
Pre-Feasibility Study

PLASTIC BUTTON MANUFACTURING



Small and Medium Enterprises Development Authority

Ministry of Industries and Production

Government of Pakistan

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1. DISCLAIMER

The objective of this information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data/information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although due care and diligence have been taken to compile this document, the contained information may vary due to any change in any of the concerned factors as the future is uncertain, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice to be obtained by the user. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision, including taking professional advice from a qualified consultant/technical expert before making any decision to act upon the information.

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2. EXECUTIVE SUMMARY

Buttons are small fastener yet a key component in modern clothing and fashion design. Predominantly, buttons are made from plastic. Textile apparel and fashion industries are the major clients of button manufacturer. The demand of plastic buttons are steadily increasing due to growing demand of clothing and fashion accessories in both domestic and international markets.

This particular pre-feasibility study is about plastic button manufacturing which includes melting plastic granules and then transforming them into the desired button shape with the help of moulding machinery. Plastic button manufacturing unit can be established in Karachi, Lahore, Faisalabad or Sialkot as most of the apparel manufacturers are located in these cities.

Plastic buttons of different design and sizes will be sold to wholesalers and retail outlets in major cities of Pakistan. In addition, the proposed business will also cater to the needs of apparel manufacturers including garment factories, tailors, purse and bag manufactures, leather garment makers, fashion accessories makers amongst others. The business will have the capacity to produce 31.104 million buttons per year. In the first year, the unit will operate at 75% capacity and with an annual increase of 5%, will attain a maximum capacity of 95% in year 5.

The total project cost is estimated at Rs. 16.035 million with a capital investment of Rs. 13.696 million and working capital Rs. 2.339 million. Based on an equity finance model, the project NPV is around Rs. 31.795 million, with an IRR of 42% and Payback Period of 3.46 years. The project will provide employment opportunities to 17 people including the owner. The legal business status of this project is assumed to be 'Sole Proprietorship'.

3. INTRODUCTION TO SMEDA

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

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

Preparation and dissemination of pre-feasibility studies in key areas of investment have been a successful hallmark of SME facilitation by SMEDA.

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

4. PURPOSE OF THE DOCUMENT

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and to serve this objective, the document/study covers various aspects of project concept development, start-up, production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in the **Plastic Button Manufacturing** business, by providing them with a general understanding of the business to support potential investors in crucial investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises by trial and error, and certain industrial norms that become a guiding source regarding various aspects of business set-up and its successful management.

Apart from carefully studying the whole document one must consider critical aspects provided later on, which form the basis of an informed Investment Decision.

5. BRIEF DESCRIPTION OF PROJECT AND PRODUCT

Plastic is a synthetic or semi-synthetic organic material that can be moulded into any solid yet flexible form. The use of plastic has increased immensely in the past few years because of being malleable, resistant, durable and economical. Among many other uses, it is also used in the manufacturing of plastic buttons.

Plastic button manufacturing business offers good return on investment with a short payback period. It can easily attain a sustainable level due to the growing domestic and export related garment requirement.

Plastic buttons are made up of different materials, which can include: Nylon ABS, Urea, Resin (polyester), Acrylic, etc. The most commonly used material for plastic buttons is resin because of its various qualities like; heat and wear-resistance, variety of patterns, etc. Plastic buttons can be used for different purposes including garments, purses, bags or purely for decoration. Plastic button manufacturing units are scattered in various parts of Pakistan with the highest concentrations in the

urban parts of the cities. A major cluster is found in Karachi followed by Lahore, Faisalabad and Rawalpindi.

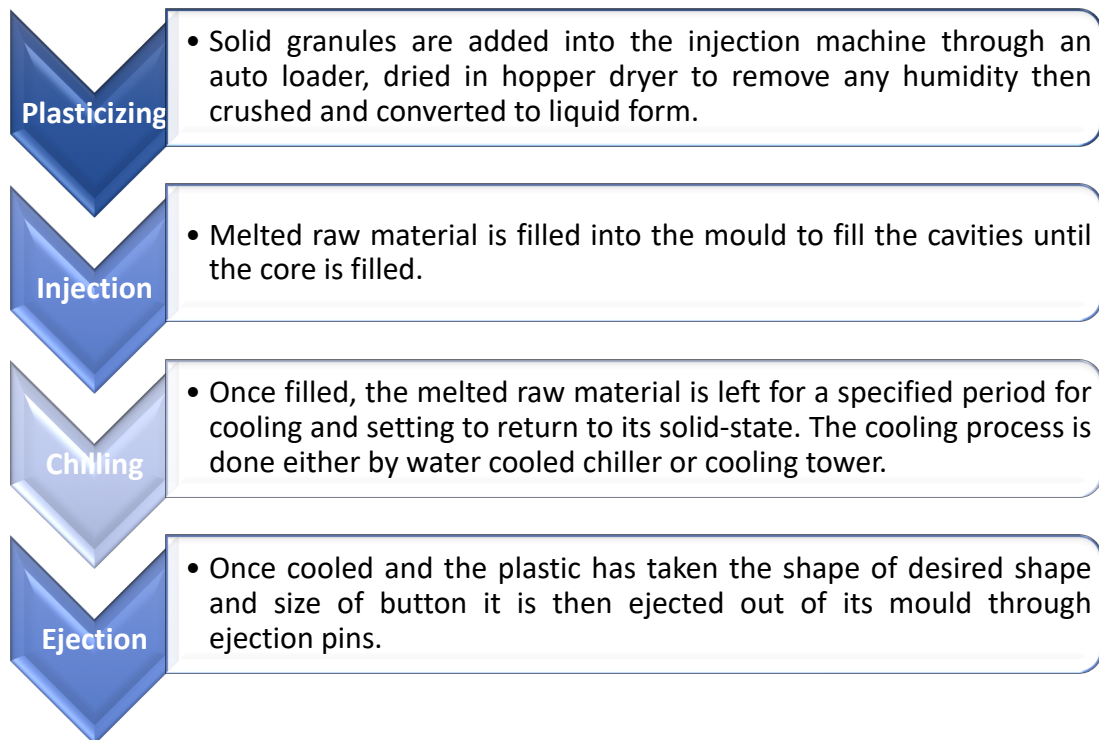
The proposed business will produce buttons of the size of 18mm, 20mm, 25mm and 28mm with the help of fully automated machinery. The raw material for plastic button manufacturing comprises of small hard granules or resin which are mostly imported from different countries. The main machinery used in this business will be the injection moulding machine. The Injection moulding machine is usually composed of an injection system, mould closing system, hydraulic transmission system, electrical control system, lubrication system, heating and cooling system and safety monitoring system.

The major clients of this proposed business will be apparel manufacturers which will include garment factories, purse and bag manufacturers, tailors, leather garments makers, fashion accessories makers etc.

5.1 Production Process Flow

The production process flow of plastic button manufacturing unit starts with the purchasing of plastic resins / granules from the market. The plastic granules are loaded into injection moulding machine through an autoloader then melted, moulded into the desired shape and size before being cooled down and then dyed in color mixer.

Figure 1: Production Process Flow



5.2 Installed and Operational Capacities

The proposed manufacturing unit will have the capacity to produce 31.104 million buttons of different shapes and sizes in a year. However, the initial operating capacity of the project will be 75% with an annual increase of 5% and will achieve a maximum operational capacity of 95% in year 5.

Table 1: Installed and Operational Capacity

Description	Total Capacity (No.)	Operational Capacity (75%)	Maximum Operational Capacity (95%)
Plastic Buttons Production	31,104,000	23,328,000	29,548,800

6. CRITICAL SUCCESS FACTORS

Following are critical success factors associated with this business:

- ⇒ Selection of appropriate plant, machinery and moulds.
- ⇒ The investor must have prior experience and know-how of the plastic button manufacturing process.
- ⇒ Experience in purchasing the right raw material as usually most of it is imported from different countries.
- ⇒ Time management is very important in completing orders. Delay in delivery can cost as high as losing a customer.
- ⇒ Continuous flow of orders through aggressive marketing and establishing good working relations for repeat orders.
- ⇒ Availability of skilled manpower.
- ⇒ Agile marketing team to establish contacts with the wholesalers.

7. GEOGRAPHICAL POTENTIAL FOR INVESTMENT

Location selection is critical to the success of the project. It is important to find a location preferably in an industrial cluster where utilities especially electricity and other infrastructure are conveniently available. Presently, Karachi, Lahore, Faisalabad, Sialkot, and Rawalpindi can be considered as most apparel manufacturers are located in these cities, being close to large buyers may lead to consistent orders and referrals. Additionally, these cities have adequate availability of skilled labor, raw material sources and infrastructure.

8. POTENTIAL TARGET CUSTOMERS / MARKETS

The Plastic button manufacturing is amongst the growing segments in Pakistan. The unit will be making direct supplies to its potential customers including apparel manufacturers, which includes readymade garment factories and leather garments makers; primarily to be used in the production of ready-made apparels e.g. shirts, trousers, jackets and gloves. Likewise, manufacturers of leather purse, wallet, bag and other fashion accessories will also another segment of target customers and potential markets for the produced buttons. In addition to that, button manufacturer will also be making supplies to the wholesalers and retailers to cater for the needs of end-users across the country.

9. PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of Plastic Button Manufacturing Unit. Various cost and revenue related assumptions along with the results of the analysis are outlined in this section.

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

9.1 Project Economics

To financially appraise the project, a 100% Equity-Based Business Model has been assumed. The following table shows internal rate of return, payback period and net present value of the proposed venture:

Table 2: Project Economics (Equity Financed)

Description	Details
Net Present Value (Rs.)	31,794,811
Payback Period (Yrs.)	3.46
Internal Rate of Return (IRR)	42%

Calculation of break-even analysis is as follows:

Table 3: Breakeven (100% Equity-Based)

Break-Even Analysis	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Break-Even Revenue	34,434,416	33,019,631	32,876,048	32,390,579	31,966,589	32,859,122	34,254,276	35,873,994	37,725,231	39,909,743
Break-Even Units	21,521,510	18,761,154	16,981,430	15,209,701	13,646,006	12,751,831	12,084,779	11,505,644	10,999,437	10,578,517
Margin of Safety	6%	25%	36%	46%	54%	57%	59%	61%	63%	64%

However, for further explanation, the project economics based on debt: equity (i.e. 50:50) model has also been computed. based on debt:equity model the internal rate of return, payback period and net present value of the proposed project are provided in the table below:

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

Description	Details
Net Present Value (Rs.)	37,633,851
Payback Period (Yrs.)	3.67
Internal Rate of Return (IRR)	40%

The financial assumptions for Debt:Equity is as follows:

Table 4.1: Financial Assumptions for Debt:Equity Model

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

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

9.2 Project Cost

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

Table 5: Project Cost

Description	Amount Rs.
Capital Cost	
Machinery and equipment	9,132,381
Office vehicles	2,655,237
Pre-operating costs	622,500
Furniture and fixtures	1,081,850

Office equipment	204,800
Total Capital Cost	13,696,768
Working Capital	
Cash	1,063,180
Upfront building rental	450,000
Raw material inventory	398,215
Upfront insurance payment	353,629
Equipment spare part inventory	74,025
Total Working Capital	2,339,049
Total Project Cost	16,035,817

9.3 Space Requirement

In order to reduce the initial capital expenditure, the proposed manufacturing unit will be established in rental premises. The rent of the premises will depend on the area and geographical location of the manufacturing unit.

The space requirement for the proposed Plastic button manufacturing is estimated considering various facilities including management building, production facility, raw material, finished goods, warehouse, packing, inspection, mosque, pavement and electric room area. An estimated area of 30 Marla (6,750 Sq. ft.) will be required for the purposed venture. However, the unit's operating in the industry do not follow any set pattern. Following table shows calculations for project space requirement.

Table 6: Space Requirement

Description	Estimated Area (Sq. ft.)
Production Facility	3,000
Ware House for Raw Material and Finished Goods	1,000
Grounds	820
Management Building	500
Packing Area	450
Inspection Area	450
Mosque	225
Pavement/Driveway	225
Electric room	80
Total Area	6,750

For this particular pre-feasibility the rent amount has been determined at Rs. 150,000 per month, to paid on a quarterly basis in advance.

9.4 Machinery and Equipment Requirement

Machinery and equipment for the proposed project are stated below:

Table 7: Machinery and Equipment

Description	Quantity	Unit Cost (PKR)	Total Cost (PKR)
Machinery			
Injection Molding Machine HJF140 (Servo Driven, Save Electricity)	1	2,666,000	2,666,000
Water Cooled Chiller FY 3WC	1	174,956	174,956
Auto Loader XTL-800 (Loading raw material automatic)	1	83,313	83,313
Hopper Dryer XHD-50KG (Dry raw material)	1	41,656	41,656
Mixer XHS-100KG (Mixer color)	1	91,644	91,644
Crusher XFS-300 (Raw material Recycling using)	1	127,468	127,468
Cooling Tower 10T (Cooling Tower and Water Pump)	1	41,656	41,656
PS Button Size:18MM/20MM/25MM72holes	3	449,888	1,349,663
PS Button Size:28MM 60holes	1	449,888	449,888
Total Invoice Price in PKR			5,026,244
Insurance @ 0.1%		0.1%	5,026
Assessed Value for Custom			5,031,270
Additional Custom Duty		2.0%	100,625
Sales Tax		17.0%	855,316
Additional Sales Tax		3.0%	150,938
Income Tax		11.0%	675,196

Handling (Agent Commercial)		2.5%	170,334
Total Clearance Expense			6,983,679
Freight			383,263
Machinery Total			7,366,942
Generator – 75 KVA	1	1,245,000	1,245,000
Installation Cost	1	250,000	250,000
Industrial Exhaust Fans	4	38,610	154,440
Stacker	2	58,000	116,000
Total			9,132,382

9.5 Furniture and Fixtures Requirement

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

Table 8: Furniture and Fixture

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Renovation	1	500,000	500,000
Table	7	20,000	140,000
Chairs	13	7,646	99,400
AC	1	75,000	75,000
Electric wiring and lighting	1	60,000	60,000
Fans	13	4,500	58,500
Guest Chairs	6	5,800	34,800
Exhaust Fans	11	3,000	33,000
Sofa Set	1	25,000	25,000
Fire Extinguishers	5	4,500	22,500
Tube Lights	28	800	22,400
Carpeting	250	45	11,250
Total			1,081,850

9.6 Office Equipment Requirement

Following office equipment will be required for plastic button manufacturing

Table 9: Office Equipment

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Laptops	1	60,500	60,500
Water Cooler	1	45,000	45,000
LED	1	32,500	32,500
Computers	2	15,000	30,000
Computer printer (s)	1	16,000	16,000
Water Dispenser	1	16,000	16,000
Telephones	4	1,200	4,800
Total Office Equipment			204,800

9.7 Raw Material Requirements

Main raw material required for manufacturing of Plastic button is plastic granules and is readily available. Following are the details of raw material required for Plastic Button.

Table 10: Raw Material Requirement

Description	Cost (Rs.)
Plastic granules (25 Kg bag)	8,000

9.8 Human Resource Requirement

To run the operations of Plastic Button Manufacturing smoothly, details of human resources required along with several employees and monthly salary are recommended as under:

Table 11: Human Resource Requirement

Description	No. of Employees	Monthly Salary per person (Rs.)
CEO	1	150,000
Accounts Manager	1	40,000
Production Supervisor	1	35,000
Sales and Marketing	1	35,000
Inspection In-charge	1	30,000
Machine Operator	1	25,000
Security Guard	1	25,000

Helper	6	20,000
Driver	1	20,000
Electrician	1	20,000
Office Boy	1	17,500
Sweeper	1	17,500
Total	17	

For this particular pre-feasibility the total salary will be Rs. 535,000 per month.

9.9 Utilities and other costs

An essential cost to be borne by the project is the cost of electricity. The electricity expenses are estimated to be around Rs. 2,037,660 per year. Whereas water expenses are estimated to be Rs. 216,000 per year. Furthermore, the promotional expense is essential for the marketing of plastic button manufacturing is estimated at 2.0% of revenue i.e. Rs. 730,944 in year 1.

9.10 Revenue Generation

Based on the operational capacity utilization of 75%, sales revenue during the first year of operations is provided in the table below.

Table 12: Revenue Generation (Year 1)

Description	Rate	No. of Units Sold (Year 1)	Total Revenue (Rs.)
Plastic Button	1.60	22,842,000	36,547,200

10. CONTACT DETAILS

To facilitate potential investors, contact details of machinery suppliers relevant to the proposed project is given below.

Name of Supplier	Type of Supplies	Address	Phone
Ningbo Haijiang Machinery Manufacturing Co., Ltd.	Machinery	Tongyi Industrial Zone, Dongwu Town, Yinzhou District, Ningbo City, China	+86-13777071647

Jasco	Generator	Lahore	042- 36621455- 36621456
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11. USEFUL WEB LINKS

Small and Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk
Government of Pakistan	www.pakistan.gov.pk
Ministry of Industries & Production	www.moip.gov.pk
Government of Punjab	www.punjab.gov.pk
Government of Sindh	www.sindh.gov.pk
Government of Khyber Pakhtunkhwa	www.khyberpakhtunkhwa.gov.pk
Government of Balochistan	www.balochistan.gov.pk
Government of Gilgit Baltistan	www.gilgitbaltistan.gov.pk
Government of Azad Jamu Kashmir	www.ajk.gov.pk
Security and Exchange Commission of Pakistan (SECP)	www.secp.gov.pk
State Bank of Pakistan (SBP)	www.sbp.org.pk
Punjab Vocational Training Council (PVTC)	www.pvtc.gov.pk
Technical Education and Vocational Training Authority (TEVTA)	www.tevta.org
Pakistan Plastic Manufacturers Association	www.pakplas.com.pk
The Pakistan Readymade Garments Manufacturers and Exporters Association (PRGMEA)	www.prgmea.org
Pakistan Plastic Manufacturers Association	www.pakplas.com.pk
All Pakistan Textile Mills Association (APTMA)	www.aptma.org.pk
The Pakistan Readymade Garments Manufacturers and Exporters Association (PRGMEA)	www.prgmea.org

12. ANNEXURES

12.1 Income Statement

Calculations										SMEDA
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	36,547,200	43,737,408	51,122,016	59,546,172	69,143,938	76,141,821	83,756,003	92,131,603	101,344,763	111,479,240
<i>Cost of sales</i>										
PP Plastic per Button	17,845,313	20,385,422	22,744,230	25,287,956	28,029,194	29,462,960	30,936,108	32,482,913	34,107,059	35,812,412
Packing Cost	1,269,000	1,449,630	1,617,368	1,798,255	1,993,187	2,095,144	2,199,901	2,309,896	2,425,391	2,546,660
Operating costs 1 (direct labor)	2,467,500	2,768,391	3,045,463	3,350,238	3,685,486	4,058,485	4,464,334	4,910,767	5,401,844	5,942,028
Operating costs 2 (machinery maintenance)	888,300	1,014,741	1,132,157	1,258,778	1,395,231	1,466,601	1,539,931	1,616,927	1,697,774	1,782,662
Operating costs 3 (direct electricity)	1,935,810	2,268,149	2,647,599	3,080,256	3,572,969	3,930,266	4,323,293	4,755,622	5,231,184	5,890,545
Operating costs 4 (direct water)	96,000	100,800	105,840	111,132	116,689	122,523	128,649	135,082	141,836	148,928
Total cost of sales	24,501,923	27,987,133	31,292,657	34,886,615	38,792,757	41,135,979	43,592,215	46,211,207	49,005,087	52,123,235
Gross Profit	12,045,278	15,750,275	19,829,359	24,659,556	30,351,181	35,005,842	40,163,788	45,920,396	52,339,676	59,356,005
<i>General administration & selling expenses</i>										
Administration expense	3,900,000	4,290,000	4,719,000	5,190,900	5,709,990	6,280,989	6,909,088	7,599,997	8,359,996	9,195,996
Administration benefits expense	195,000	214,500	235,950	259,545	285,500	314,049	345,454	380,000	418,000	459,800
Building rental expense	1,800,000	1,980,000	2,178,000	2,395,800	2,635,380	2,898,918	3,188,810	3,507,691	3,858,460	4,244,306
Electricity expense	101,850	112,035	123,239	135,562	149,119	164,030	180,433	198,477	218,325	240,157
Water expense	120,000	126,000	132,300	138,915	145,861	153,154	160,811	168,852	177,295	186,159
Travelling expense	195,000	214,500	235,950	259,545	285,500	314,049	345,454	380,000	418,000	459,800
Communications expense (phone, fax, mail, internet, etc.)	78,000	85,800	94,380	103,818	114,200	125,620	138,182	152,000	167,200	183,920
Office vehicles running expense	132,762	146,038	160,642	176,706	194,377	213,814	235,196	258,715	284,587	313,045
Office expenses (stationary, entertainment, janitorial services, etc)	117,000	128,700	141,570	155,727	171,300	188,430	207,273	228,000	250,800	275,880
Promotional expense	730,944	656,061	971,318	1,131,377	1,313,735	1,446,695	1,591,364	1,750,500	1,925,551	2,118,106
Insurance expense	353,629	318,266	282,903	247,540	212,177	176,814	141,451	106,089	70,726	35,363
Professional fees (legal, audit, consultants, etc.)	365,472	437,374	511,220	595,462	691,439	761,418	837,560	921,316	1,013,448	1,114,792
Depreciation expense	1,307,427	1,307,427	1,307,427	1,307,427	1,307,427	1,307,427	1,307,427	1,307,427	1,307,427	1,307,427
Amortization of pre-operating costs	124,500	124,500	124,500	124,500	124,500	124,500	-	-	-	-
Bad debt expense	1,827,360	1,749,496	1,533,660	1,190,923	691,439	761,418	837,560	921,316	1,013,448	1,114,792
Subtotal	11,348,943	11,890,697	12,752,059	13,413,748	14,031,942	15,106,826	16,426,064	17,880,379	19,483,260	21,249,543
Operating Income	696,334	3,859,578	7,077,300	11,245,809	16,319,239	19,899,016	23,737,724	28,040,017	32,856,416	38,106,461
Other income (interest on cash)	32,730	95,418	234,944	435,840	714,919	1,067,884	1,486,284	1,977,856	2,550,901	3,249,076
Earnings Before Interest & Taxes	729,065	3,954,996	7,312,244	11,681,648	17,034,159	20,966,900	25,224,008	30,017,873	35,407,317	41,355,538
Earnings Before Tax	729,065	3,954,996	7,312,244	11,681,648	17,034,159	20,966,900	25,224,008	30,017,873	35,407,317	41,355,538
Tax	36,453	608,749	1,679,285	3,208,577	5,081,955	6,458,415	7,948,402	9,626,255	11,512,561	13,594,438
NET PROFIT/(LOSS) AFTER TAX	692,611	3,346,247	5,632,959	8,473,072	11,952,203	14,508,485	17,275,605	20,391,618	23,894,757	27,761,100

12.2 Balance Sheet

Calculations											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
<i>Current assets</i>											
Cash & Bank	1,063,180	1,555,237	6,078,196	12,717,306	22,149,882	35,043,658	50,387,038	68,515,683	89,712,834	114,359,244	145,566,859
Accounts receivable		1,401,810	1,539,705	1,819,222	2,122,404	2,468,029	2,786,302	3,066,534	3,373,187	3,710,506	4,081,556
Finished goods inventory		521,318	583,825	652,730	727,647	809,070	857,000	908,171	962,733	1,020,939	1,085,901
Equipment spare part inventory	74,025	88,790	104,017	121,433	141,326	155,983	171,971	189,598	209,032	230,458	-
Raw material inventory	398,215	477,642	559,555	653,243	760,258	839,105	925,113	1,019,937	1,124,481	1,239,740	-
Pre-paid building rent	450,000	495,000	544,500	598,950	658,845	724,730	797,202	876,923	964,615	1,061,076	-
Pre-paid insurance	353,629	318,266	282,903	247,540	212,177	176,814	141,451	106,089	70,726	35,363	-
Total Current Assets	2,339,049	4,858,062	9,692,702	16,810,425	26,772,538	40,217,389	56,066,078	74,682,934	96,417,607	121,657,325	150,734,316
<i>Fixed assets</i>											
Machinery & equipment	9,132,381	8,219,143	7,305,905	6,392,667	5,479,429	4,566,191	3,652,952	2,739,714	1,826,476	913,238	-
Furniture & fixtures	1,081,850	973,665	865,480	757,295	649,110	540,925	432,740	324,555	216,370	108,185	-
Office vehicles	2,655,237	2,389,713	2,124,190	1,858,666	1,593,142	1,327,619	1,062,095	796,571	531,047	265,524	-
Office equipment	204,800	184,320	163,840	143,360	122,880	102,400	81,920	61,440	40,960	20,480	-
Total Fixed Assets	13,074,268	11,766,841	10,459,414	9,151,988	7,844,561	6,537,134	5,229,707	3,922,280	2,614,854	1,307,427	-
<i>Intangible assets</i>											
Pre-operation costs	622,500	498,000	373,500	249,000	124,500	-	-	-	-	-	-
Total Intangible Assets	622,500	498,000	373,500	249,000	124,500	-	-	-	-	-	-
TOTAL ASSETS	16,035,817	17,122,903	20,525,616	26,211,412	34,741,599	46,754,523	61,295,785	78,605,214	99,032,461	122,964,752	150,734,316
Liabilities & Shareholders' Equity											
<i>Current liabilities</i>											
Accounts payable		394,475	450,941	503,778	560,893	621,613	654,390	688,215	723,843	761,378	769,841
Total Current Liabilities	-	394,475	450,941	503,778	560,893	621,613	654,390	688,215	723,843	761,378	769,841
<i>Shareholders' equity</i>											
Paid-up capital	16,035,817	16,035,817	16,035,817	16,035,817	16,035,817	16,035,817	16,035,817	16,035,817	16,035,817	16,035,817	16,035,817
Retained earnings		692,611	4,038,858	9,671,817	18,144,889	30,097,092	44,605,578	61,881,183	82,272,801	106,167,557	133,928,657
Total Equity	16,035,817	16,728,428	20,074,675	25,707,634	34,180,706	46,132,909	60,641,395	77,917,000	98,308,618	122,203,374	149,964,474
TOTAL CAPITAL AND LIABILITIES	16,035,817	17,122,903	20,525,616	26,211,412	34,741,599	46,754,523	61,295,785	78,605,214	99,032,461	122,964,752	150,734,316

12.3 Cash Flow Statement

Calculations											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Operating activities</i>											
Net profit		692,611	3,346,247	5,632,959	8,473,072	11,952,203	14,508,485	17,275,605	20,391,618	23,894,757	27,761,100
Add: depreciation expense		1,307,427	1,307,427	1,307,427	1,307,427	1,307,427	1,307,427	1,307,427	1,307,427	1,307,427	1,307,427
amortization of pre-operating costs		124,500	124,500	124,500	124,500	124,500	-	-	-	-	-
Accounts receivable		(1,401,810)	(137,894)	(279,517)	(303,182)	(345,626)	(318,273)	(280,231)	(306,653)	(337,319)	(371,051)
Finished goods inventory		(521,318)	(62,508)	(68,905)	(74,916)	(81,423)	(47,930)	(51,172)	(54,562)	(58,206)	(64,961)
Equipment inventory	(74,025)	(14,765)	(15,227)	(17,416)	(19,893)	(14,657)	(15,988)	(17,627)	(19,434)	(21,426)	230,458
Raw material inventory	(398,215)	(79,427)	(81,914)	(93,688)	(107,015)	(78,847)	(86,008)	(94,824)	(104,544)	(115,259)	1,239,740
Pre-paid building rent	(450,000)	(45,000)	(49,500)	(54,450)	(59,895)	(65,885)	(72,473)	(79,720)	(87,692)	(96,461)	1,061,076
Advance insurance premium	(353,629)	35,363	35,363	35,363	35,363	35,363	35,363	35,363	35,363	35,363	35,363
Accounts payable		394,475	56,466	52,837	57,115	60,720	32,777	33,824	35,629	37,535	8,464
Cash provided by operations	(1,275,868)	492,056	4,522,960	6,639,110	9,432,575	12,893,777	15,343,380	18,128,645	21,197,151	24,646,410	31,207,615
<i>Financing activities</i>											
Issuance of shares	16,035,817	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares											
Cash provided by / (used for) financing activities	16,035,817	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(13,696,768)	-	-	-	-	-	-	-	-	-	-
Acquisitions											
Cash (used for)/ provided by investing activities	(13,696,768)	-	-	-	-	-	-	-	-	-	-
NET CASH	1,063,180	492,056	4,522,960	6,639,110	9,432,575	12,893,777	15,343,380	18,128,645	21,197,151	24,646,410	31,207,615

13. KEY ASSUMPTIONS

13.1 Operating Cost Assumptions

Description	Details
Inflation Rate	10%
Electricity Growth Rate	10%
Water Price Growth Rate	5%
Wage Growth Rate	10%
Operating Costs 2 (Machinery Maintenance)	Rs. 0.04 Per Button
Operating Costs 4 (Direct Water)	8,000 Per Month
Operating Costs Growth Rate	5.0%
Administration Benefits Expense	5.0% of Admin Expense
Water Expense	400 Per Day For Dispenser
Electricity Rate (Industrial Connection)	Rs. 20 /KWH
Diesel Consumption	18 Liters / Hour
Diesel Rate	Rs. 107 Per Litre
Travelling Expense	5.0% of Admin Expense
Communication Expense	2.0% of Admin Expense
Office Vehicles Running Expense	5.0% % of Vehicles Cost
Office Expense (Stationary, Entertainment, Janitorial Serv	3.0% of Admin Expense
Promotional Expense	2.0% of Revenue
Machinery and Equipment Insurance Rate	3.0%
Office Vehicles Insurance Rate	3.0%
Professional Fees (Legal, Audit, Consultants, Etc.)	1.0% of Revenue
Bad Debt Expense	5.0% of Revenue
Depreciation Method	Straight Line
Depreciation Rate (Furniture & Fixture, Office Vehicle and Office Equipment)	10%

13.2 Production costs

Description	Details
PP Plastic Per Button	Rs. 0.78
Packing Cost Per Button (Market Survey)	Rs. 0.06
Cost Of Goods Sold Growth Rate	5.0%

13.3 Revenue Assumptions

Description	Details
Production Capacity	31,104,000
Sale Price Per Unit In Year 1	1.60
Machine Capacity Per Day	103,680 Buttons
Number Of Operational Days	300
Sale Price Growth Rate	10%
Production Capacity Utilization	75%
Production Capacity Utilization Growth Rate	5%
Maximum Capacity Utilization	95%