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PROJECT REPORT

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PROJECT:

MOBILE CHARGER MANUFACTURING UNIT

PROJECT REPORT

OF

MOBILE CHARGER MANUFACTURING UNIT

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Mobile Charger Manufacturing unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

MOBILE CHARGER

1. INTRODUCTION

A mobile charger, or recharger, is a device used to put energy into a cell phone or electronic gadget forcing an electric current through it. A typical mobile phone charger consist of charger cabinet, controller PCB, Cable with connector pin. A typical mobile phone charger is rated at anywhere between 3-7 W while charging. Which means even if your phone takes 2 hours for charging it will just consume 0.006 to 0.014 units or kWh of electricity to charge.

USB-A, USB-B, USB-C are some types of USB mobile chargers. Different types of mobile chargers are available now a days like wall chargers, car chargers, desktop chargers, green chargers etc. This mobile charger circuit mainly consists a Transformer, Rectifier and a voltage regulator IC. This circuit can be divided into four parts: (1) Step down AC voltage (2) Rectification (3) Filtration (4) Voltage Regulation.

Step down AC voltage – A Transformer is an electrical device that trades voltage for current in a circuit, while not affecting the total electrical power. This means it takes high-voltage electricity with a small current and changes it into low-voltage electricity with a large current, or vice versa. Rectification- It is the process of removing the negative part of the Alternate Current (AC), hence producing the partial DC. Diodes are used for this. Filtration - The output after the Rectification is not a proper DC. For this Capacitor are used. Capacitor will charge till the waveform goes to its peak and it will discharge into load circuit when waveform goes low. So when output is going low, capacitor maintains the proper voltage supply into the Load circuit, hence creating the DC.

Voltage Regulation- A voltage regulator IC 7805 is used to provide a regulated 5v DC. The output of the voltage regulator connected to the USB female pin from there we can connect it to cell phone.

2. USES & MARKET POTENTIAL

- Mobile charger is used to charge mobile phone.
- It can also be used to charge other electric devices like Tablet, Power banks, to charge rechargeable torch etc.
- This DC supply can also be used to charge power source for digital circuits, breadboard circuits, ICs etc.
- Used to operate device that take 5v DC input.

The global market for mobile chargers should grow from $18.1 billion in 2017 to $25.0 billion by 2022 at a compound annual growth rate (CAGR) of 6.6% during the forecast period of 2017-2022.Mobile chargers created in India can possibly catch around 50% of the worldwide market under the government's new scheme for electronic producers, a report by the Internet and Mobile Association of India. When it comes to explore in the business market, there is a ton of interest on the lookout. The mobile charger market is acquiring energy because of the developing number of cell phone users, rising disposable income and government strategies for solar based chargers, etc. The mobile charger is the most generally utilized gadget across the globe because of expanded reception of electronic vehicles, electronic devices, and different gadgets. Electronic gadgets/devices such as mobile phones, tablets, cameras, laptops, head gear, and so on, which drain batteries at faster rates, will create significant demand for mobile chargers in the near future. That is because nowadays everyone has smartphones. In today's time all work is done in digital form. In which, when there is a need for a mobile phone. Now it is clear that if the mobile phone is used more than people will charge more. So these days, with the increase in the demand of mobile, the demand for mobile charger has also increased a lot. People also use it quite a lot. Then, whether it is a city or a village, its demand is very high everywhere. Whenever someone's mobile is discharged, that person first goes to the mobile shop and purchases a charger. The special thing about this business is that this business is not run at any particular time, this business can run at any time. Now you can guess from this how much demand is there in the market. You can start it in any month of the year and anytime.

RAW MATERIAL REQUIREMENT

1. **Plastic:** Plastic granules can be used to form charger cabinet.
2. Charger cable with connector pin-

   PVC material cable is used for mobile charging. The cable comes with attached connector female USB pin.

3. **Electric components:** Circuit board, Transformer, Resistors, Transistors, Diodes, Capacitor, Controller IC, Wires, etc.

4. **Other components** Brass plug pins, Screws, Solder flux, soldering paste

4.3 MANUFACTURING PROCESS

This process can be broken down into following steps:

1. Raw material procurement
2. Injection moulding- Plastic moulding
3. Assembly- PCB assembly
4. Final assembly
5. Testing

PROJECT COMPONENTS

Land /Civil Work

land require for this manufacturing unit will be approx. around 1500-2000 square feet.

Plant and Machinery

This is semi-automatic type of plant and production capacity is set to be 400 pieces of finish product per day.

S.N.	Description	Amount
1	Injection Molding Machine (Capacity85 tonne)	8,25,000
2	Mobile charger tester	6500
3	Data cable tester	12200
4	Aging tester (300AT652)	180000
5	Aging tester (150 AT652)	130000
6	Capacitor tester	4800
7	Printing machine	50000
	Sub Total	**12,08,500**
	GST @ 18%	**2,17,530**
	Total	**14,26,030**

Note: In this project PCB is purchased from the market and body of Mobile charger adopter is manufactured with the help of Injection Molding machine and assembly process is done by purchasing all other components from the market.

Power Requirement

This manufacturing facility can work with a three-phase AC power supply. For machinery and other electrical utilities up to 25 KW power will be required for the above mentioned capacity plant.

Manpower Requirement

Manpower required for this manufacturing unit depends on the land, type of manufacturing unit. For small scale unit around 7-10 people will be required.

3. FINANCIALS

PROJECTED BALANCE SHEET (in Lacs)

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Liabilities					
Capital					
Opening Balance		3.77	6.00	8.86	11.06
Add:- Own Capital	2.41				
Add:- Retained Profit	3.35	5.73	7.36	8.70	10.36
Less:- Drawings	2.00	3.50	4.50	6.50	7.00
Closing Balance	3.77	6.00	8.86	11.06	14.43
Term Loan	12.21	9.16	6.10	3.05	-
Working Capital Limit	8.00	8.00	8.00	8.00	8.00
Sundry Creditors	2.39	3.19	3.66	4.44	4.99
Provisions & Other Liabilities	0.50	0.75	0.90	1.08	1.30
TOTAL :	**26.87**	**27.09**	**27.53**	**27.63**	**28.71**
Assets					
Fixed Assets (Gross)	15.26	15.26	15.26	15.26	15.26
Gross Depriciation	2.26	4.19	5.83	7.23	8.42
Net Fixed Assets	**13.00**	**11.07**	**9.43**	**8.03**	**6.84**
Current Assets					
Sundry Debtors	4.86	5.16	5.48	5.73	6.45
Stock in Hand	7.32	8.72	9.99	11.32	12.75
Cash and Bank	0.69	1.40	1.38	1.55	1.17
Loans and advances/other current assets	1.00	0.75	1.25	1.00	1.50
TOTAL :	**26.87**	**27.09**	**27.53**	**27.63**	**28.71**

PROJECTED CASH FLOW STATEMENT (in Lacs)

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
SOURCES OF FUND					
Own Margin	2.41				
Net Profit	3.35	5.73	7.62	9.31	11.59
Depriciation & Exp. W/off	2.26	1.93	1.64	1.40	1.19
Increase in Cash Credit	8.00	-	-	-	-
Increase In Term Loan	13.73	-	-	-	-
Increase in Creditors	2.39	0.79	0.47	0.78	0.56
Increase in Provisions & Other liabilities	0.50	0.25	0.15	0.18	0.22
TOTAL :	**32.66**	**8.70**	**9.89**	**11.66**	**13.55**
APPLICATION OF FUND					
Increase in Fixed Assets	15.26				
Increase in Stock	7.32	1.40	1.27	1.33	1.43
Increase in Debtors	4.86	0.30	0.32	0.24	0.72
Increase in loans and advances	1.00	- 0.25	0.50	- 0.25	0.50
Repayment of Term Loan	1.53	3.05	3.05	3.05	3.05
Drawings	2.00	3.50	4.50	6.50	7.00
Taxation	-	-	0.26	0.61	1.23
TOTAL :	**31.97**	**8.00**	**9.91**	**11.49**	**13.93**
Opening Cash & Bank Balance	-	0.69	1.40	1.38	1.55
Add : Surplus	0.69	0.71	-0.02	0.17	-0.38
Closing Cash & Bank Balance	**0.69**	**1.40**	**1.38**	**1.55**	**1.17**

PROJECTED PROFITABILITY STATEMENT (in Lacs)

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	40%	45%	50%	55%	60%
SALES					
MOBILE CHARGER	91.20	110.62	126.56	143.23	161.33
Total	**91.20**	**110.62**	**126.56**	**143.23**	**161.33**
COST OF SALES					
Raw material cost	55.20	63.72	73.20	83.16	93.60
Electricity Expenses	4.20	4.83	5.55	6.39	7.35
Depreciation	2.26	1.93	1.64	1.40	1.19
Wages & labour	8.76	10.07	11.59	13.32	15.32
Repair & maintenance	0.46	1.38	1.52	1.43	1.61
Consumables	2.28	2.77	3.16	3.58	4.03
Packaging cost	2.74	2.49	2.53	2.79	2.82
Cost of Production	75.90	87.19	99.19	112.07	125.93
Add: Opening Stock	-	4.56	5.53	6.33	7.16
Less: Closing Stock	4.56	5.53	6.33	7.16	8.07
Cost of Sales	71.34	86.22	98.40	111.24	125.02
GROSS PROFIT	**19.86**	**24.40**	**28.17**	**31.99**	**36.30**
Salary to Staff	7.20	8.28	9.52	10.95	12.59
Interest on Term Loan	1.35	1.19	0.85	0.52	0.18
Interest on working Capital	0.88	0.88	0.88	0.88	0.88
Rent	4.80	5.28	5.81	6.39	7.03
Selling & Administration Expenses	2.28	3.04	3.48	3.94	4.03
TOTAL	**16.51**	**18.67**	**20.54**	**22.68**	**24.72**
NET PROFIT	3.35	5.73	7.62	9.31	11.59
Taxation			0.26	0.61	1.23
PROFIT (After Tax)	3.35	5.73	7.36	8.70	10.36

CALCULATION OF D.S.C.R

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	5.62	7.66	9.00	10.10	11.55
Interest on Term Loan	1.35	1.19	0.85	0.52	0.18
Total	6.97	8.85	9.85	10.61	11.73
REPAYMENT					
Instalment of Term Loan	1.53	3.05	3.05	3.05	3.05
Interest on Term Loan	1.35	1.19	0.85	0.52	0.18
Total	2.88	4.24	3.91	3.57	3.23
DEBT SERVICE COVERAGE RATIO	**2.42**	**2.09**	**2.52**	**2.97**	**3.63**
AVERAGE D.S.C.R.					**2.73**

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					(in Lacs)
PARTICULARS	**1st year**	**2nd year**	**3rd year**	**4th year**	**5th year**
Finished Goods					
(15 Days)	4.56	5.53	6.33	7.16	8.07
Raw Material					
(15 Days)	2.76	3.19	3.66	4.16	4.68
Closing Stock	**7.32**	**8.72**	**9.99**	**11.32**	**12.75**

COMPUTATION OF WORKING CAPITAL REQUIREMENT					
TRADITIONAL METHOD					(in Lacs)
Particulars	**Amount**	**Own Margin**		**Bank Finance**	
Finished Goods & Raw Material	7.32				
Less : Creditors	2.39				
Paid stock	**4.93**	**10%**	**0.49**	90%	**4.44**
Sundry Debtors	**4.86**	**10%**	**0.49**	**90%**	**4.38**
	9.79		**0.98**		**8.81**
MPBF					**8.81**
WORKING CAPITAL LIMIT DEMAND (from Bank)					**8.00**

REPAYMENT SCHEDULE OF TERM LOAN							
					Interest		11.00%
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance
ist	Opening Balance	-					
	1st month		13.73	13.73	-	-	13.73
	2nd month	13.73	-	13.73	0.13	-	13.73
	3rd month	13.73	-	13.73	0.13	-	13.73
	4th month	13.73	-	13.73	0.13	-	13.73
	5th month	13.73	-	13.73	0.13	-	13.73
	6th month	13.73	-	13.73	0.13	-	13.73
	7th month	13.73	-	13.73	0.13	0.25	13.48
	8th month	13.48	-	13.48	0.12	0.25	13.23
	9th month	13.23	-	13.23	0.12	0.25	12.97
	10th month	12.97	-	12.97	0.12	0.25	12.72
	11th month	12.72	-	12.72	0.12	0.25	12.46
	12th month	12.46	-	12.46	0.11	0.25	12.21
					1.35	**1.53**	
2nd	Opening Balance						
	1st month	12.21	-	12.21	0.11	0.25	11.95
	2nd month	11.95	-	11.95	0.11	0.25	11.70
	3rd month	11.70	-	11.70	0.11	0.25	11.45
	4th month	11.45	-	11.45	0.10	0.25	11.19
	5th month	11.19	-	11.19	0.10	0.25	10.94
	6th month	10.94	-	10.94	0.10	0.25	10.68
	7th month	10.68	-	10.68	0.10	0.25	10.43
	8th month	10.43	-	10.43	0.10	0.25	10.17
	9th month	10.17	-	10.17	0.09	0.25	9.92
	10th month	9.92	-	9.92	0.09	0.25	9.66
	11th month	9.66	-	9.66	0.09	0.25	9.41
	12th month	9.41	-	9.41	0.09	0.25	9.16
					1.19	**3.05**	
3rd	Opening Balance						
	1st month	9.16	-	9.16	0.08	0.25	8.90
	2nd month	8.90	-	8.90	0.08	0.25	8.65
	3rd month	8.65	-	8.65	0.08	0.25	8.39
	4th month	8.39	-	8.39	0.08	0.25	8.14
	5th month	8.14	-	8.14	0.07	0.25	7.88
	6th month	7.88	-	7.88	0.07	0.25	7.63
	7th month	7.63	-	7.63	0.07	0.25	7.38
	8th month	7.38	-	7.38	0.07	0.25	7.12
	9th month	7.12	-	7.12	0.07	0.25	6.87
	10th month	6.87	-	6.87	0.06	0.25	6.61

	11th month	6.61	-	6.61	0.06	0.25	6.36
	12th month	6.36	-	6.36	0.06	0.25	6.10
					0.85	**3.05**	
4th	Opening Balance						
	1st month	6.10	-	6.10	0.06	0.25	5.85
	2nd month	5.85	-	5.85	0.05	0.25	5.60
	3rd month	5.60	-	5.60	0.05	0.25	5.34
	4th month	5.34	-	5.34	0.05	0.25	5.09
	5th month	5.09	-	5.09	0.05	0.25	4.83
	6th month	4.83	-	4.83	0.04	0.25	4.58
	7th month	4.58	-	4.58	0.04	0.25	4.32
	8th month	4.32	-	4.32	0.04	0.25	4.07
	9th month	4.07	-	4.07	0.04	0.25	3.82
	10th month	3.82	-	3.82	0.03	0.25	3.56
	11th month	3.56	-	3.56	0.03	0.25	3.31
	12th month	3.31	-	3.31	0.03	0.25	3.05
					0.52	**3.05**	
5th	Opening Balance						
	1st month	3.05	-	3.05	0.03	0.25	2.80
	2nd month	2.80	-	2.80	0.03	0.25	2.54
	3rd month	2.54	-	2.54	0.02	0.25	2.29
	4th month	2.29	-	2.29	0.02	0.25	2.03
	5th month	2.03	-	2.03	0.02	0.25	1.78
	6th month	1.78	-	1.78	0.02	0.25	1.53
	7th month	1.53	-	1.53	0.01	0.25	1.27
	8th month	1.27	-	1.27	0.01	0.25	1.02
	9th month	1.02	-	1.02	0.01	0.25	0.76
	10th month	0.76	-	0.76	0.01	0.25	0.51
	11th month	0.51	-	0.51	0.00	0.25	0.25
	12th month	0.25	-	0.25	0.00	0.25	-
					0.18	**3.05**	

DOOR TO DOOR	60	MONTHS
MORATORIUM PERIOD	6	MONTHS
REPAYMENT PERIOD	54	MONTHS

Assumptions:

- Production Capacity of Mobile charger is 400 Pieces Per Hour. First year, Capacity has been taken @ 40%.
- Working shift of 8 hours per day has been considered.
- Raw Material stock is for 15 days and finished goods Closing Stock has been taken for 15 days.
- Credit period to Sundry Debtors has been given for 12-16 days.
- Credit period by the Sundry Creditors has been provided for 13-16 days.
- Depreciation and Income tax rates has been taken as per the Income tax Act, 1961.
- Interest on working Capital Loan and Term loan has been taken at 11%.
- Salary and wages rates are taken as per the Current Market Scenario.
- Power Consumption has been taken at 25 KW.
- Selling Prices & Raw material costing has been increased by 3% & 2% respectively in the subsequent years.

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