

Corporate Finance

1. Corporate Finance framework

International Masters
Fall 2025 program

Course Objectives (1/2)

The purpose of this Finance class is to help you, as IT managers or IT professionals :

- Understand your company financial context and strategy and how IT fits in
- Understand the Planning / Budgeting process
- Effectively manage and control a budget
- Understand methodology to financially assess potential investments
- Make financially sound business decisions in particular around investment planning and project prioritization

It should allow you to intelligently discuss with your Finance teams and effectively speak for the IT cause

Course Objectives (2/2)

It is not :

- A deep dive in the fascinating intricacies of Accounting
- A presentation of Market Finance, Banking etc....
- An exhaustive review of Financial statements

Goal is to focus on a few key principles and processes that impact the IT function the most....

Course description (1/2)

This course provides an overview of basic financial concepts and their practical application to planning and budgeting in IT organization and on IT projects.

As a student, you will gain knowledge and experience in Corporate Finance general concepts, Planning, Budgeting, Cost management, Project Value Case and Cost Accounting.

Course description (2/2)

3 Main topics

- ✓ **1. Corporate Finance framework**
 - ✓ Review of Corporate Finance principles
 - ✓ Review of key Financial statements : Balance sheet, Income statement (P&L) and cash Flow statement
 - ✓ Cash vs profit
 - ✓ Critical Financial KPIs
- ✓ **2. Planning and Budgeting / Cost Management**
 - ✓ Introduction of planning concepts and components
 - ✓ Understanding of how to build an IT budget
 - ✓ Introduction of basic budget and cost management mechanisms
- ✓ **3. Project evaluation and value case**

If time allows : Overview of Cost Accounting

Hands-on practice...

Assessment method

Individual grade will be made up of:

- 30% Active class participation and assignments
 - Assignments sent after class to be returned the evening before following class
 - Late assignments will not be considered
- 70% Individual exam

Ground rules

- Be respectful of those talking or presenting
- Be ON TIME
 - Being late is a sign of disrespect to the trainer and your peers
 - After 10 minutes delay , you will not be accepted in class
- Switch off your cell phones
- Laptops or tablets are tolerated only for in-class case case studies
- Do not be shy, participate actively and ask clarification questions as you see fit
- One discussion at a time, please!

Expectations & policies

- I expect you to turn-in your completed assignments on time to receive proper credit/grade
- Any work submitted must be your own
- I expect everyone to contribute equally to group assignments (if any)
- Attendance in every class is expected, active class participation and discussion is strongly encouraged
- Late work submission will not be accepted unless prior arrangements have been made directly with me
- Cases will be decided on an individual basis

Sessions calendar

Group 1

Session nb	Date	Time		Contents
1	Wednesday October 22nd	09:00 - 11:00	KB404	Introduction
2	Wednesday October 29th	11:15 – 13:15	KB602	Home work review + class
3	Wednesday November 5th	09:00 - 11:00	KB305	Home work review + class
4	Wednesday November 19th	10:00 – 12:00	KB305	Home work review + class
5	Wednesday November 26th	15:30 – 17:30	KB302	Home work review + class
6	Wednesday December 3rd	09:30 - 11:30	KB305	Home work review + class
7	TBD	TBD	TBD	Exam

Sessions calendar

Group 2

Session nb	Date	Time		Contents
1	Wednesday October 22nd	14:15- 16:15	KB403	Introduction
2	Wednesday November 5th	11:15 – 13:15	KB602	Home work review + class
3	Wednesday November 12th	14:00 - 16:00	KB301	Home work review + class
4	Wednesday November 26th	13:30 – 15:30	KB302	Home work review + class
5	Wednesday December 3rd	14:45 – 16:45	KB301	Home work review + class
6	Wednesday December 10th	09:00 - 11:00	KB403	Home work review + class
7	TBD	TBD	TBD	Exam

Sessions calendar

Group 3

Session nb	Date	Time		Contents
1	Wednesday October 22nd	11:15- 13:15	KB404	Introduction
2	Wednesday October 29th	09:00 - 11:00	KB304	Home work review + class
3	Wednesday November 12th	11:45 – 13:45	KB301	Home work review + class
4	Wednesday November 19th	13:00 – 15:00	KB606	Home work review + class
5	Wednesday December 3rd	12:30 – 14:30	KB301	Home work review + class
6	Wednesday December 10th	11:15- 13:15	KB403	Home work review + class
7	TBD	TBD	TBD	Exam

Course schedule and contents

Session 1

- Introduction
- Corporate Finance general concepts
- Review of key Financial statements

Session 2

- Cash vs Profit
- Key Financial indicators
- Planning and Budgeting introduction

Session 3

- Planning and budgeting continuation
- Budgeting Case study

Session 4

- Case study correction
- Cost Management
- Capital investment introduction

Session 5

- Capital investment continuation
- Project value case methodologies

Session 6

- Real life example : Project Value case
- Introduction to Cost Accounting

Introduction



Sylvie Appriou

64 rue Fondary
75015 Paris – France
sylvieappriou@gmail.com
33 (0) 6 19 98 41 89



Operations Director

- 25 years experience in US high tech companies in Finance, Engineering and Operations
- Operation strategy definition, execution and measurement
- Global Transformational projects
- Implementation of Global Shared Services
- Process re-engineering
- Change Management
- Management of multicultural / multinational teams

Work experience

From March 2016 : Angelfish Consulting (owner) – Paris, France
Operations and Process Excellence Consulting
<http://www.angelfishconseil.com/>



2000 to Jan 2016 : Cisco Systems – Paris, France
Global Shared Services Director (2010 to 2016)
Finance Director (2005 - 2009)
EMEA Finance Systems and Processes controller (2000 / 2004)



1997 – 2000 : NEC Computer – Angers, France
Engineering Program Director



1986 – 1996 : Apple Computer – Paris, France
Financial Planning Manager



1983 – 1986 : Printronic Corp of America – New York, USA
IT Systems Manager

1980 – 1983 : OCP (Office Commercial Pharmaceutique) – Paris, France
IT Analyst



Other professional experience

Since 2009 : EPITA (Ecole pour l'Informatique et les Techniques Avancées) – PARIS, FRANCE
Development and teaching of Finance and Change Management class to International Masters students



From 2014 :
Expert to the European Commission



Education

Graduated Ecole Centrale – Lyon France
INSEAD – Apple Management institute
HEC Paris – Entrepreneurship Advanced certificate

Welcome to my class...

Nice to meet you...

Brief personal introduction...

What this class is and isn't...

You and Finance

Please, prepare a brief verbal introduction of yourself, highlighting:

- Who you are, where you come from...
- What EPITA curriculum you belong to...
- Your work field experience (if any) prior to joining EPITA (i.e. Software develpt. for automotive industry)

Do you have any Finance knowledge / experience? In what context? What can you share with us?

Any particular expectation from the Finance class ?

Course schedule and contents

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Corporate Finance general concepts

Corporate Finance

Key concepts

- Finance background
- Finance key concepts
- Balance Sheet
- Income statement (P&L : Profit and Loss)
- Profit vs Cash
- Depreciation / Amortization
- Critical Performance ratio (KPIs)
- Finance quiz

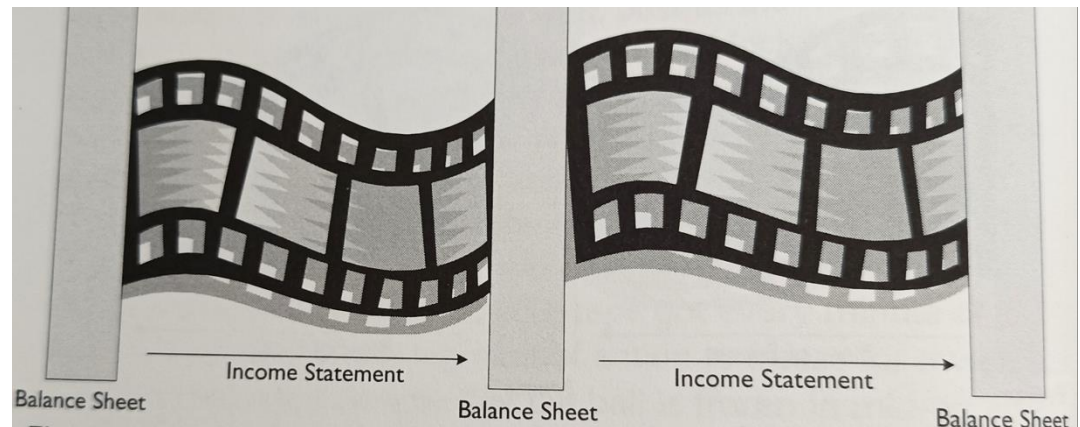
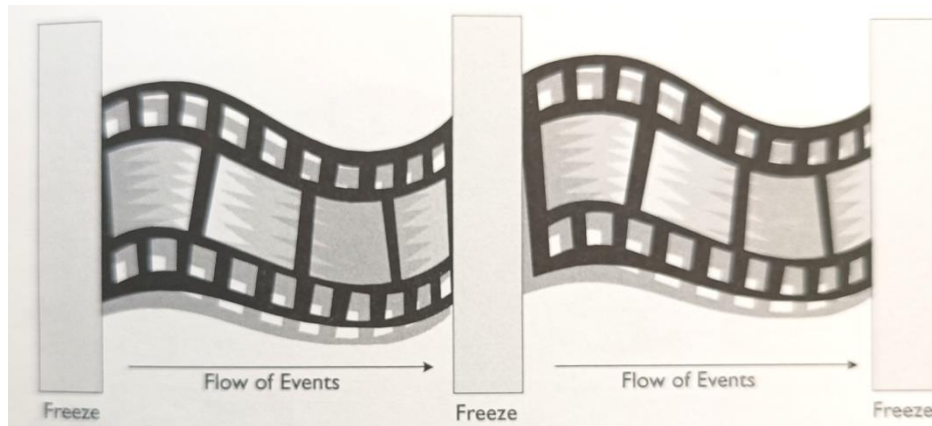
Corporate Finance Background

- **Role of Finance**
 - **Headed by a CFO : Chief Financial Officer**
 - **2 key areas of responsibilities :**
 - **1. Managing company financial resources**
 - **Protect company assets**
 - Treasury and Cash Management
 - Planning and budgeting
 - **Act as a Finance consultants to other departments**
 - **Maximize Shareholders value**
 - **2. Recording and reporting on all Financial transactions**
 - **Accounting**
 - **Month / Quarter / Year end close**
 - **Produce Financial reporting according to GAAP : Generally Accepted Accounting Principles**
 - **Ensure compliance with regulations**
 - **Optional depending on companies**
 - **Risk management**
 - **M&A : Mergers and Acquisitions**
 - **Project office**
 -
- **IT and Finance**
 - **IT is usually big \$ with significant amount of Capital expenditures**

Corporate Finance

Starting point

- Life in a Finance department...



Corporate Finance

Starting point

- **Chart of Accounts**
 - Set of “Buckets” (Account names / numbers) where transactions of similar nature are recorded
 - Examples : Revenue, Cash, Short Term debts...
 - Goal is to enable the classification of Financial transactions

Corporate Finance

Starting point

Account Number	Account Description
Assets	
1000	Cash
1100	Short-Term Investments
1200	Accounts Receivable—Trade
1250	Allowance for Uncollectable Accounts
1500	Fixed Assets
1510	Land and Buildings
1520	Machinery and Equipment
1530	Accumulated Depreciation
1600	Deposits
1900	Long-Term Investments
Liabilities	
2100	Accounts Payable—Trade
2200	Accrued Payroll and Benefits
2220	Accrued Payroll
2230	Accrued Payroll Taxes
2300	Other Accrued Liabilities
2500	Contracts Payable for Leased Equipment
2700	Long-Term Notes Payable
Stockholders' Equity	
3100	Capital Stock
3500	Retained Earnings
Income	
4100	Sales of Widgets
4110	Sales of Super Widgets
4120	Sales Discounts and Allowances

- Chart of Accounts**

Example

Cost of Goods Sold	
6000	Sales and Marketing Expenses
6100	Salaries and Wages
6120	Travel Expenses
6130	Telephone
6200	Advertising
6300	Trade Shows
7000	General and Administrative Expenses
7100	Salaries and Wages
7200	Insurance
7300	Postage and Mailing
7400	Professional Fees Paid
	... and so on

Corporate Finance

Starting point

- **General Ledger (or Trial Balance or Journal)**
 - Book where all Financial Transactions are recorded
 - Transactions are labelled as per the Chart of Accounts
 - Date – Account - Value
 - It is the data source for all Financial statements

Corporate Finance

Starting point

- **Accruals vs Cash Accounting**
 - Transactions are recorded when they happen not when cash changes hands
 - Example : Sale to a Customer is recorded when products are shipped to that Customer...
 - At this stage, Amount sold goes to Account Receivable Account. No Cash has been received yet
 - When Customer will pay (30 to 45 days later), Amount will move out of Account Receivables to Cash Account
 - Same thing happen when we buy from Suppliers
 - Amount goes to Account Payables Account
 - When we pay the supplier according to our T&C, Amount will decrease Cash and Account payable Accounts

Corporate Finance

Key Financial statements

- **Balance Sheet <-> How much is the company worth at a point in time**
 - **Assets : Cash, Fixed assets, Receivables**
 - **Liabilities : Payable, debts**
 - **Equity : capital, stock**
 - **Assets = Liabilities + Equities**
- **Income statement (P&L Profit and Loss) <-> Profit made during a period**
 - **Income**
 - **COGS : Cost of Goods sold**
 - **Expenses**
 - **Profit = Income – (COGS + Expenses)**
- **Cash Flow statement <-> Liquidity**

Balance Sheet

ASSETS

Current Assets

Cash and Equivalents	\$155,000
Accounts Receivable	940,000
Less Allowances for Bad Debts	(64,000)
	876,000
Inventory	
Raw Materials	311,000
Work in Process	65,000
Finished Goods	215,000
	591,000
Prepaid Expenses	45,000
Total Current Assets	\$1,667,000

Fixed Assets

Land and Buildings	1,250,000
Machinery and Equipment	750,000
Computers and Office Equipment	250,000
	2,250,000
Less Accumulated Depreciation	(972,000)
Total Fixed Assets	\$1,278,000

Other Assets

Deposits (<i>held by others</i>)	25,000
Long-Term Investments	276,000
Total Other Assets	\$301,000

Total Assets **\$3,246,000**

LIABILITIES

Current Liabilities

Accounts Payable	\$475,000
Accrued Payroll	57,000
Other Accrued Liabilities	31,000
Income Taxes Payable	54,000
Notes Payable to Banks, Short-Term	150,000
Current Portion of Long-Term Debt	52,000

Total Current Liabilities **819,000**

Long-Term Liabilities

Lease (<i>Purchase</i>) Contracts	125,000
Long-Term Debt (<i>other than leases</i>)	300,000
Loans from Stockholders	75,000
	500,000
Less Current Portion of Long-Term Debt	(52,000)
Total Long-Term Liabilities	448,000

Total Liabilities **1,267,000**

Stockholders' Equity

Capital Stock	50,000
Contributed Capital	1,750,000
Retained Earnings	179,000
Total Stockholders' Equity	1,979,000

Total Liabilities **\$3,246,000**

Balance Sheet

- **Working Capital**

- Current Assets – Current liabilities (Current means < 12 months)
- Measurement of liquidity
- Key drivers DSO (Days sales outstanding)
- Account Payable as a source of Financing

- **Inventory management is critical!**

- High risk area

- **Watch Account Receivable collectibility**

- **Depreciation is recorded as an expense on the Income statement**

Income Statement (P&L)

Sales		\$650,000
Cost of Sales		<u>475,000</u>
Gross Profit		175,000
Operating Expenses		
Engineering	25,000	
Sales and Marketing	76,000	
General and Administrative	37,000	<u>138,000</u>
Operating Income		37,000
Other Income and Expenses		<u>(5,000)</u>
Income		32,000
Income Taxes		<u>12,800</u>
Net Income		19,200
Earnings per Share		\$0.10
Fully Diluted Earnings per Share		\$0.08

Income Statement (P&L)

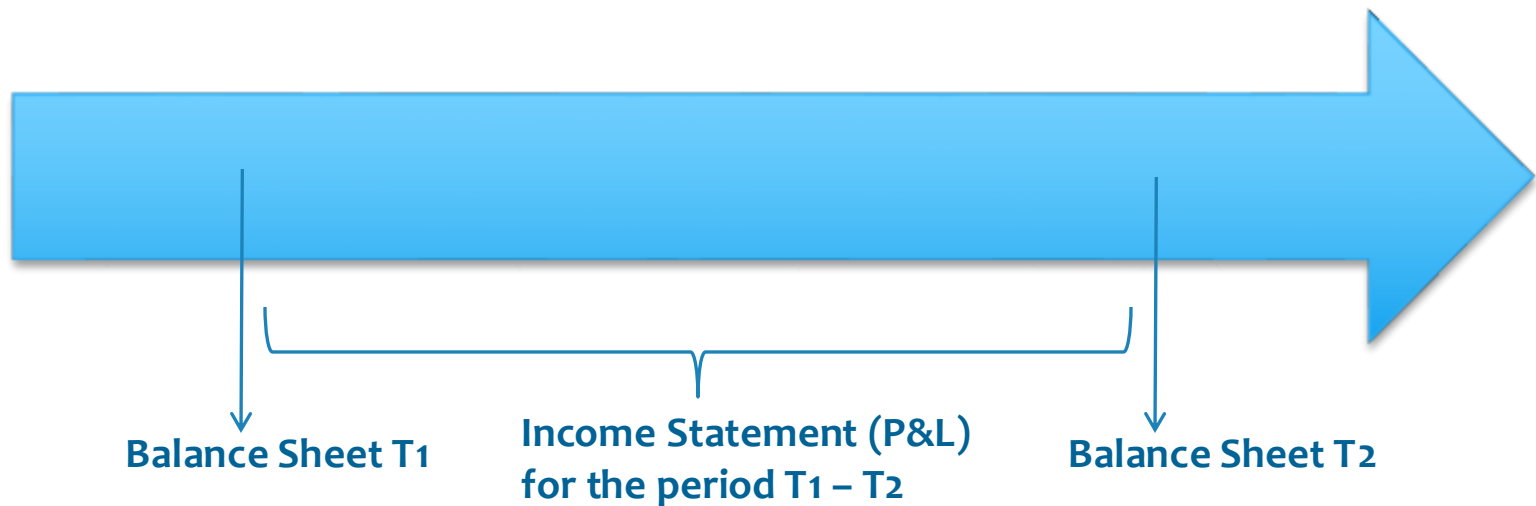
Cost of Sales

Start with the inventory on hand at the beginning of the month, valued at the total actual cost to make or buy it.	\$275,000
Add the cost of all the inventory purchased during the month, which was intended to be used in making the company's products, either now or later.	175,000
Add the cost of the labor used to manufacture products during the month.	265,000
Add the other costs incurred by the company indirectly related to making its products, such as plant electricity, machine depreciation, supervisory salaries, and so on.	321,000
This is the total cost invested in inventory for sale during the month.	1,036,000
Deduct the total cost of inventory unsold at the end of the month.	(591,000)
This is Cost of Goods Sold for the month.	445,000
Add the costs incurred to get the products to the customer, such as delivery freight, commissions, etc.	30,000
This is the Cost of Sales for the month.	\$475,000

Income Statement (P&L)

- Sales or Revenue or Income
- Net Profit or Operating Income or Bottom line
- Record Sales too early or too late...or record Sales that have not happened yet. Question of Revenue recognition
- Gross profit as the 1st measurement of profitability
- Operating expenses : running the business
 - R&D / Engineering
 - Sales and Marketing, includes sales Commissions
 - G&A : General and Administration : Catch all category including IT
- EBITDA : Earnings before Interest, Taxes, depreciation and Amortization
- Very strict rules of what to account in each category.
 - Example of IBM selling a subsidiary and booking profit into G&A...

Balance Sheet vs P&L



To be remembered from today....

- **Chart of Accounts / General Ledger (journal) as the source for all Finance analysis**
- **Accruals vs Cash accounting...**
- **Balance sheet = Company worth at a point in time (Assets / Liabilities / Equities)**
- **Income statement or P&L over a period in time = Profit (Revenue – Costs)**

Profit vs Cash

- **Accruals vs Cash accounting...**
- **Cash accounting : transactions are recorded when cash is involved**
- **Accruals accounting : transactions are recorded when they really happen even if payment is done later**
 - Sales recorded when customer is invoiced
 - Purchase recorded when goods received

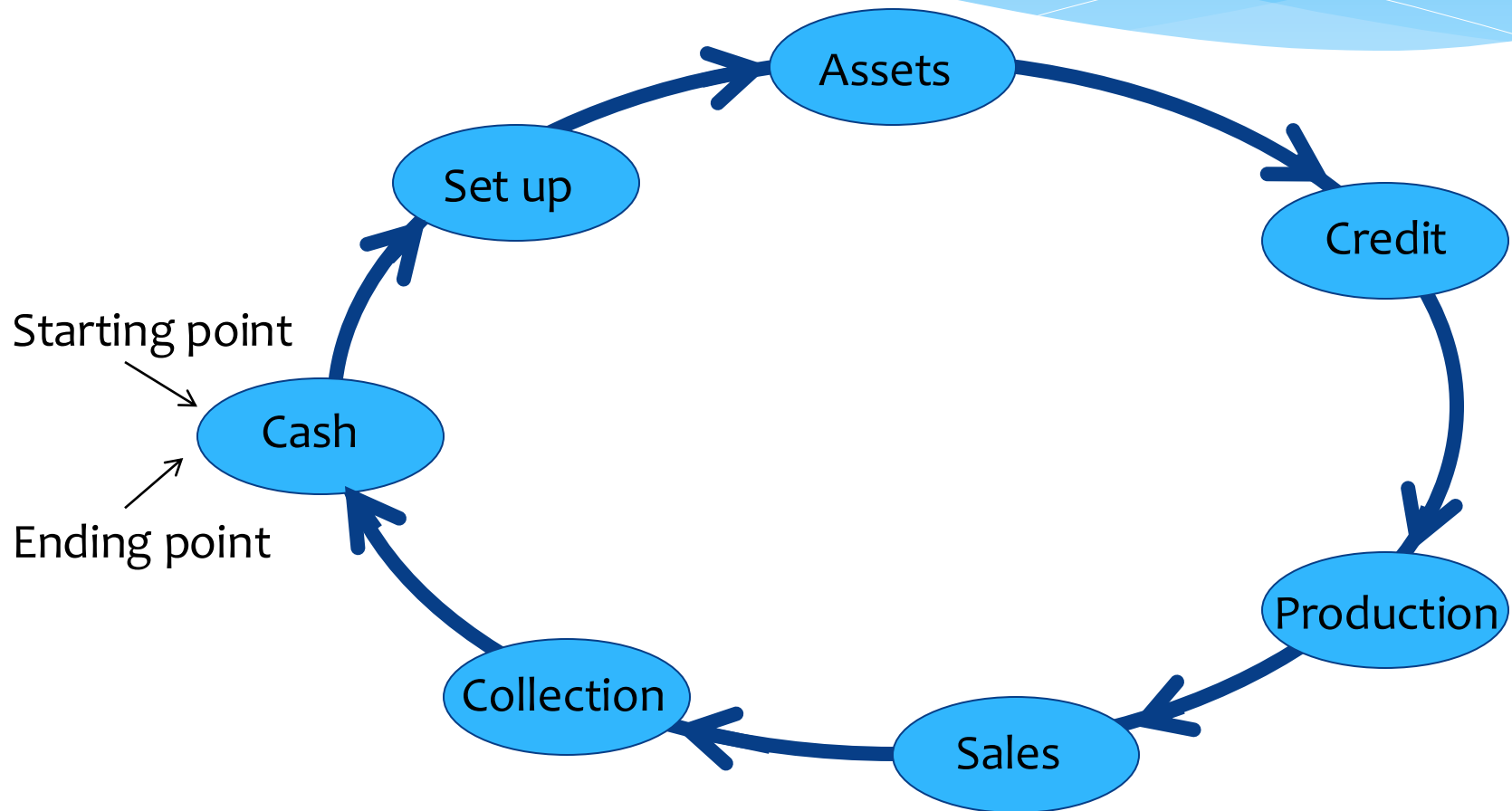
Wonder Widget story

- **Start up launched with 100,000\$ in cash**
 - Leased factory and equipment
 - Bought material
 - Hired workers
- **Very succesful product that sells very well**
- **Making good profit**
- **Sales keep increasing**
 - 50,000 k\$ in Month 1 and increasing by 50,000\$ every month
- **Normal business operations** (clients pay on time, they pay suppliers...)
- **All going very well...**

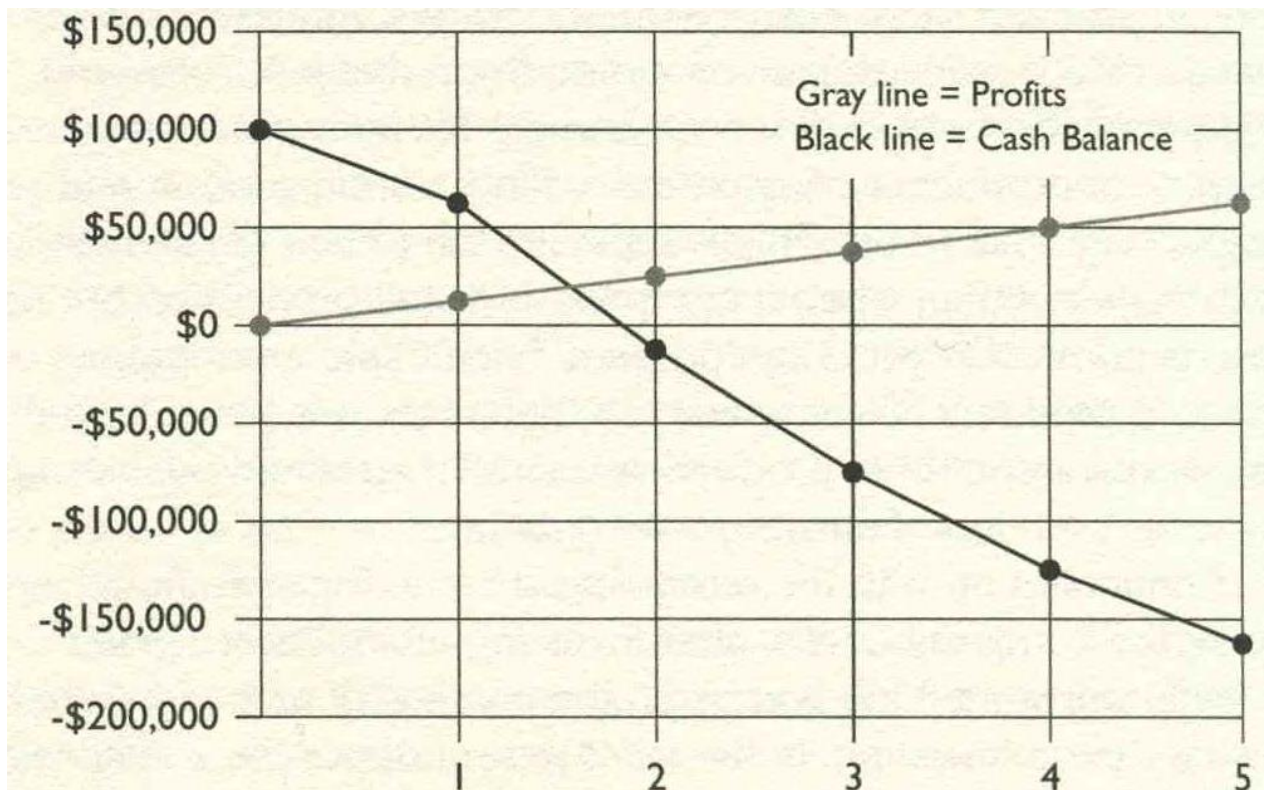
Wonder Widget story

- One day, owners go to the bank and realize there is no money to pay the bills, make Payroll or buy raw materials
- Finally, creditors took the company to court and nearly had the company closed down
- Instantly profitable Wonder Widget was insolvent 6 months after they open the doors
- What happened ?

Cash Flow cycle



Cash Flow curve



Fast growth means big appetite for cash

- Need to set up the company and production activities
- Start production, shipping and billing customers
- Need to pay suppliers, Need to collect from customers
- ... Timing is everything
- Options
 - Raise price ?
 - Get receivable financing ?
 - Raise more capital ?
- Cash is not profit : Need careful cash forecast

Net Profit vs Cash Flow

- Transactions that increase profit but don't produce cash until later : Sales / Account receivable
- Transactions that reduce profit but don't decrease cash until later : Account Payables
- Transactions that put cash in the bank but don't produce profit until later ... if at all : Get a loan...
- Transactions that take cash from the bank and may or not affect profit later : Repay loans, purchase assets (machinary...)

Cash Flow statement

Format nb 1

Cash receipts	
Amounts collected from customers	372,500
Advance from Bank credit line	7,500
Sale of short term investment	24,000
<u>Total of cash receipts</u>	<u>404,000</u>
Cash Disbursements	
Paid to creditors	308,200
Payroll and payroll taxes paid	122,600
Purchase of new equipment	45,000
Payment of long term debts	1,000
Dividends payments	5,000
<u>Total of cash disbursements</u>	<u>481,800</u>
Net cash flow (drain)	-77,800
Add cash balance beginning of period	42,500
Balance of cash end of period	-35,300

Cash Flow statement

Format nb 2

Operations

Net Income		\$19,200
Adjustments		
Add back depreciation—no cash paid for this	7,500	
Increase in accounts receivable—more sold than collected	(125,600)	
Decrease in prepaid expenses—amortized, but no cash paid	1,500	
Decrease in inventory—cash raised by lowering stock on hand	10,600	
Increase in accounts payable—cash borrowed from creditors	28,500	(77,500)
<i>Cash flow provided by (used for) Operations</i>		<u>(58,300)</u>

Operations

Capital expenditures—cash invested in new equipment	(45,000)	
Short-term investments sold—net proceeds from sale	24,000	
<i>Cash flow provided by (used for) Investments</i>		<u>(21,000)</u>

Financing

Increase in bank debt—new short-term borrowing from bank	7,500	
Net reduction in long-term debt—payments made on long-term loans	(1,000)	
Dividends paid to stockholders—cash paid out to owners	(5,000)	
<i>Cash flow provided by (used for) Financing</i>		<u>1,500</u>
<i>Net Cash Flow (Drain)</i>		<u>(77,800)</u>
Add balance of cash—beginning period		42,500
Balance of cash—end of period		<u>(\$35,300)</u>

**Reconciles Profit
to Cash Balance**

Figure 6-2. Statement of

Profit vs Cash Flow Summary

- **Cash flow statement is complementary of Income Statement / P&L**
- **Cash is needed to finance customers purchases on credit**
 - If Account receivable grow faster than sales, it is a cash drain for the company
 - It is the largest cash requirement for growing company
- **Inventory is a large consumer of cash**
 - Cash invested in Inventory can take a long time to convert to cash again
 - If inventory grows quicker than sales, the company may be wasting its cash and take a risk of obsolescence

Depreciation / Amortization

■ Depreciation

- Expense charged against earnings to write off the cost of a capital asset over time
- Consider age, wear, residual value, obsolescence
- Several methods of depreciating assets
 - Straightline
 - Accelerated

■ Amortization

- Spreading the cost of intangible asset over the life of the asset
- Ex : SW licence, R&D expenditure

Critical Performance ratio (CPR)

■ PE : Price to earning ratio

- Stock price / Earnings per share
- Guideline : under 20

■ Current ratio

- Current assets / Current liabilities
- Assessment of liquidity of a company
- Guideline 2

■ Quick ratio

- Variation on Current ratio
- $(\text{Current Assets} - \text{Inventory}) / \text{Current liabilities}$
- Guideline 1.3

Critical Performance ratio (CPR)

■ DSO – Days Sales Outstanding

- Nb of days of average sales yet uncollected in Accounts Receivable
- $\text{Account receivable} / \text{Average revenue} / \text{day}$
- Ideally 30, in practice 45 days

■ Inventory turnover

- $\text{Annual cost of good sold} / \text{Average Inventory}$
- Measures how quickly inventory leaves the plant and is replaced by new inventory
- Guideline > 7

Critical Performance ratio (CPR)

- **Gross profit margin**

- Gross profit / Gross sales
- Good indicator of business model
- Can go from 20 % to 80%...

- **Net profit margin**

- Net profit / Gross sales
- Also, can vary a lot... 3% would be very bad for SW, drug or manufacturing business but good for distribution business
- Need to compare companies in same industry
- Need to look at evolution over time

Critical Performance ratio (CPR)

■ Cost per Sales dollar

- Sales and marketing costs / Gross Sales
- G&A costs / Gross Sales
- R&D costs / Gross Sales...
- Need to look at evolution in time

■ Measures of productivity

- Backlog of orders : Orders received – Orders shipped and invoiced
- Order Processing time : indicator of customer satisfaction
- Sales / employee
- Sales / square foot

Critical Performance ratio (CPR)

■ Debt to Equity ratio

- Total debt / Total Equity
- Leverage measurement
- Guideline < 1

■ Return on Equity (ROE)

- Net income annualized / Stockholders Equity
- Rate of return on the stockholders investment in the company
- Measures the company earning power
- Useful to watch trend in time
- Can be useful to compare companies
- Guideline 15 – 20%

Critical Performance ratio (CPR) Summary

- CFPs are key indicators of success of a business
- Should be clarity of target value / budget
- Comparison vs Budget and overtime is critical
- Gross margin % goes down : need to understand why ?
 - Price down, too much discount ?
 - Costs up ?
 - Product mix ?
 - Competitive pressure ?
- Should be compared to industry benchmark
- Should be tracked over time and variations analyzed

To be remembered from today....

- **Profit vs Cash**

- Accruals vs Cash accounting...
- Amortization process

- **Finance KPIs**

- Liquidity : Current / Quick ratios / DSO / Inventory
- Profit : Gross / Net profit %
- Leverage : Debt to Equity
- Company earning power : Return on Equity



Thank you!

See you next time