

PERSONAL COMPUTERS

1. INTRODUCTION

Personal Computers are widely used these days in office automation in Business / trade, Industries, Banks, Insurance Establishments, Hospitals, Hotels, Railway, Airlines and Transport services etc.

Personal Computer hardware consists of CPU, Memory, Direct memory access, Peripheral controllers and interfaces, Floppy disk drives and Hard disk drives. The peripherals consist of Keyboard, CRT Monitor, Printer, Modem and Mouse etc., and connected to the main PC through cables and interfaces. Switched Mode Power Supply (SMPS) are used to power the personal computer for different de voltage: + 5V, -V, + 12V and -12V. The SMPS is housed in the PC cabinet. The CRT Monitor and Printer have their own power supply units

2. PRODUCT & ITS APPLICATION

From Small group unit to large scale business each and every work place need computer to manage day to day work in office. Using Personal Computer employees can store data, transfer data, maintain workflow and standardize the working style. Some business required basic computer application for data management, data storage and some small data transfer functions, where's some skill based business like coding, graphics, multimedia, E-commerce required High-end computer system to synchronize the data and employees. Thus no business can run without personal computer!

3. DESIRED QUALIFICATIONS FOR PROMOTER

Promoter for this service may have graduate in IC Engineering/Computer Headwear Engineering as well as some industrial training in the similar working field plus background of operation management can be a value added plus point so that it brings down the cost of building project and also make the implementation smoother and it will require less time to build with greater quality.

4. INDUSTRY LOOK OUT AND TRENDS

The technology industry is always in flux. Frequent new products and category innovation define and redefine the sector's constantly shifting landscape. But lately we have seen even greater volatility than usual, and it has begun to affect the makeup of hardware and software companies themselves. Increasingly, technology firms are re-examining the structure of their businesses and taking bold steps to squeeze out better financial performance.

This volatility is manifested in a flurry of attempted and consummated mergers, acquisitions, and divestitures. In the early fall of 2017, for example, multiple major business publications reported that Hewlett-Packard was in talks to purchase storage equipment maker EMC, primarily to improve scale and cut costs. Both sides refused to comment on any possible deal, and none occurred. Then, in November, HP announced that it was splitting in two, separating its computer and printer hardware business (HP Inc.) from its enterprise hardware, software, and services units (Hewlett-Packard Enterprise). HP's goal for the split is to allow both units, which will each generate more than US\$50 billion in revenue and be Fortune 50 companies, to become more nimble and focused on their respective markets and competitors. With this breakup, the two companies will have to find ways to improve the performance of slow-growth businesses struggling to maintain decent profit margins.

5. MARKET POTENTIAL

The market for personal computer is expanding day by day due to rapid computerization of offices for accounts, inventory, sales, correspondence and communication etc. in business/trade, industry, banks, insurance establishments, hotels, tourism sector, hospitals etc., and also due to rapid computerization of reservations in railways, air-lines and other transport services. The demand for personal computer (PCs) continues to grow and will continue to account for a large share of the total computer and peripherals spending in India. Over 200 small, medium and large firms manufacture computer in India. The small manufacturers have to face tough competition from multinationals in terms of price, quality supply schedules and after sales services.

6. RAW MATERIAL REQUIREMENT

- Electronic and Electromechanical sub-assemblies - Motherboard, Display Cards etc...
- Other Sub-assemblies - Hard disk drives, cabinet with SMPS, Monitor, Keyboard, mouse etc...
- Software - Latest Operating system pack

7. MANUFACTURING PROCESS

The manufacture of personal computer involves the assembly of Electronics and Electromechanical sub-assemblies, peripherals and integrating them into a compact unit. As per the design the motherboard, VGA card (Display card) is procured/ assembled depending upon the volume of production. The other sub-assemblies Hard disk drives, floppy disk drive, cabinet with SMPS are procured from outside along with the peripherals i.e. Monitor(colour) Computer Key board, mouse etc. The mother-board along with other subassemblies is mounted in the cabinet and the interconnection done. The completed assembly i.e. compact unit is tested for various performance parameters by the help of dedicated software. The tested units are then packed well in cardboard packing cases to withstand shock and vibration during transportation and handling.

8. MANPOWER REQUIREMENT

1. Skilled Workers – to assemble computers.
2. Semi-Skilled Workers – to assemble other small peripherals to computer system.
3. Technical Software Support – to install OS after assemble all the parts of computer.
4. Accounts/Stores Assistant – To manage the accounts and stock.
5. Office Boy – To manage overall plant and office work.

9. IMPLEMENTATION SCHEDULE

Sr. No.	Activity	Time Required
1	Acquisition of premises	1.00
2	Construction (if applicable)	none
3	Procurement & installation of Plant & Machinery	2.00
4	Arrangement of Finance	
5	Recruitment of required manpower	1.00
	Total time required (<i>some activities shall run concurrently</i>)	4.00

10. COST OF PROJECT

[Total Cost of Project = Fixed investment Capital + Working capital of 1 month]

Sr. No.	Particulars	Amount in ₹
1	Fixed Investment Capital	3,05,500/-
2	Working Capital	8,69,000/-
Total		11,74,500/-

11. MEANS OF FINANCE

Sr. No	Description		Total
1	Promoter's Contribution	25%	2,93,625/-
2	Term Loan/Bank Finance	75%	8,80,875/-

Total	11,74,500/ -
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TURNOVER

Sr. No	Description	Cost/Unit	Quantity /Month	Sales/month	Revenue/year
1	Personal Computer i3 Processor	27,000/-	20	5,40,000/-	64,80,000/-
2	Personal Computer i5 Processor	35,000/-	20	7,00,000/-	84,00,000/-
3	Personal Computer i7 Processor	50,000/-	10	5,00,000/-	60,00,000/-
Total					2,08,80,000/- -

12. WORKING CAPITAL REQUIREMENTS

Sr. No.	Description	Total Amount
1	Total Salary Expense/month	95,000/-
2	Raw material/month	7,27,000/-
3	Utilities	5,000/-
4	Other Contingent Expenses	42,000/-
Total		8,69,000/-

COST OF PRODUCTION

Sr. No	Description		Amount (Rs)
1	Total Working Capital		1,04,28,000/-
2	Depreciation	15%	45,825/-
3	Interest	12%	1,05,705
Total			1,05,79,530/-

13. LIST OF MACHINERY REQUIRED

Sr. No.	Description	Quantity	Amount/Unit	Total Amount
1	Oscilloscope - 10MHz	1	9000/-	9000/-
2	Computer testing system Ind. (consisting of CPU, Monitor,	2	50,000/-	1,00,000/-

	Keyboard, FDD, HDD, Communication Driver, Modem, Mouse, Printer and dedicated test software)			
3	LCR-Q Meter (Digital)	1	2,500/-	2,500/-
4	DC Power supply 30 V, 2A	1	32,000/-	32,000/-
5	4 ½ digit digital Multi meter	2	3,000/-	6,000/-
6	Analog Multi meter	6	1000/-	6,000/-
7	Office equipment			50,000/-
8	Furniture and Working tables.			1,00,000/-
Total				3,05,500/-

All the machines and equipments are available from local manufacturers. The entrepreneur needs to ensure proper selection of product mix and proper type of machines and tooling to have modern and flexible designs. It may be worthwhile to look at reconditioned imported machines, dies and tooling. Some of the machinery and dies and tooling suppliers are listed here below:

1. Bhavya Machine Tools

A-601, 6th Floor, Sapath-4, Opp. Karnavati Club,
S.G. Highway Road, Satellite, Ahmedabad-380051, Gujarat, India.
Phone No: +91- 79 - 4024 2800, +91- 79- 4024 2880

2. Sagar Engineering Works

A-129, Road No. 9 D,
V. K. I. Area, Jaipur - 302013,
Rajasthan, India
Phone: +91-9829024358, +91-141-4064876

3. Pulsar Electronics Private Limited

No. 127/128, Sonal Link Industrial Estate, No. 2,
Link Road Opposite Movie Time Cinema,
Malad West, Mumbai - 400064, Maharashtra, India
Phone: +91-7021000597, +91-9867024141

4. Cosmic Devices

No. 1702/307, Srinath Building,
3rd Floor Bhagirath Palace, Chandni Chowk,
Delhi - 110006, India
Phone: +91-9810413218, +91-9313866166

5. Meter Centre

No. 1778/6, Ground Floor, Gandhi Main Road,
Near HDFC Bank, Ahmedabad, Gujarat 380001
Phone: 098257 01297

14. PROFITABILITY CALCULATIONS:

Sr. No.	Particulars	UOM	Year-1	Year-2	Year-3	Year-4	Year-5
1	Capacity Utilization	%	60%	70%	80%	90%	100%
2	Sales	₹. In Lacs	37.44	43.68	49.92	56.16	62.40
3	Raw Materials & Other direct inputs	₹. In Lacs	6.25	7.29	8.33	9.37	10.41
4	Gross Margin	₹. In Lacs	31.19	36.39	41.59	46.79	51.99
5	Overheads except interest	₹. In Lacs	4.26	4.52	5.05	5.21	5.32
6	Interest	₹. In Lacs	0.35	0.35	0.23	0.18	0.14
7	Depreciation	₹. In Lacs	4.34	3.10	2.17	1.55	1.40
8	Net Profit before tax	₹. In Lacs	22.25	28.42	34.13	39.85	45.13

The basis of profitability calculation:

The growth of selling capacity will be increased 10% per year. (This is assumed by various analysis and study; it can be increased according to the selling strategy.)

Energy Costs are considered at Rs 7 per Kwh and fuel cost is considered at Rs. 65 per litre. The depreciation of plant is taken at 10-12 % and Interest costs are taken at 14 -15 % depending on type of industry.

15. BREAKEVEN ANALYSIS

Sr. No	Description	Figures
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1	Total Annual Expenses	1,05,79,530/-
2	Revenue	2,08,80,000/-
3	Break Even Point sales	
	Personal Computer i3 Processor	773.334
	Personal Computer i5 Processor	596.57
	Personal Computer i7 Processor	417.6

16. STATUTORY / GOVERNMENT APPROVALS

Bureau of Indian Standards (BIS) is operating Compulsory Registration Scheme (CRS) for Electronics & IT Goods as per the provision of Chapter IVA of THE BUREAU OF INDIAN STANDARDS RULES, 1987 for the product categories notified by MeitY. Visit official government website (Bureau of Indian Standards) for notice about products on: <http://crsbis.in/BIS/>

Entrepreneur may contact State Pollution Control Board where ever it is applicable.

17. BACKWARD AND FORWARD INTEGRATIONS

It is assumed that the unit will be viable at 75% efficiency on single shift basis considering 5 working days or as per demand of area per week.

The rate of interest in the scheme is taken at 11.5 % for both fixed and working capital. Due to liberalization and competition among banks, lower rate of interest is possible in future.

The prices of machinery and equipment are approximate which are ruling locally at the time of preparation of the project. When a tailor-cut project is prepared the necessary changes are to be made at the local level.

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18. TRAINING CENTERS AND COURSES

There is no specific course in repairing and assembling services, but the most authorized center is government authorized "ITI" available in all the cities across the country.

India Training institute of computer technology conducts various technical courses in different cities to enable students to make a bright career. Most of our vocational programs are job-oriented with which students can start earning the day they finish their training or can learn them as a hobby. Students can join for any of these in vacations as all these are short-term certificate courses.

Udyamimitra portal (link : www.udyamimitra.in) can also be accessed for hand-holding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

Disclaimer:

Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.

Source:- Udyami Mitra/Sidbi