maps and so on.

## Specific projects and services that can be outsourced

- **Data mining** refers to entering foreign language directories into a database manually; entering product descriptions from hard copy catalogues to online client web based system and categorizing comments for coding and for converting them to XML or analysis.
- **Form Conversion** refers to conversion from paper to electronic form like converting data from PDF files to Excel format.
- **Data capture** refers to scanning paper documents and converting them to electronic format.
- **Legal Document** preparation and organization.
- **Digitizing** courthouse records and extracting property legal descriptions for title companies.
- **Form processing** using OCR or manually if necessary.
- **Data Extraction** from a variety of sources with or without extraction software

Data Entry is a process of entering basic data into a computer system. In this case, Data Entry is considered as a separate project by which industries, institutions and other corporate entrust the data entering process as a job work. This saves their in house and expensive resources for their own more meaningful usage and helps them save computer time and cost. The data entry work is normally entrusted to job workers and through floppy discs / CD-ROM, the data is brought back. Sometimes, the customers need print-outs of the data entered. Since voluminous data has to be processed in all leading institutions and corporate, there is a good potential for setting up data entry centres. The data entry jobs can be started on a tiny scale also.

## **B. PRODUCT SPECIFICATION & USES**

The data entry jobs are wide and varied in nature. The jobs can be classified as:

- a. Share applications
- b. Financial Statements
- c. Applications processing for recruitment
- d. Dividend warrants
- e. Inventory Statements
- f. Word Processing
- g. Units Applications
- h. Directory information
- i. Address data saves
- j. Yellow Pages

The charges are collected as per data basis or per page basis.

## **C. MARKET POTENTIAL**

India has made rapid strides in telecommunications and internet connectivity in the past few years. India has matured as an outsourcing destination and well-established outsourcing service providers have global-class buildings and infrastructure with back-up generators, fiber-optic connectivity and 24x7 support.

When one outsources to India, one can expect a **quality of service** that is on par with any Western company. In fact, because such a large volume of work is being done in India, sometimes our skills surpass those of many international companies.

### **Some data processing trends are:**

- Usage of various **software programs** to speed up processing.
- Much of the processing work is done **online**.
- There is a big movement in India to increase **data security**.
- Data entry from product catalogs to web based systems
- Data entry from hard/soft copy to any database format
- Insurance claims entry
- PDF document indexing

### **Online Capture Services**

- Data entry from images
- Online order entry and follow up

**Creation of new databases** and updates to existing databases for banks, airlines, government agencies, direct marketing services and service providers

- Web based indexed document retrieval services, tools and support
- Mailing lists
- Data mining and warehousing
- Data Cleansing
- Audio Transcriptions
- Legal Documentation
- Indexing of vouchers and documents

- Hand written ballot/cards entry
- Online completion of surveys and responses of customers for various companies, at call centers
- E-book and e-magazine publications on the internet
- Hospital records, patient notes and accident reports
- Business card indexing
- Custom data export/import interfaces with audits
- Bonded mail handling Cash, credit and check processing

In the domestic market also there is good scope for data entry. The requirement of data entry jobs arises because of repetitive nature of jobs in computer data processing. Several existing companies who are going in for computerisation need data entry jobs. Similarly new concerns also require data entry. The user industries where computerisation takes place have been growing well all over these years.

With stock markets in a state of flux and stagnating industrial output, Indian industry is looking to the Government for rapid implementation of second generation economic reforms. These are considered critical in the areas of labour, infrastructure, financial services and agriculture as well as privatisation of the public sector. A push in these sectors is expected to help boost economic growth from the present level of 5–6 per cent to 8–9 per cent annually over the next few years.

Considering the expected growth in all sectors of the economy the data entry jobs also will gain momentum.



## D. TECHNICAL ASPECTS

### 1. Installed capacity

The Data Entry unit envisaged in this project is with 2 computers. The computer time to be used is 24 hours each on three shifts basis. The unit will work for 300 days in a year.

The unit's nature of data entry is divided in two forms namely 1) based on number of entries 2) Kilo bytes of data entry from a text. It is assumed that for data entry an average rate of 55 ps. per entry and Rs.5.50 per kilo bytes. The capacity at 100% utilisation will be as under.

No. of entries 360 entries per hour x 16 hours x 300 days	[Income p.a]
= 1728000 entries @ Re.0.55 per entry	950400
Work Process text - 18 kilo bytes per hour x 16 hours x 300 days	
= 86400 kilo bytes @ Rs.5.50 per kilo byte	475200
<b>Total</b>	<b>1425600</b>

### 2. Machinery & Equipment

The following items of machinery & equipments are required.

	Item	Value Rs. lakhs
a.	Pentium IV - 2 Nos.	0.50
b.	UPS	0.04
d.	Lazer Printer	0.08
e.	Inkjet Printer	0.04
f.	Misc. items	0.05
g.	Software	0.39
	<b>Total</b>	<b>1.00</b>

### 3. Land & Building

The total area required to start a data entry unit is about 700 sqft. This can be arranged on rental basis. The monthly rent is assumed at Rs.5600. An advance of Rs.56,000 is provided.

### 4. Materials:

The Materials required for data entry operations are consumables such as floppy disc drives, stationery etc. These can be procured locally from dealers.

### 5. Utilities

#### POWER:

The power requirement for operating computers and accessories is domestic power connection.

#### WATER:

Water is required only for human consumption.

#### MAN POWER:

The operators are readily available.

Category	Nos.	Monthly	Total
Computer Operators	4	4000	16000
Supervisors	1	6000	6000
Office Boy	2	2500	5000
<b>Total</b>			<b>27000</b>
Add : 20% benefits			5400
			32400
Total salary per annum (Rs.lakhs)			Rs.3.89 lakh

## 6. Implementation Schedule

If financing arrangements are made, the project can be implemented within one month period.

## 7. ASSUMPTIONS

- The Installed capacity of the unit is assumed at 1728000 entries per annum and work process text at 86400 kilo bytes per annum at 100% utilisation. During first 60% capacity utilisation is assumed, This will be increased to 70% and 80% in subsequent years.
- The rate charged is Re.0.55 per entry. This works out to Rs.9.50 lakhs per annum. The rate charged for work process text is Rs.5.50 per kilo byte, this works out to Rs.4.75 lakhs per annum at 100% capacity utilisation
- Cost of consumables is estimated at Rs.1.20 lakhs per annum at 60% capacity utilisation.
- Rent is assumed at Rs.0.67 lakh per annum.
- Power charge is estimated at the current rate, which works out to Rs.0.30 lakh per annum.
- Wages & Salaries are estimated at Rs.3.89 lakhs per annum.
- Repairs & Maintenance is estimated at Rs.2000 per month.

- Depreciation is calculated on WDV method
- Selling, General & Adm. expenses is Rs.20000 per month, which includes sales promotional expenses and Administrative expenses such as office expenses etc.
- Interest on Term Loan borrowing is estimated at 12%.p.a.
- Income tax is provided at 33.99% on taxable income.

#### **LIST OF MACHINERY SUPPLIERS**

1. M/s.Wipro Infotech Ltd., No.85, TTK Road, Chennai 600 018.
2. M/s.CCS Infotech Ltd., III floor, No.18-A, Periyar Road, T.Nagar, Chennai – 17.

#### **SEVERAL OTHER COMPUTER MANUFACTURERS AND DEALERS**

##### **COMPUTER PERIPHERALS**

1. M/s.Surya Peripherals, 5, 1<sup>st</sup> Floor, No.83, TTK Raod, Alwarpet, Chennai 600 018
2. M/s.Pacific Micro systems Pvt. Ltd., No.16, IIInd floor, 141 Eldams Road, Teyanmpet, Chennai 600 018.

##### **ADDRESS OF RAW MATERIALS SUPPLIERS**

Items like computer consumables, floppies, and stationery items can easily be procured from various dealers in the local market.

## COST OF PROJECT AND MEANS OF FINANCE

1. COST OF PROJECT	[Rs.lakhs]
Building (Advance)	0.56
Equipments	1.00
Other Misc. assets	0.20
Pre-Operative expenses	0.30
Working Expenses	0.10
<b>Total</b>	<b>2.16</b>

2. MEANS OF FINANCE	
Capital	1.36
Term Loan	0.80
<b>Total</b>	<b>2.16</b>

## 3. COST OF PRODUCTION & PROFITABILITY STATEMENTS

Years	1	2	3
Installed capacity			
No. of entries per annum (360 entries/hour x 16 hr.x 300 days)	1728000	1728000	1728000
Work process text (kilo bytes) (18 KB/hour x 16 hr.x 300 days)	86400	86400	86400
Occupancy/Utilization	60%	70%	80%
No. of entries p.a.	1036800	1209600	1382400
No. of KB of text	51840	60480	69120
Rates			
- Entries	Rs.0.55	per entry	
- Work process text	Rs.5.50	per KB	

Income from Entries --- > (A)	5.70	6.65	7.60
Income from WPT ---> (B)	2.85	3.33	3.80
Income per annum (Rs.lakhs) [A+B]	8.55	9.98	11.40
Computer consumables – Stationery	1.08	1.13	1.19
Rent	0.67	0.70	0.74
Electricity	0.30	0.32	0.34
Salaries	3.89	4.08	4.28
Repairs & Maintenance	0.24	0.25	0.26
Depreciation	0.10	0.09	0.08
Selling, Admin, & General expenses	2.40	2.52	2.65
Interest on Term Loan	0.10	0.08	0.06
Total expenses	8.78	9.17	9.60
Profit Before Tax	-0.23	0.81	1.80
Provision for tax	0.00	0.10	0.35
Profit After Tax	-0.23	0.71	1.45
Add: Depreciation	0.10	0.09	0.08
Cash accruals	-0.13	0.80	1.53

## 6. PROFITABILITY RATIOS BASED ON 80% UTILISATION

Profit after Tax	1.45	13%
<hr/>		
Income	11.40	
Profit before Interest and Tax	1.86	86%
<hr/>		
Total Investment	2.16	
Profit after Tax	1.45	107%
<hr/>		
Promoters Capital	1.36	

## 7. BREAK EVEN LEVEL

Fixed Cost (FC):	[Rs. lakhs]
Wages & Salaries	4.28
Rent	0.74
Repairs & Maintenance	0.26
Depreciation	0.08
Admin. & General expenses	2.65
Interest on TL	0.06
	<b>8.07</b>
Profit Before Tax (P)	1.80
$FC \times 100$	8.07      80
BEL =	$\frac{FC + P}{FC + P} \times 100$
$FC + P$	8.07 + 1.80      100
	65% of installed capacity

# COMPUTER SOFTWARE

## A. INTRODUCTION

Computer software refers to a group of programmes to accomplish a particular function. Computer software is the user and system programme of a computer system, all of the programmes required to perform the processing tasks of the computer system. Computer software is the collection of programmes owned by the computer system and or computer user which aid a computer user in fulfilling the computational requirements (i) conveniently by using a programming language (and other programming facilities) of his own choice and (ii) by building on his own or other people's earlier work so as to minimise the fresh effort involved in having his requirements fulfilled. The system is commonly known as Application Package / Package programme. The package for example may comprise of a simple pay roll system, Inventory control, Production Scheduling, Sales analysis or an Accounting package etc.,

## B. PRODUCT SPECIFICATION & USES

There is no specific standard for testing of the programmes developed with reference to standards already set. The programme developed should be customer friendly and easy for use.



## **C. MARKET POTENTIAL**

Computer in modern world has emerged as a major driving force for the progress of a nation. No machine has ever undergone such a rapid change over last forty years as the computer has.

The modern computer is known as Fifth Generation Computer. They are small in size (as small as the briefcase in the case of note book computer), speedy and having a large memory.

The computer is used for preparing Pay Rolls, Inventory Controls, Statistical Quality Control, Building Management and information system for production planning and control, Project monitoring and design calculations, analysing and tabulating data, monitoring examinations and its results, storing and forwarding telegrams, handling reservations in Railways and Airlines, repair of locomotives, control of freight movement and deposit and credit management and so on.

The computer has been well accepted in all walks of life and therefore there is an immediate necessity for making available large number of computers in houses, schools, business houses, industries, hotels, hospitals, trading houses etc.

The computers are widely used in all the areas of business and service industries like Airlines, Railways, Hotel Industries etc. The following applications of computers have developed in India.

## **1. Elementary Tasks:**

- a. Preparing Pay rolls
- b. For inventory controls
- c. For Statistical Quality Control
- d. For Building Management Information System
- e. For Production Planning and Control
- f. For Project Monitoring and Design Calculation.

## **2. In Government departments:**

- a. For Planning
- b. For Analysing and Tabulating Data
- c. For Monitoring Preparation of Statements.

## **3. In Police Departments:**

- a. For Preparing Crime Statistics
- b. For Maintaining Criminal Records

## **4. In Educational Departments:**

- a. In Monitoring Examinations and its results
- b. Maintaining Students' Records
- c. In General University Administration.

## **5. In Posts and Telegraphs & Telephone Departments:**

- a. Storing and Forwarding Telegrams
- b. In the operation of Electronic Exchange Systems
- c. Preparing telephone bills

## **6. In Transport Sectors:**

- a. For Handling Reservations in Airlines and Railways
- b. For Cargo dispatch and Records
- c. For Ports' Inventory Controls
- d. For General Management Functions
- e. For Repairs of Locomotives in the workshops in railways
- f. For Monitoring Wagon and control of freight movements in Railways

## **7. In Banking Sectors:**

- a. For Deposit Management
- b. For Credit Management
- c. For Inter Branch and Inter Reconciliation work

## **8. In Manufacturing Units:**

- a. To direct process control in any large units
- b. In Thermal Power Stations.

In developed countries computers are used for doing personal items of work also, like assisting family budgeting, keeping records of bills and payments etc. Attempt is being made to incorporate artificial intelligence in computer and USA has already introduced a computer which can learn as well. Japan is planning for a computer city, where no human beings will be required to perform any activity. New invention in this direction will, beyond doubt, increase the utility of computer and thus boost computer and allied industries.

FY 2006–07 witnessed a revalidation of the Indian Information Technology – Business Process Outsourcing (IT–BPO) growth story, driven by a maturing appreciation of India’s role and growing importance in global services trade. Industry performance is marked by sustained double–digit revenue growth, steady expansion into newer service–lines and increased geographic penetration, and an unprecedented rise in investments by Multi–national Corporations (MNCs) – in spite of lingering concerns about gaps in talent and infrastructure impacting India’s cost competitiveness. The sector looks set to close the year at record levels, with the revenue aggregate growing by nearly ten times over the past ten years.

Positive market indicators including large unaddressed white–spaces and the unbundling of IT–BPO mega–deals with increasing shares of global delivery, strongly support the optimism of the industry in achieving its aspired target of USD 60 billion in exports by 2010.

As India has the uniquely advantage to grab these opportunities, they are not lost to others. Timely, coherent and continued action is needed to ensure that India makes the most of these opportunities and maintains its lead.

## Key Highlights of the IT-ITES sector performance

IT Industry-Sector-wise break-up

USD billion	FY 2004	FY 2005	FY 2006	FY 2007E
IT Services	10.4	13.5	17.8	23.7
-Exports	7.3	10.0	13.3	18.1
-Domestic	3.1	3.5	4.5	5.6
ITES-BPO	3.4	5.2	7.2	9.5
-Exports	3.1	4.6	6.3	8.3
-Domestic	0.3	0.6	0.9	1.2
Engineering Services and R&D, Software Products	2.9	3.9	5.3	6.5
-Exports	2.5	3.1	4.0	4.9
-Domestic	0.4	0.8	1.3	1.6
Total Software and Services Revenues	16.7	22.6	30.3	39.7
Of which, exports are	12.9	17.7	23.6	31.3
Hardware	5.0	5.9	7.0	8.2
Total IT Industry (including Hardware)	21.6	28.4	37.4	47.8

Total may not match due to rounding off

\*NASSCOM estimates have been reclassified to provide greater granularity

Historical values for a few segments have changed due to availability of updated information

- **Growth in Revenues:** The Indian IT-ITES sector (including the domestic and exports segments) is expected to exceed USD 47.8 billion in annual revenue in FY07, an increase of nearly 28 percent in the current fiscal
  - Contribution to GDP estimated to be 5.4% up from 4.8% last year.
  - Service and software exports remain the mainstay of the sector contributing USD 31.3 billion and beating forecast to register a 32.6% growth
  - Increasing traction in off-shore product development and engineering services is supplementing India's efforts in IP creation. This segment is growing at 22-23 percent and is expected to report USD 4.9 billion in exports, in FY 2006-07.
  - MNC investments reach an unprecedented scale; over USD 10 billion announced in FY 2006-07, to be invested over the next few years.
  
- **Service-line expansion:** Aiding service providers to take on larger and more complex deals, and increasing the average size of contracts awarded to Indian firms are the twin objectives. Indian Service Providers have grown their share of contracts of values in excess of USD 50 million dollars from 1% in 2002 to 7% in 2006.
  - High off-shore component of delivery and superior execution in multi-location delivery continue to be key differentiators
  - Broad-based industry structure – IT led by large Indian firms, BPO by a mix of Indian and MNC third-party providers and captives – reflects the depth of the supply-base
  - Even though larger players continue to lead growth, gradually increasing their share in the industry aggregate, several high-performing SMEs also stand out.

- **Employment Trends & NASSCOM Initiatives:** Total IT Software and services employment is expected to reach 1.6 million in FY07. The industry, in collaboration with the government and other stakeholders, has initiated several initiatives to further enhance the availability and access to suitable talent for IT-ITES in India

## D. TECHNICAL ASPECTS

### 1. Installed capacity

With the infrastructure and man power provided, the proposed unit can turnout software programmes at the rate of 20 nos. per month. (240 nos. per annum). An average price of programme is assumed with a nominal value of Rs.22,000 each. The annual turnover is expected at Rs 52.80 lakhs. The programme content and value will differ from project to project depending upon customers' requirements.

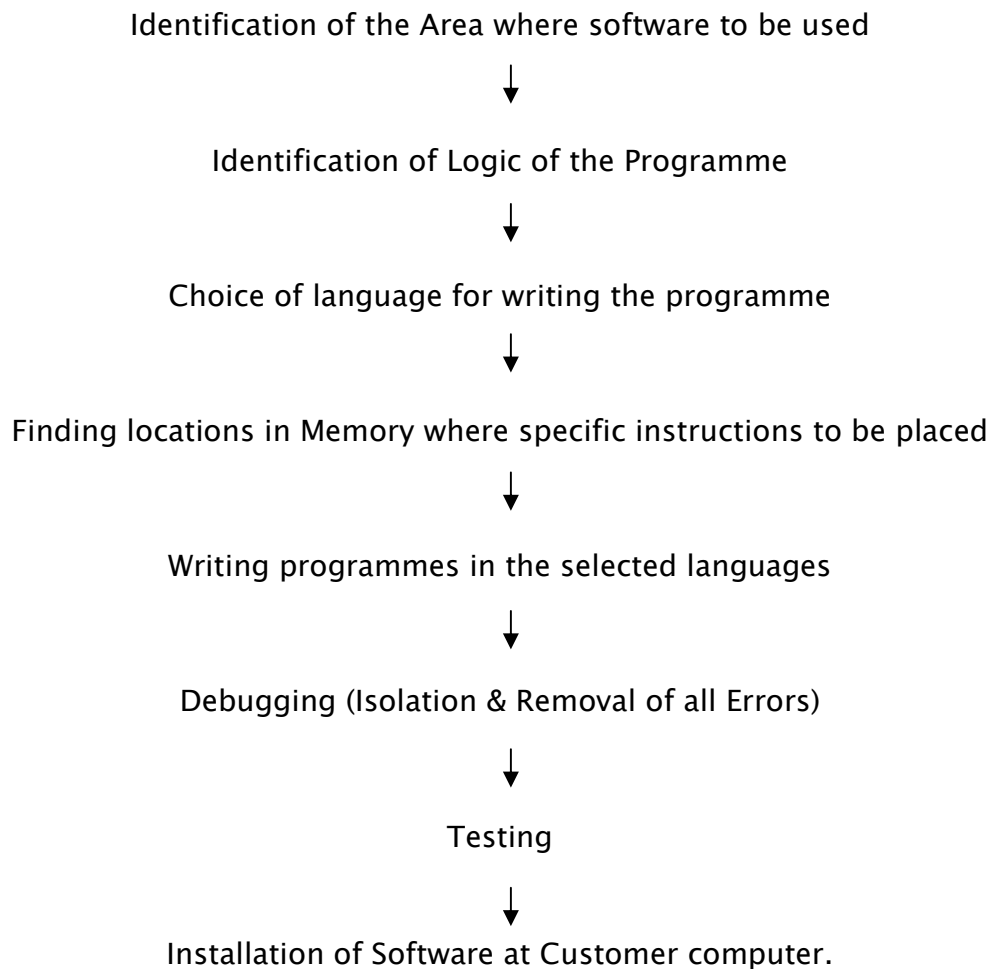
### 2. Plant & Machinery

The following items of plant & machinery are required.

	Item	Value (Rs. lakhs)
a.	Computers - 10 No. Pentium IV Dual Core- 2.4 Ghz, 512 MB RAM, 80 GB HDD, 18X CD Writer/DVD ROM ,Multimedia speakers and all other accessories	3.00
b.	Printers - 2 Nos.	0.20
c.	UPS 30 Minutes Backup-10 Nos.	0.20
d.	Furniture	1.00
e.	Air - Conditioners 6 Nos	1.20
f.	Software & Manuals, Books	0.60
g.	Internet Connection	0.15
h.	Other Accessories	0.20
	<b>Total</b>	<b>5.55</b>

### 3. Manufacturing Process

The Software development comprises of the following steps:



### 4. Materials

There is no raw material requirement for this industry. The consumables like computer peripherals, CDs, stationery, ribbon cartridges, etc. are available from local dealers of these products.

### 5. Land & Building

Building area of 1500 sqft. is required, which may be taken on lease basis. The monthly rent Rs.15,000 is provided. An advance will be in the range of Rs.1,50,000.



## 6. Utilities

### POWER:

The Power for operating computers and Air conditioners a 3 phase connection is sufficient.

### WATER:

Water is required only for human consumption.

### MAN POWER:

Category	Nos.	Monthly	Total
Chief Executive	1	25000	25000
Manager-Software	1	15000	15000
System Analysts	2	12000	24000
Programmes	5	10000	50000
Admn. Assistants	2	4000	8000
Office Peons	2	3000	6000
Watch & Ward	2	2500	5000
			<b>133000</b>
Add : 20% benefits			26600
			159600
Total salary per annum (Rs.lakhs)			Rs.19.15 lakhs

## 7. Implementation Schedule

As the computers & Air-Conditioners are available easily, if financing arrangements are made, the project can be implemented in 2 months time.

## **ASSUMPTIONS**

- Installed capacity is 240 nos. of software programmes per annum. During first year, 60% capacity utilisation is assumed, This will be increased to 70% and 80% in subsequent years.
- Average selling price is assumed at Rs.22000 per software. This works out to Rs.52.80 lakhs per annum at 100% capacity utilisation.
- Consumables such as CDs, stationery, etc. are estimated at Rs.0.72 lakh per annum.
- Power charge is estimated at the current rate, which works out to Rs.1.20 lakhs per annum.
- Wages & Salaries is estimated at Rs.19.15 lakhs per annum.
- Repairs & Maintenance is estimated at Rs.5000 per month.
- Depreciation is calculated on WDV method
- Selling, General & Adm. expenses is Rs.40000 per month, which includes sales promotional expenses and Administrative expenses such as rent, office expenses etc.
- Interest on Term Loan & working capital borrowings are estimated at 12%.p.a.
- Income tax is provided at 33.99% on taxable income.

## **LIST OF MACHINERY SUPPLIERS**

1. Wipro Infotech Ltd. No.85, TTK Road, Chennai 600 018.
2. CCS Infotech Ltd., III Floor, No.18-A, Periyar Road, Chennai 600 0017.

And there are several computer dealers located in cities like Chennai, Coimbatore, Madurai, Tiruchy, Salem and other major towns in Tamilnadu. Their addresses can be collected from respective Yellow Pages. Most of them are dealing with computers manufactured by reputed manufacturing companies. Purchase of assembled sets from reliable suppliers is also economical.

## **UPS**

1. M/s. American Power Conversion (India) Pvt. Ltd., No.5, A Century Plaza, 560 Anna salai, Chennai 600 018.

## **LIST OF RAW MATERIAL SUPPLIERS**

The consumables can be obtained from dealers of computer peripherals located in cities and all major towns.

## COST OF PROJECT AND MEANS OF FINANCE

1. COST OF PROJECT	[Rs. lakhs]
Building (Advance)	1.50
Plant & Machinery	5.55
Other Misc. assets	0.50
Pre-Operative expenses	1.00
Margin for WC	1.23
<b>Total</b>	<b>9.78</b>

## 2. MEANS OF FINANCE

Capital	5.58
Term Loan	4.20
<b>Total</b>	<b>9.78</b>

## 3. COST OF PRODUCTION & PROFITABILITY STATEMENTS

Years	1	2	3
Installed Capacity per annum			
No. of Software	240	240	240
Utilisation	60%	70%	80%
Production/Sales of Software	144	168	192
Average selling price per software	Rs.22,000	per software	
Total Income per annum	31.68	36.96	42.24
Consumables (Rs.6000 p.m)	0.72	0.76	0.80
Power (Rs.10,000 p.m.)	1.20	1.26	1.32

Wages & Salaries	19.15	20.11	21.12
Repairs & Maintenance	0.60	0.63	0.66
Depreciation	3.33	1.33	0.53
Cost of Production	25.00	24.09	24.43
Selling, Admin, & General expenses	4.80	5.04	5.29
Interest on Term Loan	0.50	0.44	0.32
Interest on Working Capital	0.46	0.46	0.46
<b>Total</b>	<b>30.76</b>	<b>30.03</b>	<b>30.50</b>
Profit Before Tax	0.92	6.93	11.74
Provision for tax	0.31	2.36	3.99
Profit After Tax	0.61	4.57	7.75
Add: Depreciation	3.33	1.33	0.53
Cash Accruals	3.94	5.90	8.28

### 3. WORKING CAPITAL:

	Months	Values	%	Margin	Bank
	Consumptions			Amount	Finance
Consumables	1.50	0.09	25%	0.02	0.07
Power	2.00	0.20	25%	0.05	0.15
Wages & salaries	1.00	1.60	25%	0.40	1.20
Debtors	1.00	2.64	10%	0.26	2.38
Expenses	1.00	0.50	100%	0.50	0.00
		5.03		1.23	3.80
Say		Rs.3.80			

## 5. PROFITABILITY RATIOS BASED ON 80% UTILISATION

Profit after Tax	7.75	18%
<hr/>		
Sales	42.24	
Profit before Interest and Tax	12.52	92%
<hr/>		
Total Investment	13.58	
Profit after Tax	7.75	139%
<hr/>		
Promoters Capital	5.58	

## 6. BREAK EVEN LEVEL

### Fixed Cost (FC):

[Rs. lakhs]

Wages & Salaries	21.12
Repairs & Maintenance	0.66
Depreciation	0.53
Admin. & General expenses	5.29
Interest on TL	0.32
	<b>27.92</b>

Profit Before Tax (P) 11.74

$$FC \times 100 = 27.92 \times 80$$

$$BEL = \frac{FC \times 100}{P} = \frac{27.92 \times 100}{11.74}$$

$$= \frac{27.92 + 11.74}{11.74} \times 100$$

56% of installed capacity

# **DTP (DESKTOP PUBLISHING)**

## **A. INTRODUCTION**

Printing as an art of graphic communication has undergone various changes over the years. With the emergence of computer and other micro processor based systems as one of the most important aid for usage in printing, the quality and output of printing have both greatly improved and have also resulted in faster and higher output. The composing methods have been made fool-proof and fast printing at cheaper cost has been made possible. The manual composing has become out-dated and replaced by the electronic programme based composing and final printing has been made possible. Various offset printing machines have been developed. They have the capability to take large number of impressions without involving manual composing and avoiding plate making a basic requirement in normal offset press. Desk-Top publishing system have many advantages over the normal photo type setting and other conventional type setting. DTP jobs are used by regular printers, screen printers and other book publishers.

## **B. SERVICE USAGE & SPECIFICATIONS.**

Desk Top Publishing is a miniature fast, sophisticated and high-tech printing unit. It is useful for printing of:

1. Books and publications
2. Magazines
3. Newsletters
4. Pamphlets
5. Advertisement layouts
6. Balance sheets

7. Screen printing jobs of various types etc.

It saves the time consuming and labour oriented processing work of the conventional type setting. The facility of getting output in any specific type style with graphics is a unique feature of the DTP which employs high technology.

### **C. MARKET POTENTIAL**

The DTP is mainly catering to demand for printed materials in the country. It is increasing in line with the improvement in general literacy, education and standard of living of the people. It is used for Text book composing. The literacy rate which was 34.5% in 1971 increased to 65.4% in 2001-02. Similarly the number of enrollment in schools which was 115.5 million children in 1980-81 grew to 180.4 million in 2001-02. The number of educational colleges too increased from 4700 in 1981 to 10701 in 2001-02

The consumption of printed material is therefore increasing. World demand for paper has doubled in the last 20 years and it is expected to double again by the year 2010. Per capita consumption of paper & paper board in India at 5 Kg is very low compared to other developing countries like China (17.2 Kg), Brazil (28 Kg). Therefore, despite the threat of paperless transaction, scope for paper demand appears to be bright. In developed nations it is as high as 152 Kgs per annum.

The challenge for the Indian paper industry to meet the ever-increasing demand of paper, board and newsprint is getting crippled due to shortage of fibres in the country. The future demand of paper is expected to grow from 5.6 MT at present TO 9.5 MT in 2010 and 13 MT in 2015. Demand for cream wove paper and Map litho paper is expected to increase by 7-8%. Demand for different kinds of coated paper has



increased by 8% in 2002; duplex board has recorded increase by 6.5%; kraft paper has registered a 6% rise in demand and newsprint an impressive 10%.

Current world production of paper is of the order of 283 million tonnes. The per capita consumption of paper is 45 kg. Developing countries average at 12 kg per annum and developed countries at 152 kg per annum.

Paper is an eco-friendly product. It is made from natural raw materials and as an end product, paper is bio-degradable. Paper has no real competing product. Plastic which was rated as a substitute for paper has lost the race, being non bio-degradable. Electronic media, which was considered a threat to the growth of the print media, has not dampened the growth of paper usage by the print media. Thus there seems to be no barrier for growth of the paper industry. Among the many regions of the world, Asia is expected to record the highest rate of growth.

There are certain products for which market demand has always been increasing. Paper bag is also one of such products. The consumption of paper boards used in packaging industry has been increasing. The printing and packaging advertisements have been showing remarkable increase. DTP is mainly used for these purposes.

## D. TECHNICAL ASPECTS

### 1. Capacity Proposed

The installed capacity of the proposed DTP unit is assumed as 10 Master copies per hour. At this rate, the production per day will be 80 master copies in 8 hours. The annual capacity will be 24,000 copies

### 2. Equipments

The following items of machinery are proposed.

	<b>Item</b>	<b>Value (Rs.lakhs)</b>
a.	Computer - 1 No. Pentium IV - Dual Core, 512 MB RAM, 80 GB HDD, 18X CD Writer/DVD ROM sound Card, and all other accessories	0.20
b.	Printer - 1 No.	0.08
c.	UPS 30 Minutes Backup-1 No.	0.02
d.	Scanner	0.06
e.	Other Accessories- Software	0.10
	<b>Total</b>	<b>0.46</b>

### 3. Materials

The materials used for Master DTP making is master roll which is available from stationery market. The monthly consumption at 100% capacity is Rs.2000.

#### **4. Manufacturing Process**

The various steps involved in DTP are the following

- Matter to be printed is first composed on the computer using the required software.
- If any logos, photographs, figures, drawings are to be added these are first scanned by scanner into the computer suitably modified and then inserted at the appropriate places within the text using the software.
- Print outs of the above matter are obtained using laser printer.
- Poly masters are then prepared.

#### **5. Land & Building**

An area of 200 sqft is sufficient for DTP printing. A rent of Rs.2500 is considered per month. An advance of Rs.25,000 is taken into account for calculation of viability.

#### **6. Utilities**

##### **POWER:**

The total requirement of power is only a domestic connection of power which can operate the computer and other machines.

##### **WATER:**

Water is required only for human consumption.

##### **TRANSPORT:**

The location should be a centrally located place to have easy access to various printing presses and other users.

## MAN POWER:

Category	Nos.	Monthly	Total
DTP Operator	1	4000	4000
Marketing	1	4000	4000
			<b>8000</b>
Add : 20% benefits			1600
			<b>9600</b>
Total salary per annum (Rs.lakhs)			Rs.1.15 lakh

## 7. Implementation Schedule

The computer and other accessories are available locally. If financing arrangements are made, the project can be implemented in one month's period.

## 8. Assumptions

- The Installed capacity of unit is 10 master copies per hour, the unit will work for 8 hour per day and 300 days per annum. This works out to 24000 master copies per annum at 100% capacity utilisation. During first year 60% capacity utilization is assumed. This will increase to 70% and 80% in subsequent years.
- Charge per master copy is estimated at Rs.15.00 per copy which works out to Rs.3.60 lakhs per annum at 100% capacity utilisation.
- Rent is estimated at rate of Rs.30,000 per annum.
- Consumables cost are estimated at Rs.0.12 lakh per annum.

- Power charge is estimated at the current rate which works out to Rs 0.30 lakh per annum
- Wages & Salary is estimated at Rs.1.15 lakhs per annum.
- Repairs & Maintenance expense is estimated at Rs.6,000 per annum.
- Depreciation is calculated on WDV method
- Administrative & General expense is assumed Rs.24,000 per annum.
- Interest on Term Loan borrowing is estimated at 12%.

#### **LIST OF COMPUTER AND OTHER ACCESSORIES SUPPLIERS**

1. Wipro Infotech Ltd., No.85, TTK Road, Chennai 600 018.
2. CCS Infotech Ltd., III Floor, No.18-A, Periyar Road, Chennai 600 0017.

#### **COST OF PROJECT AND MEANS OF FINANCE**

<b>1. COST OF PROJECT</b>	<b>[Rs.lakhs]</b>
Building (Advance)	0.25
Equipments	0.46
Other Misc. assets	0.20
Pre-Operative expenses	0.20
Working Expenses	0.10
<b>Total</b>	<b>1.21</b>
<b>2. MEANS OF FINANCE</b>	
Capital	0.91
Term Loan	0.30
<b>Total</b>	<b>1.21</b>

### 3. COST OF SERVICE & PROFITABILITY STATEMENTS

Years	1	2	3
Installed capacity			
No. of Copies per annum at 100% capacity (10 master copies/hour x 8 hr.x 300 days)	24000	24000	24000
Capacity Utilisation	60%	70%	80%
Total copies per annum	14400	16800	19200
Price per master copy	Rs.15.00		
Income per annum (Rs.lakhs)	2.16	2.52	2.88
Consumables	0.12	0.13	0.14
Rent	0.30	0.32	0.34
Electricity	0.24	0.25	0.26
Salaries	1.15	1.21	1.27
Repairs & Maintenance	0.06	0.06	0.06
Depreciation	0.10	0.08	0.07
Admin, & General expenses	0.24	0.25	0.26
Interest on Term Loan	0.04	0.03	0.02
Total expenses	2.25	2.33	2.42
Profit Before Tax	-0.09	0.19	0.46
Provision for tax	0.00	0.00	0.10
Profit After Tax	-0.09	0.19	0.36
Add: Depreciation	0.10	0.08	0.07
Cash accruals	0.01	0.27	0.43

### 6. PROFITABILITY RATIOS BASED ON 80% UTILISATION

Profit after Tax	0.36	13%
Income	2.88	
Profit before Interest and Tax	0.48	40%
Total Investment	1.21	
Profit after Tax	0.36	40%
Promoters Capital	0.91	

## 7. BREAK EVEN LEVEL

### Fixed Cost (FC):

[Rs.lakhs]

Wages & Salaries

1.27

Rent

0.34

Electricity

0.26

Depreciation

0.07

Admin. & General expenses

0.26

Interest on TL

0.02

**2.22**

Profit Before Tax (P)

0.46

FC x 100

2.22

80

BEL =

x

100

FC +P

2.22+ 0.46

66% of installed capacity

# INTERNET BOOTH

## A. INTRODUCTION

The Internet is a global electronic community of over several thousand inter connected computer networks. Over 50 million people are linked together, computing. This has been aptly termed by Mr. Al Gore former Vice President of U.S. as the Information Super Highway.

The internet originated in 1969 in the hands of U.S. military as a doomsday communication system impervious to nuclear war. By the late 1980's it had become an important peoples' computer network for a variety of academic researchers from English professors to Physicists and had crossed the periphery academic institutions and the border of U.S. Today the internet has users in more than 50 countries. It is continuing to expand rapidly, with thousands of systems adopting internet standards every month. In 1993, when commercial providers were first permitted to sell internet connections to individuals, millions of new users came on within months and a new era of computer communications began.

From a small net work set up by the U.S. Defence department, the Internet has grown into a truly international super network. The internet has added a new dimension to our existence by placing within our easy reach a wide range of information.

The internet offers a wealth of business opportunities. It serves as an advertising media for business community for offering their services to customers. For up-to-



date information and assistance to business, stock market, education, medical advances etc., Internet is undoubtedly an invaluable resource. Also the internet is invaluable resource for communication and sharing information across any organisation.

The internet is a boon to home too. Most networks on the internet make files available on data base for easy access of those on networks for which several Internet Service Providers provide connections to paid members for a wide range of services – information / programme downloads; online conferencing; e-mails; online booking for travel and entertainment to mention a few. They also provide information to specific users' groups, such as sports , musicians, help from expert group, market or sell make friends etc.

## **B. SERVICE USAGE & SPECIFICATIONS.**

### **Internet and its use:**

- Electronic Mail (e-mail): Sending and receiving communications through computer network
- Information sourcing: Electronic Commerce – Commercial dealings through electronic media, Selling Business information.
- Data Transfer

### **The customer can be a:**

- Student – seeking to go abroad for his/her higher studies would like to gather information about Foreign Universities

- Doctor – needing to update his/her professional knowledge, access medical journals, consult with experts around the world and any information related to Health and Medicine.
- Computer professionals – to update his/her knowledge in the ever changing Information Technology (IT) field – download software, IT news, knowledge bases, post queries etc.
- Lawyers – to know the details of the latest case laws etc.
- House wife – wishing to know about the new recipes

The amazing assemblage of material – from information on trade and commerce science and technology, and whatever else from electronic books to catalogs to free software, – exists in one file or another, in the FTP (File Transfer Protocol) and WWW (World Wide Web) servers or machines somewhere out there on the Internet.

Internet is undoubtedly a Information Super Highway.

### **C. MARKET POTENTIAL**

Indian internet market space has been witnessing a phenomenal growth since November 1998, when the new internet policy opened the sector for private internet service providers. Currently 303 ISPS have licences to offer their services and 43 ISPS are in various stages of operation.

According to a study by Gartner group, India had recorded the highest rate in 1999 in the Asia–Pacific region for Net user growth. By end June 2000 India had 12 million net subscribers as against 0.17 million in 1998.

The Latent demand for internet in India is huge. According to a study by NASSCOM the internet users were as follows.

<b>Years</b>	<b>Internet subscribers</b>	<b>Internet users</b>
March 2001	1.6 Million	5 million
March 2002	4.0 “	10 “
March 2003	8.0 “	18 “
March 2007	9.27 “	31.30

Department of Telecommunication (DoT) had set a goal of 40 million internet subscribers through ‘various technologies’ by 2010 which has been met in 2007 itself !

Falling price of PC’s, adoption of unlimited internet access model (a fixed fee for a period during which unlimited access is provided) and other developments will contribute to stimulating growth of internet subscribers.

## **D. TECHNICAL ASPECTS**

### **1. Capacity Proposed**

The Internet Booth proposed will have one server and 10 systems. The seating capacity will be 10 seats. The booth will work for 18 hours per day from 6 A.M. to 12 night. There will be 180 seat/hours per day. The hourly rate assumed at Rs.15.00. The annual income at 100% utilisation will be Rs.8.10 lakhs for 300 days. The viability calculation in this project is based on Internet connection through Dishnet DSL plan which has a faster speed.

## 2. Equipments

The following items of machinery are proposed.

	Item	Value (Rs.lakhs)
1.	Computer systems. (10 systems)	2.00
2.	Furniture & Fittings	2.00
3.	UPS -10 nos.	0.20
4.	Air Conditioner - 3Nos.	0.60
5.	Deposit for VSNL	0.10
	<b>Total</b>	<b>4.90</b>

## 3. Materials

There is no raw material for operating internet booth. Consumables such as printing stationery materials, computer printer and ribbons can be made available locally.

## 4. Building

The total area required to start a small internet boot is 1000 sqft. This can be arranged on rental basis. A rent of Rs.8000 is considered per month. An advance of Rs.80,000 is taken into account for calculation of viability.

## 5. Utilities

### POWER:

The power requirement is ordinary three phase connection for operating computer and air conditioners.

**WATER:**

Water is required only for human consumption .

**TRANSPORT:**

The site selected for internet booth should be easily accessible to common public

**MAN POWER:**

The internet booth proposes to employ the following persons.

<b>Category</b>	<b>Nos.</b>	<b>Monthly</b>	<b>Total</b>
Assistants	2	3000	6000
Manager	1	4000	4000
			<b>10000</b>
Add : 20% benefits			2000
			<b>12000</b>
Total salary per annum (Rs.lakhs)			Rs.1.44 lakh

**6. Implementation Schedule**

As the equipments are available easily and if financing arrangements are made, the project can be implemented in a month's time.

## **7. Assumptions**

- The Seat/hour is assumed at 54000 seat/hours per annum at 100% capacity utilisation (for 10 machines). During first year 60% capacity utilised. This will be increase to 70% and 80% in subsequent years.
- Charge per Seat/Hour is estimated at Rs.16.00 per hour, this works out to Rs.8.10 lakhs per annum at 100% capacity utilisation.
- Rent is estimated at rate of Rs.96,000 per annum.
- Internet Monthly charge is estimated at Rs.12,000 (Rs.1.20 lakhs per annum). There is no separate Telephone charge.
- Power charge is estimated at the current rate of Rs.0.36 lakh per annum at 60% utilization.
- Wages & Salary is estimated at Rs.0.72 lakh per annum.
- Maintenance expenses are estimated at Rs.12,000 per annum.
- Business promotional expense such as advertising is estimated at Rs.12,000 per annum.
- Depreciation is calculated on WDV method at 60%
- Administrative & General expense is Rs.0.24 lakh per annum.
- Interest on Term Loan borrowing is estimated at 12%.

### **LIST OF SUPPLIERS**

1. Videsh Sanchar Nigam Ltd., No.5, Swamy Sivananda Salai, Chennai 600 002.
2. BSNL Chennai
3. Siby Chennai

## COMPUTER SUPPLIERS

Any popular brand is available in the local market.

## COST OF PROJECT AND MEANS OF FINANCE

1. COST OF PROJECT	[Rs.lakhs]
Building (Advance)	0.96
Equipments	4.90
Pre-Operative expenses	0.30
Working Expenses	0.10
<b>Total</b>	<b>6.26</b>

2. MEANS OF FINANCE	
Capital	2.59
Term Loan	3.68
<b>Total</b>	<b>6.26</b>

## 3. COST OF SERVICE & PROFITABILITY STATEMENTS

Years	1	2	3
Installed capacity			
No. of Seating hours per annum at 100% (10 seatings/hour x 18 hr.x 300 days)	54000	54000	54000
Capacity Utilisation	60%	70%	80%
Toal Browsing hours per annum	32400	37800	43200
Charge per seat hour	Rs.15.00	per hour	
<b>Income per annum (Rs.lakhs)</b>	<b>4.86</b>	<b>5.67</b>	<b>6.48</b>
VSNL charges/Dishnet charges (incl.phone)	0.43	0.43	0.44
Rent	0.96	1.01	1.06
Electricity	0.36	0.42	0.48
Salaries	1.44	1.51	1.59
Maintenance	0.12	0.13	0.14
Business promotional expenses	0.12	0.13	0.14
Depreciation	3.60	1.44	1.30
Admin, & General expenses	0.24	0.25	0.26
Interest on Term Loan	0.50	0.44	0.32
Total expenses	7.77	5.77	5.72
Profit Before Tax	-2.91	-0.10	0.76

Provision for tax	0.00	0.00	0.00
<b>Profit After Tax</b>	<b>-2.91</b>	<b>-0.10</b>	<b>0.76</b>
Add: Depreciation	3.60	1.44	1.30
Cash accruals	0.69	1.34	2.06

#### 4. PROFITABILITY RATIOS BASED ON 80% UTILISATION

<u>Profit after Tax</u>	<u>0.76</u>	12%
Income	6.48	
<u>Profit before Interest and Tax</u>	<u>1.08</u>	17%
Total Investment	6.26	
<u>Profit after Tax</u>	<u>0.76</u>	30%
Promoters Capital	2.59	

#### 5. BREAK EVEN LEVEL

<b>Fixed Cost (FC):</b>	<b>[Rs.lakhs]</b>	
Wages & Salaries	1.59	
Rent	1.06	
Electricity-50%	0.24	
Maintenance	0.14	
Business promotional expenses	0.14	
Depreciation	1.30	
Admin. & General expenses	0.26	
Interest on TL	0.32	
	<b>5.04</b>	
Profit Before Tax (P)	0.76	
$FC \times 100$	5.04	80
BEL =	$\frac{FC + P}{FC + P}$	$\times 100$
	5.80	
	69%	of installed capacity