

COMPREHENSIVE PROJECT

For

Financial Accounting Course / EPGP 2019-20 (Batch 12) / IIM Kozhikode

Problem:

You are launching into a business in the name and style of your choice. It has to be a manufacturing business. It means that your business would involve, buying materials, transforming it using plant and machinery, and selling it.

My Business : I am launching a business with name 'IGS Productions' which is a supplier of engineered equipments and systems for critical applications in the global chemical and pharmaceutical markets. Our products involve glass lined equipments , filtration and drying equipments , mixing systems , and engineered systems . Raw material includes glass , aluminum ore , iron ore which we buy from vendor 'SS works'. We have factory which span over 20 acres . Currently we have around some 150 employees working as workers , labourers , testers , transporters , equipment specialists, managers , accountant .We supply these equipments to all over India.

Date of commencement of business : 1st August 1993

Capital contributed : EPGP-1237892 : $1237892 * 250 = 309473000/-$

Long term loan(liability) = max 1.5* capital = $0.75 * 309473000 = 232104750$ at the rate of 10% per annum.

My transaction detail for 1st accounting period (1st Aug 1993 to 31st Mar 1994)

Sno	Date	Transactions
1	1-Aug-93	Business started with capital of Rs 309473000
2	25-Sep-93	Taken secured loans of Rs 232104750 @10% pa interest
3	1-Oct-93	Machinery purchased for 108315550 rupees . 50% payment done in cash and rest 50% on credit(max 90 days)
4	15-Oct-93	Glass worth 0.2 tonnes purchased worth rupees 4642095 rupees. All payment done in cash
5	31-Oct-93	Aluminium and iron ores purchased worth rupees 19651535.5(purchased on credit max 60 days)
6	1-Nov-93	Workers and labourers recruited at daily wage of rupees 15000 and 50000 resp for 6 months
7	10-Nov-93	Manager recruited at monthly salary of 1.5 lacks for 8 months
8	1-Dec-93	1500 equipments sold to wholesalers for about 25000 per equipment(50% cash received and rest 50% on credit for max 60 days)
9	15-Dec-93	Electricity bill of 2 lacks paid
10	28-Dec-93	Credit payment of rupees 5415775 made for equipmets and 19651535.5 made for alumium use
11	15-Jan-94	Loan of rupees 135000000 refunded
12	20-Jan-94	Credit sales of rupees 18750000 received
13	2-Feb-94	Interest of rupees 23210475 on loan @10% made
14	31-Mar-94	Depreciation @5% of rupees 5415777.5 calculated

Transactions Equations for CP Manufacturing for period 1

Date	Transactions	Asset				Liability			Owner's Equity		
		Cash	Receivables	Inventory	Machines	Trade Payables	Interest Payables	Loan	Capital	Revenue	Expenses
1-Aug-93	Business started	309473000							309473000		
25-Sep-93	Taken secured loans	232104750						232104750			
1-Oct-93	Machinery purchased	-54157775			108315550	54157775					
15-Oct-93	Glass purchased	-4642095		4642095							
31-Oct-93	Aluminium or , iron ore purchased			1965155.5		1965155.5					
1-Nov-93	Workers recruited	-390000									390000
10-Nov-93	Manager recruited	-1200000.00									1200000
1-Dec-93	Equipments sold	18750000	18750000							37500000	
15-Dec-93	Electricity bill paid	-200000									200000
28-Dec-93	Credit payments made	-25067310.5				-25067310.5					
15-Jan-94	Loans refunded	-135000000						-135000000			
20-Jan-94	Credit sales received	18750000	-18750000								
2-Feb-94	Interest	-23210475									23210475
31-Mar-94	Depreciation				-5415777.5						5415777.5
31-Mar-94	Period 1 closing figures	335210094.5	0	6607250.5	102899772.5	31055620	0	97104750	309473000	37500000	30416252.5

Note : Workers and labourers have worked for around 6 months in first period(1st Oct to 31st Mar).

Assets	Period 1
Item	Amount
Current Assets	
Cash	335210094.5
Inventory	6607250.5
Receivables	0
Total current assets	341817345
Non current assets	
Machinery	102899772.5
Total non current assets	102899772.5
Other assets	
Investments	0
Total other assets	0
Total assets	444717117.5

Liabilities and owner's equity	Period 1
Item	Amount
Current liabilities	
Trade payables	31055620
Interest payables	0
Total current liabilities	31055620
Non current liabilities	
Loan	97104750
Total non current liabilities	97104750
Owner's equity	
Contributed capital	309473000
Other equity	7083747.5
Total owner's equity	316556747.5
Total liabilities and owner's equity	444717117.5

Income Statement of CP Manufacturing for period 1

Income Statement	Period 1
Item	Amount
Sales	37500000
Less: Cost of goods sold(including salaries)	1790000
Gross profit	35710000
Less: Sales expenses	0
Less :Administration expenses(including rent expenses)	0
Less: General expenses((including supplies consumed)	0
EBITDA	35710000
Less: Depreciation and amortization expenses	5415777.5
Operating profit	30294222.5
Add: Other income(FD interest)	0
Adjusted for extraordinary and past period items	0
EBIT	30294222.5
Less : Interest expenses	23210475
Profit before tax(PBT)	7083747.5
Less: Income tax expenses	0
Profit after tax(PAT/Net income)	7083747.5
Profit/Loss transferred to balance sheet	7083747.5

Cash flow statement for period 1

Operating Activities		Amount
	Raw material purchased	-4642095
	Manpower recruited	-1590000
	Electricity bill paid	-200000
	Credit payments made	-25067310.5
	Credit sales received	18750000
A) Net cash flow from operating activities		-12749405.5
Investing Activities		
	Machinery Purchased	-54157775
	Equipments sold	18750000
B) Net cash flow from investing activities		-35407775
Financing Activities		
	Taken secured loans	232104750
	Loans refunded	-135000000
	Interest paid	-23210475
Net cash flow from financing activities		73894275
Starting cash balance		309473000
Change in cash during year due to above activities(A+B+C)		25737094.5
Ending cash balance		335210094.5

As per the cash flow statement for period 1 we can observe that major sources of cash inflow are credit sales received and revenue generated from selling equipments . While major uses are credit payments made and in refunding of the loans. Capex is 54157775 which is greater than depreciation that is 5415777.5. Also net cash inflow from operations is negative so it implies that company is on verge of getting bankrupt. When combined operations , investment and finance cash inflow so it has led to a positive figure which has in turn increased the ending cash balance .

Period 2 starts from 1st April 1994 and ends at 31st March 1995

Sno	Date	Transactions
1	1-Apr-94	Period 2 starts with cash of Rupees 335210094.5
2	15-May-94	Paid Rs 100000 for machinery repair and maintenance
3	1-Jun-94	Raw material purchased for rupees 15790859 on credit(max 60 days)
4	15-Jun-94	Manpower recruited for rupees 636000
5	1-Aug-94	Credit payment of rupees 15790859 made for raw material
6	20-Sep-94	200 equipments sold to wholesaler for about 280000 per equipment(50% cash received and rest 50% on credit for max 60 days)
7	1-Oct-94	Electricity bill of rupees 2.75 lacks paid
8	15-Nov-94	Credit sales of rupees 28000000 received
9	31-Dec-94	Interest of rupees 9710475 on loan @10% made
10	10-Jan-95	Loan refunded for rupees 29131425
11	31-Mar-95	Depreciation @5% of rupees 54157.77 calculated

Transactions Equations for CP Manufacturing for period 2

Date	Transactions	Asset				Liability			Owner's Equity		
		Cash	Receivables	Inventory	Machines	Trade Payables	Interest Payables	Loan	Capital	Revenue	Expenses
1-Apr-94	Business started	335210094.5		6607250	102899772.5	31055620		97104750	309473000	37500000	30416252.5
15-May-94	Machinery repair & maintenance	-150000									150000
1-Jun-94	Raw material purchased			17000000		17000000					
15-Jun-94	Manpower recruited	-636000									636000
1-Aug-94	Credit payment for raw material	-17000000				-17000000					
20-Sep-94	Equipments sold	61250000	61250000	-23607250						122500000	23607250
1-Oct-94	Electricity bill paid	-325000.00									325000
15-Nov-94	credit sales received	61250000	-61250000								
31-Dec-94	Interest	-6797332.5									6797332.5
10-Jan-95	Loan refunded	-52500000						-52500000			
31-Mar-95	Depreciation				-54157.77						54157.77
31-Mar-95	Period 2 Closing Figure	380301762	0	0	102845614.7	31055620		44604750	309473000	160000000	61985992.77

Assets	Period 1	Period 2
Item	Amount	Amount
Current Assets		
Cash	335210094.5	380301762
Inventory	6607250.5	0
Receivables	0	0
Total current assets	341817345	380301762
Non current assets		
Machinery	102899772.5	102845614.7
Total non current assets	102899772.5	102845614.7
Other assets		
Investments	0	0
Total other assets	0	0
Total assets	444717117.5	483147376.7

Liabilities and owner's equity	Period 1	Period 2
Item	Amount	Amount
Current liabilities		
Trade payables	31055620	31055620
Interest payables	0	0
Total current liabilities	31055620	31055620
Non current liabilities		
Loan	97104750	44604750
Total non current liabilities	97104750	44604750
Owner's equity		
Contributed capital	309473000	309473000
Other equity	7083747.5	98014007.23
Total owner's equity	316556747.5	407487007.2
Total liabilities and owner's equity	444717117.5	483147376.7

Income Statement of CP Manufacturing for period 2

Income Statement	Period 1	Period2
Item	Amount	Amount
Sales	37500000	160000000
Less: Cost of goods sold(including salaries)	1790000	55134502.4
Gross profit	35710000	104865498
Less: Sales expenses	0	0
Less :Administration expenses(including rent expenses)	0	0
Less: General expenses((including supplies consumed)	0	0
EBITDA	35710000	104865498
Less: Depreciation and amortization expenses	5415777.5	54157.7
Operating profit	30294222.5	104811340
Add: Other income(FD interest)	0	0
Adjusted for extraordinary and past period items	0	0
EBIT	30294222.5	104811340
Less : Interest expenses	23210475	6797332.5
Profit before tax(PBT)	7083747.5	98014007.4
Less: Income tax expenses	0	0
Profit after tax(PAT/Net income)	7083747.5	98014007.4
Profit/Loss transferred to balance sheet	7083747.5	98014007.4

Cash flow statement for period 2

Operating Activities		Amount
	Manpower recruited	-636000
	Credit payment made	-17000000
	Equipments sold	61250000
	Electricity bill paid	-325000
	Credit sales received	61250000
Net cash flow from operating activities		104539000
Investing activities		
	Machinery purchased	-150000
Net cash flow from investing activities		-150000
Financing activities		
	Loan refunded	-52500000
	Interest paid	-6797332.5
Net cash flow from financing activities		-59297332.5
Starting cash balance		335210094.5
Change in cash during year due to above activities		45091667.5
Ending cash balance		380301762

As per the cash flow statement of period 2, major sources of cash inflow are credit sales received and revenue generated from sale of equipments. While major uses are credit payments made and loans refunded. Cash inflow from operations is greater than capex, depreciation and interest paid which is a good sign for the company.

Period 3 starts 1st April 1995 to 31st March 96

Sno	Date	Transactions
1	1-Apr-95	Period 3 beginning with cash 380301762
2	15-May-95	Paid Rs 150000 for machinery repair and maintenance
3	1-Jun-95	Raw material purchased for rupees 17000000 on credit(max 60 days)
4	15-Jun-95	Manpower recruited for rupees 636000
5	1-Aug-95	Credit payment of rupees 17000000 made for raw material
6	20-Sep-95	350 equipments sold to wholesaler for about 350000 per equipment (50% cash received and rest 50% on credit for max 60 days)
7	1-Oct-95	Electricity bill of 3.25 lacks paid
8	15-Nov-95	credit sales of rupees 61250000 received.
9	31-Dec-95	interest of rupees 6797332.5 on loan @10% made
10	10-Jan-96	Loan refunded for rupees 52500000
11	20-Jan-96	Depreciation @5% of rupees 54157.77 calculated
12	22-Feb-96	2000000 deposited in bank as FD with 10% PA (Min 1.5 year investment)
13	31-Mar-96	White washing done of plant @ 26000

Transactions Equations for CP Manufacturing for period 3

Transactions	Asset				Liability			Owner's Equity		
	Cash	Receivables	Inventory	Machines	Trade Payables	Interest Payables	Loan	Capital	Revenue	Expenses
Business started	380301762		0	102845614.7	31055620		44604750	309473000	160000000	61985992.77
Machinery repair	-150000									150000
Raw material purchased			17000000		17000000					
Manpower recruited	-636000									636000
Credit payments made	-17000000				-17000000					
Equipments sold	61250000	61250000	-17000000						122500000	17000000
Electricity bill paid	-325000.00									325000
Credit sales received	61250000	-61250000								
Interest	-6797332.5									6797332.5
Loans refunded	-44604750						-44604750			
Depreciation				-54157.77						54157.77
Bank deposit	-2000000	2200000							200000	
White Washing	-26000									26000
Period 3 closing figure	431262679.5	2200000	0	102791456.9	31055620		0	309473000	282700000	86974483.04

Assets	Period 1	Period 2	Period 3	Liabilities and owner's	Period 1	Period 2	Period 3
Item	Amount	Amount	Amount	Item	Amount	Amount	Amount
Current Assets				Current liabilities			
Cash	335210094.5	380301762	431262679.5	Trade payables	31055620	31055620	31055620
Inventory	6607250.5	0	0	Interest payables	0	0	0
Receivables	0	0	2200000	Total current liabilities	31055620	31055620	31055620
Total current assets	341817345	380301762	433462679.5	Non current liabilities			
Non current assets				Loan	97104750	44604750	0
Machinery	102899772.5	102845614.7	102791456.9	Total non current liabil	97104750	44604750	0
Total non current assets	102899772.5	102845614.7	102791456.9	Owner's equity			
Other assets				Contributed capital	309473000	309473000	309473000
Investments	0	0	0	Other equity	7083747.5	98014007.23	195725517
Total other assets	0	0	0	Total owner's equity	316556747.5	407487007.2	505198517
Total assets	444717117.5	483147376.7	536254136.4	Total liabilities and ow	444717117.5	483147376.7	536254137

Income Statement of CP Manufacturing for period 3

Income Statement	Period 1	Period2	Period 3
Item	Amount	Amount	Amount
Sales	37500000	160000000	282700000
Less: Cost of goods sold(including salaries)	1790000	55134502.4	80122992.77
Gross profit	35710000	104865498	202577007.2
Less: Sales expenses	0	0	0
Less :Administration expenses(including rent expenses)	0	0	0
Less: General expenses((including supplies consumed)	0	0	0
EBITDA	35710000	104865498	202577007.2
Less: Depreciation and amortization expenses	5415777.5	54157.7	54157.7
Operating profit	30294222.5	104811340	202522849.5
Add: Other income(FD interest)	0	0	0
Adjusted for extraordinary and past period items	0	0	0
EBIT	30294222.5	104811340	202522849.5
Less : Interest expenses	23210475	6797332.5	6797332.5
Profit before tax(PBT)	7083747.5	98014007.4	195725517
Less: Income tax expenses	0	0	0
Profit after tax(PAT/Net income)	7083747.5	98014007.4	195725517
Profit/Loss transferred to balance sheet	7083747.5	98014007.4	195725517

Cash flow statement for period 3

Operating Activities		Amount
	Machinery repair	-150000
	Manpower recruited	-636000
	Credit payments made	-17000000
	Electricity bill paid	-325000
	Credit sales received	61250000
	White washing	-26000
Net cash flow from operating activities		43113000
Investing activities		
	Equipments sold	61250000
	Bank deposit	200000
Net cash flow from investing activities		61450000
Financing activities		
	loans refunded	-44604750
	Interest paid	-6797332.5
Net cash flow from financing activities		-51402082.5
Starting cash balance		380301762
Change in cash balance due to above activities(A+B+C)		53160917.5
Ending cash balance		433462679.5

As per the cash flow statement of period 3, we can observe that major sources of cash inflow are credit sales received and revenue generated from selling of equipments. While major uses are credit payments made and loans being refunded. As we can see that cash inflow from operations is greater than capex, depreciation and interest paid so company is doing good in terms of profits. Also capex is greater than depreciation which is also a very positive sign for the firm. Net cash inflow has increased from operating, investing and financing activities that has increased the ending cash balance in the firm.

Financial analysis using common ratios for 3 periods.

			Period 1	Period 2	Period 3
Profitability	Margin on sales	Gross profit margin(in %)	95.22%	65.54%	71.65%
		Operating profit margin	80.78%	65.50%	71.64%
		Profit before tax (in %)	18.88%	61.25%	69.23%
		Net profit margin (is profit after tax)	18.88%	61.25%	69.23%
	Return on investment	Operating profit to operating assets	13.62%	22.59%	39.73%
		Net income to total assets(%)	3.18%	21.12%	38.40%
		Return on equity(in %)	4.47%	27.07%	42.89%
	Efficiency	Total asset turnover	0.03	0.21	0.38
		Operating asset turnover	0.168	0.345	0.55
		Working capital turnover	0.24	0.48	0.75
Shareholder equity turnover		0.24	1.03	1.83	

			Period 1	Period 2	Period 3
Solvency	Short term	Net working capital(in millions)	310761725	349246142	402407060
		Current ratio	11.01	12.25	13.96
		Quick ratio	10.79	12.25	13.96
	Long term	Total debt to total capital	0.405	0.186	0.06
		Long term debt to total capital	0.307	0.109	0
		Long term debt to fixed assets	0.944	0.434	0
		Equity multiplier	1.405	1.18	1.06

Gross profit margin as well as operating profit margin has decreased constantly from period 1 to period 3. This implies sales have also reduced during these 3 consecutive years and the company is not producing much. Operating profit margin is reflection of the performance of the management. As operating profit margin is decreasing so it implies that management is not performing upto the mark. Profit before tax and net profit margin have increased constantly from period 1 to period 3. Net profit margin is the overall surplus available out of the sales and is the amount available to the shareholders. So increasing net profit margin implies happy shareholders. Operating profit to operating assets is increasing from period 1 to period 3 which implies that profitability in utilizing assets is increasing. Net income to total assets is also increasing from period 1 to period 3 which implies that shareholders are

receiving higher amounts with each period and also rate of profit is also increasing. Return on equity is also increasing that means that amount available to shareholders for compensating their investments is increasing. Total asset turnover , operating asset turnover , working capital turnover have increased from period 1 to period 3 which implies that efficiency in asset utilization is also increasing .Shareholder equity turnover is also increasing over the periods that means management is efficiently utilizing the shareholder’s funds . Net working capital is constantly increasing from period 1 to period 3 which means liquidity of firm is increasing but at the same time it also implies the inefficient use of cash , over due receivables and unpaid borrowings and non investment in assets. Current ratio and quick ratio both are increasing over the years that means current assets as a ratio of current liabilities is also increasing.Total debt to total capital and long term debt to total capital both are decreasing over the periods so it implies that demand on the firm’s earnings for meeting fixed commitments have also decreased. Equity multiplier is decreasing over the years which means ability of owner’s equity to command resources is also decreasing.

Costing aspects of the company

Assets	Period 1	Period 2	Period 3		Liabilities and owner's	Period 1	Period 2	Period 3
Item	Amount	Amount	Amount		Item	Amount	Amount	Amount
Current Assets					Current liabilities			
Cash	335210094.5	380301762	431262679.5		Trade payables	31055620	31055620	31055620
Inventory	6607250.5	0	0		Interest payables	0	0	0
Receivables	0	0	2200000		Total current liabilities	31055620	31055620	31055620
Total current assets	341817345	380301762	433462679.5		Non current liabilities			
Non current assets					Loan	97104750	44604750	0
Machinery	102899772.5	102845614.7	102791456.9		Total non current liabil	97104750	44604750	0
Total non current assets	102899772.5	102845614.7	102791456.9		Owner's equity			
Other assets					Contributed capital	309473000	309473000	309473000
Investments	0	0	0		Other equity	7083747.5	98014007.23	195725517
Total other assets	0	0	0		Total owner's equity	316556747.5	407487007.2	505198517
Total assets	444717117.5	483147376.7	536254136.4		Total liabilities and ow	444717117.5	483147376.7	536254137

Income Statement	Period 1	Period1	Period2	Period 2	Period 3	Period 3
Item	Amount	%age	Amount	%age	Amount	%age
Sales	37500000	100%	160000000	100%	282700000	100%
Less: Cost of goods sold(including salaries)	1790000	4.77%	55134502.4	34.45%	80122992.77	28.34%
Gross profit	35710000	95.23%	104865498	65.54%	202577007.2	71.65%
Less: Sales expenses	0	0	0	0	0	0
Less :Administration expenses(including rent expenses)	0	0	0	0	0	0
Less: General expenses((including supplies consumed)	0	0	0	0	0	0
EBITDA	35710000	95.23%	104865498	65.54%	202577007.2	71.65%
Less: Depreciation and amortization expenses	5415777.5	14.44%	5415777.5	3.40%	5415777.5	1.91%
Operating profit	30294222.5	80.78%	104811340	65.50%	202522849.5	71.64%
Add: Other income(FD interest)	0	0	0	0	0	0
Adjusted for extraordinary and past period items	0	0	0	0	0	71.64%
EBIT	30294222.5	80.78%	104811340	65.50%	202522849.5	71.64%
Less : Interest expenses	23210475	61.89%	6797332.5	4.20%	6797332.5	2.40%
Profit before tax(PBT)	7083747.5	18.89%	98014007.4	61.20%	195725517	69.23%
Less: Income tax expenses	0	0	0	0	0	0
Profit after tax(PAT/Net income)	7083747.5	18.89%	98014007.4	61.20%	195725517	69.23%
Profit/Loss transferred to balance sheet	7083747.5	18.89%	98014007.4	61.20%	195725517	69.23%

As we can observe that cash is constantly increasing from period 1 to period 3 so liquidity of company is also increasing. But at the same time company is losing out on interest that it may have earned if it would have invested that cash as deposits in banks or as some other investment. Increasing cash and cash equivalents is also a reason for increase in current assets while non current assets have decreased. Total non current liabilities have reduced that implies loan payable has reduced so it's a good sign for company as interest expenses would reduce and reduction in interest expenses is quite visible from income statement as well. Other equity has increased over the years that's good sign for company as it indicates that sales have also increased that is quite visible from income statement. Also net profit has increased over the years as sales have increased which implies company is growing . Increase in net profit is one of the reasons of an increase in other equity.

Submitted by :

Isha Garg

EPGP1237892