8
FEASIBILITY STUDY
Financial Projections

❸ *Determining Components of the Feasibility Study Report*

VI. Financial feasibility objectives

- Determines the accuracy of cost estimates, suitability of the envisaged pattern of financing and general soundness of the capital structure.
- Understands the Total Cost of Project and Financial feasibility checks.
- Determines whether a Project is Financially Feasible, will it provide adequate returns to all investors (including lenders) based on reasonable Assumptions.

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VI. Financial feasibility components

- ***1- Total capital requirements***

A- Assess the capital needs of the business project and how these needs will be met.

B- Estimate initial investment needs and Start up costs (capital requirements for facilities, equipment and inventories.The value is usually negative, since most projects involve an initial cash outflow. The initial investment can include licensing fees and startup costs.

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VI. Financial feasibility components

C- Estimate working capital needs.

W. Capital = Current Assets – Current Liabilities

- Working capital measures how much in liquid assets a company must have.
- It also a measure of both a company's efficiency and its short-term financial health .
- Working capital is the amount of money that a company has tied up in funding its day to day operations.

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VI. Financial feasibility components

- Current assets are those assets that are expected to be used (sold or consumed) within a year. (Cash, Account Receivables)
- Current assets are shown on the balance sheet, and are listed in order of increasing liquidity(how easy they are to convert to cash)
- The current asset position of a company is important, both for assessing its financial strength financial position and for gauging its operational efficiency.

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VI. Financial feasibility components

- Current liabilities are the liabilities that are to be settled in less than a year (including accounts payable).
- Current liabilities are one of the major groups of items on the balance sheet.
- Current liabilities are very important in gauging a company's financial health as the company needs to have the money to meet these commitments in the short term.

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VI. Financial feasibility components

- ***2- Financial needs***
- Identify the Sources of Financing, the project is either internally financed (self financed) or externally financed.
- Assess alternative sources for financing; banks, government (i.e. direct loans or loan guarantees), grants.
- Assess expected interest rates, terms, conditions, etc.
- Establish debt-to-equity levels.

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VI. Financial feasibility components

- ***3- "Financial* "Indicators"**

Is a relative magnitude of two selected numerical values taken from an enterprise's financial statements.

there are many standard ratios used to evaluate the overall financial condition of a corporation or other organization and it is used to compare the strengths and weaknesses in various companies.

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VI. Financial feasibility components

- ***3- Financial* "Indicators"**
- There are endless financial and economic indicators that can be developed and derived, based on the needs of particular project.

We will identify the most important and critical:

- Internal Rate of Return - IRR
- Return on Investment – ROI
- Break-Even Point – BEP
- Net Profit

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VI. Financial feasibility components

- ***4- Financial*** **Planning (Expected Budget and Alternatives)**

• Costs and revenue estimation. (variable and fixed)

• Estimate the profit margin and expected net profit.

• Estimate the break-even point.

• Determine project expected cash flow during the start-up period.

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VI. Financial feasibility components

■ *5- Financial* Statement

• Financial statements (or financial reports) are formal records of a business' financial activities. These statements provide an overview of a business' profitability and financial condition in both short and long term.

• There are three basic financial statements: (Three to Five years highlight)

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VI. Financial feasibility components

- ***5- Financial Reports & Statements***

• **Balance Sheet**: also referred to as statement of financial position or condition, reports on a company's assets, liabilities and net equity as of a given point in time.

• **Income Statement**: also referred to as Profit or loss statement, reports on a company's results of operations over a period of time.

- • They can be used to perform many analyses, which is called Ratio Analysis.

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VI. Financial feasibility- (pro forma statements)

- A Projected revenues, operating costs, and net income.
- B. Capital requirements, potential and actual sources of equity, equity accumulation schedule, investment schedule (land, plant, equipment, human resources, etc.).
- C. Pro forma cash flow statement.

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VI.Financial feasibility-(pro forma statements)

- D. Income, balance sheet, and sources and uses of funds statements.
- E. Equity accumulation plan and financial ratio analysis.
- F. Financial plan summary (description of how it will all fit together).

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VI.Financial feasibility-(pro forma statements)

- Cash flow statements should be monthly
- Income statements and balance sheets should be monthly or quarterly for the first year and then annual for the second and third years.
- Financial statements and projections stem from valid and objective assumptions. Financial assumptions, such as capital requirements, equity needs, prices, human resources needed, and other factors.

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VI.Financial feasibility-(pro forma statements)

- Because the economics of the project are so important to project assessment, financial assumptions must be :

- In line with the reality of the situation and

- Should not be overly optimistic or simplistic.

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VI.Financial feasibility-(pro forma statements)

- Financial assumptions such as price forecasts/projections should be based on solid facts, such as historical prices and changes that have occurred in the industry which may affect the outlook.
- The sources for the facts and the rationale for key assumptions should be well documented either in the report body or in an appendix.

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VI.Financial feasibility-(pro forma statements)

- Most feasibility studies begin with pro forma cash flow statements based on the assumptions and other data collected about the project, such as equity collected, product volume, purchases, sales, and expenses.
- Besides equity, revenue streams and operating costs, the pro forma statements must include repayment and interest on potential short-term and long-term debt and/or other investments in the project.

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VI.Financial feasibility-(pro forma statements)

- The cash flow statements (usually done on a monthly basis) must clearly show when capital is introduced and when it is repaid.
- This is important for indicating the project's repayment capacity, a critical consideration for a lender or investor.

Pro Forma Cash Flow Statement

	Jan	Feb	March
Opening Balance	15000	30550	39950
Cash received:			
Cash sales	21000	25000	21000
Credit sales	17900	17600	17900
Interest	2000	3000	2000
Sundries	1000	800	1500
Total cash received	41900	46400	42400
Cash Purchases:			
Stock purchases	7000	14000	12000
Trade creditors	10000	12000	13000
Other creditors	4000	4500	7000
Operating costs	4500	4500	4500
Capital	800	2000	2000
Other	50	0	1400
Total cash payments	26350	37000	39900
Cash increase/decrease	15550	9400	2500
Closing balance	30550	39950	42450

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VI.Financial feasibility-(pro forma statements)

- Also included in this section are income statements, balance sheets, and sources and uses of funds statements (or statements of cash flows).
- These pro forma statements provide important information beyond the cash flow analysis.

Income Statement for Company XYZ, Inc.		
for the year ended December 31, 20XX		
Total Revenue		$100,000
Cost of Goods Sold		**($20,000)**
Gross Profit		**$80,000**
Operating Expenses		
Salaries	$10,000	
Rent	$10,000	
Utilities	$5,000	
Depreciation	$5,000	
Total Operating Expenses		**($30,000)**
Interest Expenses		**($10,000)**
Taxes		**($10,000)**
Net Profit		**$30,000**

An Example Pro Forma Income Statement

	XYZ Corporation				
	Five Year Pro Forma Income Statement				
	1998	1999	2000	2001	2002
Sales	$1,265,000.00	$ 1,454,750.00	$1,672,962.50	$1,923,906.88	$ 2,212,492.91
Cost of Goods Sold	$ 480,700.00	$ 552,805.00	$ 635,725.75	$ 731,084.61	$ 840,747.30
Operating Income	$ 784,300.00	$ 901,945.00	$1,037,236.75	$1,192,822.26	$ 1,371,745.60
Expenses					
Administrative	$ 253,000.00	$ 290,950.00	$ 334,592.50	$ 384,781.38	$ 442,498.58
Marketing	$ 316,250.00	$ 363,687.50	$ 418,240.63	$ 480,976.72	$ 553,123.23
Total Expenses	$ 569,250.00	$ 654,637.50	$ 752,833.13	$ 865,758.09	$ 995,621.81
Earning Before Interest and Taxes	$ 215,050.00	$ 247,307.50	$ 284,403.63	$ 327,064.17	$ 376,123.79
Taxes	$ 77,418.00	$ 89,030.70	$ 102,385.31	$ 117,743.10	$ 135,404.57
Net Income	$ 137,632.00	$ 158,276.80	$ 182,018.32	$ 209,321.07	$ 240,719.23

Pro-Forma Balance Sheet

XYZ Corporation

For 2006 to 2009
(all numbers in $000)

ASSETS	2006	2007	2008	2009
Current Assets				
Cash	$54	$57	$59	$64
Net accounts receivable	$357	$396	$428	$435
Inventory	$177	$191	$203	$205
Temporary investment	$12	$12	$12	$12
Prepaid expenses	$2	$2	$2	$2
Total Current Assets	$612	$658	$702	$718
Fixed Assets				
Long-term investments	$42	$43	$43	$46
Land	$856	$856	$884	$727
Buildings (net of depreciation)	$903	$929	$983	$1,021
Plant & equipment (net)	$608	$631	$642	$654
Furniture & fixtures (net)	$61	$65	$68	$72
Total Net Fixed Assets	$2,270	$2,323	$2,420	$2,520
TOTAL ASSETS	$2,882	$2,981	$3,122	$3,238
LIABILITIES				
Current Liabilities				
Accounts payable	$246	$252	$258	$277
Short-term notes	$24	$25	$26	$28
Current portion of long-term notes	$14	$14	$14	$15
Accruals & other payables	$14	$14	$14	$14
Total Current Liabilities	$298	$305	$312	$334
Long-term Liabilities				
Mortgage	$897	$931	$978	$1,021
Other long-term liabilities	$443	$485	$527	$576
Total Long-term Liabilities	$1,340	$1,416	$1,505	$1,597
SHAREHOLDERS' EQUITY				
Capital stock	$300	$300	$300	$300
Retained earnings	$944	$960	$1,005	$1,007
Total Shareholders' Equity	$1,244	$1,260	$1,305	$1,307
TOTAL LIABILITIES & EQUITY	$2,882	$2,981	$3,122	$3,238

❸ *Determining Components of the Feasibility Study Report*

VI.Financial feasibility-(pro forma statements)

- Another useful analysis to include is a ratio analysis where ratios are developed from the pro forma statements.
- For example, current ratios, debt ratios, assets turnover, return on net worth, return on investment, return on sales, etc., should be formulated and compared during the projected years.

Ratio Analysis Based on Historical and Pro-Forma Financial Statements

TABLE 8.9 RATIO ANALYSIS OF HISTORICAL AND PRO FORMA FINANCIAL STATEMENTS FOR NEW VENTURE FITNESS DRINKS, INC.

	Historical			*Projected*	
Ratio	**2009**	**2010**	**2011**	**2012**	**2013**
Profitability ratios					
Return on assets	14.7%	18.7%	21.4%	19.0%	18.9%
Return on equity	24.9%	31.0%	35.0%	28.9%	27.2%
Profit margin	13.6%	17.9%	22.3%	18.1%	18.1%
Liquidity ratios					
Current	2.35	2.26	3.05	2.07	2.24
Quick	1.96	1.89	2.58	1.60	1.78
Overall financial stability ratios					
Debt	42.3%	37.4%	39.7%	29.3%	31.8%
Debt to equity	73.2%	59.8%	65.8%	41.5%	46.6%

Item	Ratio
Current ratio	(current assets/current liabilities)
Debt ratios	(total debt/total assets)
Average collection period	(receivables/sales per day)
Total assets turnover	(sales/total assets)
Return on equity	(net margins/total equity)
Return on Investment	(net margins/Investment)
Return on sales	(net margins/sales)

Example P&L for Company XX	Period
Total Revenue	**100€**
Cost of Revenue – Total	**75€**
Gross Profit	**25€**
Gross Profit Margin %	*25,0%*
R&D (Research & Development)	5€
% of revenue	*5,0%*
Sales & Marketing	9€
% of revenue	*9,0%*
General & Administrative – Total	3€
% of revenue	*3,0%*
Other Operating Expenses	1€
% of revenue	*1,0%*
Operating Profit	**7€**
Operating Profit Margin %	*7,0%*
Other Income (Expenses)	0 €
Interest Earned (Paid)	-2 €
Pre-tax Profit	5€
% of revenue	*5,0%*
Taxes	1 €
Net Profit	**4€**
Net Profit Margin (%)	*4,0%*

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VI.Financial feasibility-(pro forma statements)

- In the financial analysis, the study should show the impact of varying key project assumptions. **This controlled variation, called sensitivity analysis**, permits planners to view which project elements are the most susceptible to positive and negative changes.
- For example,what impact does a 10-percent reduction in sales volume have on net income?

❸ *Determining Components of the Feasibility Study Report*

VI.Financial feasibility-(pro forma statements)

- The sensitivity analyses conducted should then be studied, and should be developed into specific scenarios, which would involve looking at all aspects of how the proposed possible changes would affect the project.
- Both “worst-case” possibilities and optimistic scenarios should be created for comparison purposes. A comparison table and discussion should be developed so that it’s easy to assess the differences between scenarios.

	A	B	C	D	E	F	G	H	I
1			**Data Entry Section**						
2				**Base Case**	**Scenario (1)**	**Scenario (2)**	**Scenario (3)**		
3			**Variable**		**Price Increase 10%**	**Sales volume decrease 10%**	**Fixed costs decrease 30%; variable cost increase 10%**		
5			Sales price per unit	$250	$275	$250	$250		
6			Variable cost per unit	$150	$150	$150	$165		
7			Monthly fixed cost	$50,000	$50,000	$50,000	$35,000		
8			Volume of sales (units)	700	700	630	700		
11			**Snowboard Company**						
12			**Sensitivity Analysis Result**						
14			Sales	$175,000	$192,500	$157,500	$175,000		
15			Variable costs	105,000	105,000	94,500	115,500		
16			Contribution margin	$70,000	$87,500	$63,000	$59,500		
17			Fixed costs	50,000	50,000	50,000	35,000		
18			Operating profit	$20,000	$37,500	$13,000	$24,500		
20			Dollar change in profit from base case		$17,500	($7,000)	$4,500		
22			Percent change in profit from base case		87.50%	(35%)	22.50%		

❸ *Determining Components of the Feasibility Study Report*

VI.Financial feasibility-(pro forma statements)

- The financial section should summarize all the findings of the financial analyses and provide an overall assessment of the financial and economic implications of the project.
- The financial impacts at both the cooperative and member level should be detailed.

Review questions

Multiple Choice Questions

1- Financial feasibility components estimate working capital measuring _____.

A- Current capital – Current asset
B- Current Assets – Current capital
C- Current Assets – Current Liabilities
D- None of these.

Answer: C

Review questions

Multiple Choice Questions

2- Financial Indicators in financial feasibility components includes _____.

A- Working capital.
B- Working assets.
C- Working liabilities.
D- Break-Even Point

Answer: D

Review questions

Multiple Choice Questions

3- Cash flow statements in financial feasibility-(pro forma statements) should be _____.

A- Weekly.
B- monthly.
C- Quarterly.
D- Semi annual

Answer: B

Review questions

Brief explain Questions

1- State financial feasibility objectives?

2- Define and state some kinds of Financial Indicators of financial feasibility components ?

3- Explain sensitivity analysis concept?