Financial Statement Analysis and Performance Management

Evaluation

- Project 40% (Deadline June 2nd): Annual report presentation of a luxury brand
- Final Exam 60% (week 12)

Bibliography

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Key Terms:

<u>Financial Health</u>: What we have to look at to see if the company's management is good. The company is financially healthy If it is able **to pay is debt but can still run and work normally**. When this is not possible = death (this term is also linked to operations)

Why do companies' share their annual reports? – Not only to inform their shareholders but also because of the dividends

Working capital: How much the company can use – how much they have in terms of assets after paying short term liabilities. Current assets – Current Liabilities

Current = short term = less than 1 year

Expenses vs Liabilities: Expenses and liabilities should not be confused with each other. One—the **liabilities**—are listed on a company's **balance sheet**, and the other is listed on the **company's income statement**. Expenses are the **costs** of a company's operation, while liabilities are the **obligations** and debts a company owes. **Expenses include the costs** you incur to generate revenue. For example, the cost of the materials you use to make goods is an expense, not a liability.

NPV: Net-present Value

IRR: Internal Rate of Return

MIRR: Modified Internal Rate of Return

PnL: Profit and Loss

RR: Risk Rate

WACC: Weighted Average Cost of Capital – to estimate how much is the cost to have such amount of money (we can ask money to the bank, shareholders.... – we issue the stock - Companies issue shares to raise money from investors who tend to invest their money.)

Issue stock: sometimes companies only issue one or none of this types:

- **PS** (**Preferenced shares** lower risk because you are in a preferred position to receive your dividend) or
- CS (Common shares riskier the higher the risk, the higher the return should be
 is not always like this)

<u>Risk averse:</u> is the tendency to avoid risk.

IPO: initial public offering is when a **private company** sells shares of its stock for the **first time** to the public and becomes a public company. When a company makes this transition, it is no longer in the hands of the private owners and investors but is now under public ownership.



• Price Share x N° Shares Available = Market Capitalization

The company's price of the share can be lower than another company but have a higher number of shares, meaning that the market capitalization will be higher.

<u>Time value of money</u>: means that the money is not worth the same now than in 10 years. Before the value of money was higher (with 1€ we could by much more things than now).

The big Four: accounting firms – Deloitte, EY, pwc, KPMG.

DOL: Degree of operational leverage

DFL: Degree of financial leverage

GAAP: General Accepted Accounting Principles

Hospitality Industry Financial Accounting, Raymond S. Schmidgall, James W. Damitio The following generally accepted accounting principles provide a uniform basis for preparing financial statements.

- 1. Cost: The cost principle states that when a transaction is recorded, it is the transaction price (cost) that establishes the accounting value for the product or service purchased. If amounts other than cost (such as estimates or appraisals) were used to record transactions, accounting records would lose their usefulness. When cost is the basis for recording a transaction, the buyer and seller determine the amount to be recorded. This amount is generally an objective and fair measure of the value of the goods or services purchased.
- <u>2.</u> <u>Business Entity</u>: Accounting and financial statements are based on the concepts that (1) each business is a business entity that maintains its own set of accounts, and (2) these accounts are separate from the other financial interests of the owners. Recording a business activity separately from the owner's personal affairs allows a reasonable determination of the property's profitability. Not only does separate recording provide excellent information for managing the business, it is also necessary for properly filing tax returns. Whether the hospitality business is organized as a sole proprietorship partnership, a corporation, separate tax forms or portions of forms must be filed for the business.
- 3. Continuity of the Business Unit (Going Concern): According to the continuity of the business unit principle, in preparing the accounting records and reports, it is assumed that the business will continue indefinitely, and that liquidation is not a prospect in other words, that the business is a going concern. This assumption is based on the concept that the real value of the hotel or motel is its ability to earn a profit, rather than the value its assets would bring in liquidation. According to this concept, the market

value of the property and equipment need not to appear on the financial statements, and prepaid expenses are considered assets. If there is a **reasonable chance the hospitality property may be unable to continue operations** in the **near future**, allowance for this future event **should be reflected in the financial statements**. This may be best accomplished by reducing asset values to their market values.

- <u>4.</u> <u>Unit of Measurement</u>: The financial statements are based on transactions expressed in monetary terms. The monetary unit is assumed to represent a stable unit of value so that transactions from past periods and the current period can be included on the same statement.
- <u>5.</u> <u>Objective Evidence:</u> Accounting transactions and resulting accounting records should be based as much as possible on **objective evidence**. Generally, this evidence is an invoice or a canceled check. However, **estimates must be assumed in the absence** of such objective evidence.
- 6. Full Disclosure: The financial statements must provide information on all the facts pertinent to the interpretation of the financial statements. This full disclosure is accomplished either by reporting the information in the body of the financial statements or in the footnotes to the financial statements. Footnote disclosure might include the accounting methods used, changes in the accounting methods, contingent liabilities, events occurring after the financial statement date, and unusual and nonrecurring items.
- <u>7.</u> <u>Consistency:</u> Several accounting methods are often available for reporting a specific kind of activity. Management selects are the most appropriate under the circumstances. For example, there are several ways to determine inventory values, and there are several methods of depreciating fixed assets. The consistency principle requires that **once an accounting method has been adopted, it should be followed from period to period**

unless a change is warranted and disclosed. The consistency principle allows a user of financial information to make **reasonable comparisons between periods**. Without consistent accounting, trends indicated by supposedly comparable financial statements might be misleading. When it becomes **necessary to change** to another method, the change **must be disclosed** and the monetary effect on earnings on the balance sheet must be reported.

- 8. Matching: The matching principle refers to relating expenses to revenues. For example, suppose that a hotel purchases a computerized reservation system that will benefit the hotel for several years. The cost is therefore recorded as a fixed asset and the cost of the system is written off over the system's life. The results is a partial write-off of the cost of the fixed asset each year against the revenues generated in part by using the system. This process is referred to as matching and is the basis for adjusting entries at the end of each accounting period. The matching principle is used when transactions are recorded on an accrual basis rather than a cash basis.
- <u>9.</u> <u>Conservatism</u>: The conservatism principle calls for recognizing expenses as soon as possible but delaying the recognition of revenues until they are ensured. The practical result is to be conservative (low) in recognizing net income in the current year. It is not proper to deliberately understate net income; however, many accountants wish to be cautious in recognizing revenues and "generous" in recognizing expenses. Conservatism is apparent in the valuation of inventory at the lower of cost or current market value and the recognition of nonrefundable deposits for future banquets as a liability until the banquet is catered.
- 10. Materiality: According to the materiality principle, events or information must be accounted for if they "make a difference" to the used of the financial information. An item is material in comparison to a standard. The materiality principle is often applied to fixed assets. Tangible items with useful lives beyond one year are commonly

recorded as fixed assets. However, **when such items cost less than a certain amount** (specified by the board of directors of the purchasing organization), they are expensed because the cost is considered immaterial. When a hospitality property provides footnotes to supplement the body of its financial statement, only material or potentially material items are presented.

11. Revenue Recognition: The revenue recognition principle is used to determine when revenues are recognized as well as the amount to be recorded. Revenues should be recognized when earned, regardless of when the cash is received. The amount of revenue to record depends on whether the hotel is an agent, or the principal is the transaction. If the hotel is acting as the agent, it records the net revenue; if the hotel is the principal, it records the gross revenue.

1. Financial Management

Areas:

<u>Financial Management</u> - Organizing, recording, analyzing, interpreting, summarizing, and reporting financial information in ways that are meaningful for owners, managers, and other internal users and for lenders, government agencies, and other external users. Also referred to as accounting.

Bookkeeping - **Analyze and record transactions**. In very large firms, they may handle only one type of transaction, such as sales, accounts receivable collections, or payroll. – it is about registering the past but also related to future (budget, forecast, real).

<u>Transaction</u> – example: you pay the payroll to the employees, when you receive money, when you pay bills.

Even when there's only communication and no proof we have to bookkeep it.

Bad debt – a loss (when a client won't pay you) – even this we have to register.

Managerial Accounting - Using **historical and estimated financial information** to help managers plan for the future. The major focus is on the future. This helps companies to set goals, the analysis is usually horizontal.

Industry Key players: (that will be interested in reading the annual report)

<u>**Owners**</u> - Those who have **invested** in the business. Owners may include one person in a sole proprietorship, two or more people in a partnership, or up to thousands of people in a corporation. All owners want to know how their investment is doing.

<u>Boards of directors</u> - large luxury firms may have corporate stockholders who elect persons to represent them in the management of the business. They need accounting

information to evaluate the effectiveness of the managers who operate their brand. – they don't need to have a share to be part of the board, they take decisions and take part in the most important decisions.

<u>**Creditors**</u> - Those who lend money (lenders) or provide products and/or services (suppliers). – not only money but also assets.

Annual Report – not everything is related to finance, it also presents KPI's, future risk (challenges), sustainability reports, future company goals, in terms of budgeting and forecasting those informations can't be released it is confidential. Some companies present it as a consolidation of different brands (LVMH – 75 brands consolidation, but then LV also presents its own report).

- A report **issued annually** by a corporation to its stockholders.
- Contains basic financial statements as well as management's analysis of the firm's past operations and prospects.
- Published in company's webpage (**public**)
- A financial statement is a report included in the annual report that shows the financial activities and performance of a business. It is used by lenders and investors to check a business's financial health and earnings potential.

Profit margin = Net Income / Revenue - Profit margin is the measure of your business's profitability. It is expressed as a percentage and measures how much of every dollar in sales or services that your company keeps from its earnings. Profit margin represents the company's net income when it's divided by the net sales or revenue. – We can sell a lot and not be profitable, so this is what is going to tell us if the business is profitable or not.

Budget vs forecast - (both are predictions, you have to imagine, they are based on what you think, they go together, not aligned but together) Companies' want to plan and set goals for the future, you want to know how much you're going to sell, you aim big, you want to guess)

Companies prepare budgets after summer (august-october) and the big ones do it for 5 the next 5 years and all numbers are not true so you just estimate and guess. You can budget anything (average payroll per year, average basket). They are never shown in a annual report. These two can even be done for example according to the weather (Starbucks example/shopping centers).

Both are predicting the future – you can predict PNL, KPI, salaries, training expenses, we can predict anything but when?

Forecast – this is a prediction that is done more frequently eg. every single month. Once you are closer to that week or month you put it in a more accurate way, with actual data. For example, you receive a weekly forecast so you can manage according to it. It is done when the company has more information on what is going to happen in the near future. (**Rolling forecast**) as you move: you use the information of the previous month to predict the next month.

Budgets – predictions that companies do for the next 5 years, usually done in September - objectives that the store must achieve, it is the goal. Once you do a budget you cannot touch it.

Companies can		Budgeting	Forecasting
compare : budget,		A budget gives you an overview of the planned	Forecasting is a well-thought-out projection of
forecast and the		time.	business results for a future span.
real value.		The budgets are created annually by Financial Year.	Financial forecasting is prepared for both the short-term and long-term.
		The budget is considerably more static than financial forecasting.	Financial forecasting experiences lots of adjustments based on the situation and economic condition of the business.
		With the help of budgeting, you set a target for your business cost or expense.	With the financial forecasting, you will set up any targets
		Focuses more on your company's fixed target that a company wants to achieve.	Forecasting is just an estimation where a company may or may not achieve
		Budgeting is a tactical tool, assist you in business operation management	It is a type of strategic tool and helps you more to estimate the company's future performance

Financial Statements

- The balance sheet
- The income statement
- The statement of cash
- The statement of stockholders' equity

What is a Balance Sheet?

- One of the three **major** financial statements.
- Prepared at the **end** of each accounting period (usually at the end of the fiscal year –
 December 31)
- **Static** picture of the company financial position
- Provides information about company's financial health (measured by assessing how likely the company is able to pay the obligations = liabilities they have in the short term with current assets (cash, bank account) that they own and be able to survive continue to run operations)– accounting equation : assets = liabilities + equity.
- Reflects what company **owns and owes**.
- Also called Statement of Financial Position
- · Information to Managers, Owners and Creditors



Shareholders Equity – how much the shareholders will receive in case that all the assets of the company were sold and all liabilities were paid off.

Mortgage – the money you ask the bank to pay a fixed asset.

Liquidity (how fast you can convert the assets into cash – it also has **Goodwill** – the reputation and recognition of a company, it can be calculated – **intangible** value that company has: it is a fixed asset) vs **Payability**

(Goodwill refers to the intangible assets that represents the reputation, brand image, customer loyalty, and other non-quantifiable factors that contribute to the overall value of the business. In the context of a luxury firm, goodwill has particular significance due to the premium and exclusivity associated with luxury brands.)

Positioning – the place a company occupies in the clients minds.

Information in the Balance Sheet

- Cash on hand
- Total Debt payable
- Internal / external financing
- Money owed by guests, pending to be received
- Taxes owed
- Ability to pay its current debt (Net Working Capital)

Assets

Current Assets

- Cash in Hand
- Cash in Bank
- Accounts Receivable (A/R)
- Inventories
- Prepaid expenses (insurances, rent, taxes, maintenance...)
- Certificates of deposit

Fixed Assets

- Land
- Building
- Equipment (Furniture, vehicles)

Total Assets = Current Assets + Fixed assets

Classification of assets

1. Convertibility: This describes whether the asset can be easily converted to cash.

<u>Current assets</u> (Short term): Assets which can be easily converted into cash or cash equivalents within a duration of one year. Examples include short-term deposits, marketable securities, and stock.

<u>Fixed assets</u>: Assets which cannot be easily or readily converted to cash. For example, buildings, machinery, equipment, or trademarks

2. Physical existence: Assets can be of two types, tangible and intangible.

<u>Tangible assets</u>: Assets which you can see and feel, like office supplies, machinery, equipment, and buildings.

Intangible assets: Assets which do not have physical existence, like patents, brands, and copyrights.

3. Usage: Assets can be classified as operating and non-operating assets.

<u>Operating assets</u>: Assets which are necessary to conduct business operations. For example, buildings, machinery, and equipment.

<u>Non-operating assets</u>: Short-term investments or marketable securities that are not necessary for daily operations.

Liabilities

Current Liabilities (short term)
 Accounts Payable (A/P) Loan Dividends Payable Accrued Expenses Taxes Payable
Non current (long term)
Long-Term LoanMortgage Loan Payable
Total Liabilities = Current Liabilities + Long-Term Liabilities

Classification of liabilities

<u>Current liabilities</u>: These include debts or obligations that have to be fulfilled within a year. Including accounts payable, interest payable, and short-term loans.

<u>Non-current liabilities</u>: These are debts or obligations for which the due date is more than a year. Non-current liabilities, also called long-term liabilities. Include bonds payable, long-term notes payable, and deferred tax liabilities

Equity

Represents the equity or the interest of the owners/shareholder in the company. Difference between total assets and total liabilities.

What shareholders will receive in case that all assets of the company were sold, and all liabilities were paid off.

Limitations of the Balance Sheet

- Less useful than IS
- Assets at their historical cost (Based on cost principle)
- Static. doesn't capture dynamic changes that occur during the accounting period.
- Lack of timing information
- Not all investments are shown. Fail to reflect human resource investment (recruiting and training)
- No information about company's profitability ability to generate income
- Based on judgments (subjectivity estimating the useful life of assets)

Purposes of the Balance Sheet

- Financial position at a given date.
- Reflects, or tests and proves the fundamental accounting equation
- Analysis of several balance sheets for several periods will yield trend information that is more valuable than single-period figures.



Reserves (Retained Earnings)
Profit/Loss
Common stock
Preferred stock
Dividends

Income Statement

Reflects the results of operations for and during the accounting period.

Also called: The statement of Earnings, The Profit and Loss statement, The statement of Operations

Prepared weekly / monthly / quarterly / annually.

Structure and information it shows

Sales revenue

Sales

Expenses :

- · Cost of goods sold
- Salaries
- Taxes
- Marketing
- Utilities
- Insurances
- Rent
- Depreciation

Income Statement shows

Profit /Loss (bottom line) Sales of the period Labour cost Cost of Sales % profit out of Revenue

Example

Income Statement (numbers in thousands)

Revenue	\$ 5,000
Cost of goods sold (COGS)	\$ 2,000
Gross income	\$ 3,000
Expenses	
Marketing & promotions	\$ 300
General & administrative	\$ 400
Depreciation	\$ 100
Interest	\$ 200
Total expenses	\$ 1,000
Earnings before tax	\$ 2,000
Taxes	\$ 500
Net income	\$ 1,500

Example – Hospitality – USALI

Operating Revenue	
	Rooms
	F&B
	Other operated department
	Miscellaneous Income
Total Operating Revenue	
Departmental expenses	
	Rooms
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	Rent
	Property and other taxes
	Insurance
	Other
Total non-operating income a	nd expenses
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	Interest
	Depresiation
	Amortization
	Amonization
GROSS PROFIT	
Income taxes	
NET PROFIT	

Cost of Goods Sold (COGS) - aggregates the direct costs associated with selling products to generate revenue. This line item can also be called Cost of Sales if the company is a service business.

COGS = Beginning Inventory + Purchases in the Current Period – Ending Inventory

- BI The amount of inventory rolled over (leftover) from the prior period
- P- Cost of purchases made during the current period

- EI – Inventory not sold during the current period

COGS

Retail store that starts off Year 1 with \$25 million in beginning inventory. Throughout Year 1, the retailer purchases \$10 million in additional inventory and fails to sell \$5 million in inventory.

COGS in Year 1= \$25m + \$10m - \$5m = \$30m

COGS is then linked back to the gross profit calculation.

Revenue \$ 80m - COGS \$ 30m Gross Profit= \$ 50m

Gross profit margin = (total revenue - cost of goods sold) / total revenue x 100

Cashflow

Cashflow: is another financial statement, where you can see totally different information from what we can see in the other two – they are usually done monthly. Big brands are forces to publish this.

Cash INFLOWS: Sources of money

Cash OUTFLOWS: Uses of money

Information it shows

- How much cash was provided by operations? Cash from Operations INFLOW
- What amount of property and equipment was purchased during the year? Cash from Investing Act - OUTFLOW
- How much **long-term debt** was **borrowed** during the year? Cash from financial act:
 INFLOW

- What amount of **funds** was raised through the **sale of capital stock**? Cash from financial act when there's issue shares INFLOW
- What amount of **dividends was paid** during the year? Cash from financial act OUTFLOW
- How much was **invested in long-term investments** during the year? Cash from Investing act: Bonds (long-term investments)

SCF Classification

Identify and reports cash receipts and cash disbursements for three specific areas of activities

- Cash flow from **Operating** Activities
- Cash Flow from **Investing** Activities
- Cash Flow from **Financing** Activities

Operating Activities

This category includes cash transactions related **to revenues and expenses**. Interest expects – as it is a cost for us we have to include it, it is considered because we can only run operations when we pay this.

- Revenues (cash inflows) include sales of food, beverages, and other goods and services to lodging guests, as well as interest and dividend income.
- **Expenses** (cash outflows) are for operational cash expenditures, including payments for salaries, wages, taxes, supplies an so forth. Interest expense is also included here.

Investing Activities

These are cash flows from the acquisition and disposal of all noncurrent assets, especially property, equipment, and investments. (Short-term investments are also included).

Financing Activities

Relate to **cash flows** from **the issuance and retirement of debt** and the issuance and repurchase of **capital stock**.

Cash **inflows** include cash **received** from issues of stock and both short-term and long-term borrowings. Cash **outflows** include **repayments of loans and payments to owners** for both **dividends** and **any re-purchase of stock**.

SCF Purpose: Use the past to predict the future

- Organization's ability to generate positive future Net Cash Flows
 <u>Investors</u> → when will they receive their dividends? (investors will always be concerned if they will receive enough cash)
- 2. Firm's ability to meet its obligations

<u>Suppliers</u> \rightarrow Does the firm have little likelihood of being able to pay its bills? They will always be worried if we're going to be able to pay them or not

3. Assess the difference between enterprise net income and cash receipts and disbursements. Which are the sources of cash?

<u>Investors & Creditors</u> \rightarrow Prefer enterprises that are able to generate cash from operations than from financing or investing activities. We will be able to see which one is profit and which one is cash.

4. Assess the effect of cash and non-cash investing and financing

<u>Investing</u> \rightarrow Activities related to acquisition and disposition of noncurrent assets <u>Financing</u> \rightarrow Borrowing and Payment of debt & Sales and Purchase of capital stock. Non-cash expenses: gain or losses related to fixed assets, amortization

Management use of SCF to:

- Assess the firm's liquidity
- Assess its financial flexibility (with suppliers, clients, it's all about negotiations)
- Determine its dividend's policy by looking at the cashflow if there is enough cash to pay the dividends
- Plan Investment and financing needs in terms of fixed or current assets as well

Investors and Creditors (they are external) use SCF to:

- Assess the firm's ability to pay its **bills**
- Assess the firm's ability to pay its **dividends**
- Assess the need for additional **financing as debt and selling capital stock**.

2022	2023	2024	2025	2026	- OA
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Beginning cash +

CFFO + CFIA -CFFA -

Ending cash balance +

You can forecast a cashflow as any financial statement.

Methods to prepare SCF

Direct method:

- Easier to read but harder to prepare
- Shows cash receipts from sales and cash disbursements for expenses
- Requires that each item of the IS be converted from an accrual basis to a cash basis
- FASB prefers the direct method, but companies use the indirect.

Indirect method

- 1) Starts with the **net income**
- Add back **noncash expenses** (depreciation, amortization or gain or loss on NCA Non Current Assets)
- 3) Adjust movements on WC Working Capital: Increase/decrease in inventory, Increase/decrease receivables, Increase/decrease payables

Net cash flow for operating activities

Working Capital = Current Assets – Current Liabilities = WC = CA - CL

Inflows and outflows of cash

Inflows (Sources)

- Decreases in any asset
- Increases in any liability because we haven't paid the liabilities yet so we still have the cash, so it is considered a cashflow
- Net profits after taxes
- Depreciation and other non cash charges in a cash flow we start with profit and finish with cash, so if we add the depreciation we will be closer to the real cash amount. As we subtracted the Depreciation in the P&L – Profit and Loss Stantement, the profit result will be with the depreciation subtracted, so when doing the cashflow, we have to add it again for a more accurate result
- Sale of stock

Outflows (uses)

- Increase in any asset
- Decrease in any liability
- Net loss after taxes you are losing the cash from your P&L
- Dividends paid
- Repurchase or retirement of stock

Profit does not equal cash flows

Positive net income and negative cash flow

Net loss and positive cash flow

REVENUE – EXPENSES = PROFIT / LOSS

Earned revenue ≠ cash in

	CASH METHOD	ACCRUAL METHOD
REVENUE IS RECOGNISED	WHEN CASH IS RECEIVED	AS IT'S EARNED
EXPENSES ARE RECORDED	WHEN CASH IS PAID OUT	AS THEY ARE

Incurred Expenses ≠ cash out

Depending on the type of company each of the Methods is used. Bigger companies usually use the Accrual Method. Eg: Les Roches paying Theresa Barnabe, they may pay everything in September, but it is registered along the nine months of the program.

Cash conversion cycle (**CCC**) – its about the amount of time that it takes to get the money. The higher the number of days we can negotiate with a supplier to pay, better for us, because sometimes clients don't pay us right there.

Liquidity Ratios

Types of Ratios

Ratios are generally classified by the type of information that they provide. Ratio: relationship between two numbers Five common ratio groupings are as follows:

- Liquidity
- Solvency
- Profitability
- Activity
- Operating

Liquidity: The ability of a company to meet its <u>current obligations</u> is important in evaluating its financial position.

- Current ratio
- Acid-test ratio
- Working capital turnover ratio

Current Ratio: It is the commonest liquidity ratio, which is the ratio of total current assets

to total current liabilities, and it is expressed as a coverage of so many times.

ASSETS	20X0	20X1	20X2	LIABILITIES AND OWNERS' EQUITY	20X0	20X1	20X2	
Current Assets:				Current Liabilities:				
Cash	20,000	21,000	24,000	Accounts Payable	60,000	53,500	71,000	
Short-Term Investments	60,000	81,000	145,000	Accrued Income Taxes	30,000	32,000	34,000	
Accounts Receivable (net)	100,000	90,000	140,000	Accrued Expenses	70,000	85,200	85,000	
Inventories	14,000	17,000	15,000	Current Portion of Long-Term Debt	25,000	21,500	24,000	
Prepaid Expenses	13,000	12,000	14,000	Total Current Liabilities	185,000	192,200	214,000	
Total Current Assets	207,000	221,000	338,000	Long-Term Debt:				
Fixed Assets				Mortgage Payable	425,000	410,000	400,000	
Investments	43,000	35,000	40,000	Deferred Income Taxes	40,000	42,800	45,000	
Property and Equipment:				Total Long-Term Debt	465,000	465,000	445,000	
Buildings	810,000	850,000	880,000	Total Liabilities	650,000	645,000	659,000	
Furniture and Equipment	170,000	190,000	208,000	Owners' Equity:				
Land	68,500	68,500	68,500	Common Stock	55,000	55,000	55,000	
Less: Accumulated Depreciation	(260,000)	(320,000)	(381,000)	Paid-in Capital in Excess of Par	110,000	110,000	110,000	
	788,500	788,500	775,500	Retained Earnings	235,000	255,000	352,300	
Other Assets-Operating Eq.	11,500	20,500	22,800	Total Owners' Equity	400,000	420,000	517,300	
Total Assets	<u>\$ 1,050,000</u>	<u>\$ 1,065,000</u>	<u>\$ 1,176,300</u>	Total Liabilities and Owners' Equity	<u>\$ 1,050,000</u>	<u>\$ 1,065,000</u>	<u>\$ 1,176,300</u>	

$Current Ratio = \frac{Current Assests}{Current Liabilities}$

For Example:

Current assets = \$338,000

Current Liabilities = \$214,000

Current Ratio(20X2) = $\frac{338,0000}{214,000}$ = 1,58 times or 1,58 to 1 (IS NOT EUROS!! Is a ratio) – For every 1 euro of Current Liabilities we have 1,58 of Current Assets.

This result shows that **for every \$1 of current liabilities**, **the hotel has \$1,58 of current assets**. Thus, there is a cushion of \$58 for every dollar of current debt. A considerable

shrinkage of inventory and receivables could occur before the hotel would be unable to pay its current obligations.

Calculate and compare the ratio in 20X1 Knowing that:

Current assets = \$221,000

Current Liabilities = \$192,200

Current Ratio =
$$\frac{221,000}{192,200}$$
 = 1,15 times or 1,15 to 1

This result shows that for every \$1 of current liabilities, the hotel has \$1,15 of current assets.

Thus, there is a cushion of \$0,15 for every dollar of current debt.

A considerable shrinkage of inventory and receivables could occur before the hotel would be unable to pay its current obligations.

An increase in the current ratio from 1,15 to 1,58 within one year is considerable and would no doubt please creditors.

However, would a current ratio of 1,58 please all interested parties?

Owners & stockholders normally <u>prefer a low current ratio</u> to a high one (because stockholders view investments in most current assets as less productive than in NCA)

Since stockholders are primarily concerned with profits, they prefer a relatively low current ratio.

Creditors normally <u>prefer a relatively high current ratio</u> as this provides assurance that they will receive timely payments.

Acid Test: It is a more stringent test of liquidity.

The acid-test ratio measures liquidity by **considering only "quick assets" or cash and near cash assets**.

Excluded from current assets are inventories and prepaid expenses in determining the total quick assets. In many industries, inventories are significant and their conversion to cash may take several months.

Acid Test Ratio = Current Assests – Current Assets with low liquidity Current Liabilities

(Current Assets with low liquidity = Inventories + Prepaid Expenses)

The *difference* between the current ratio and the acid-test ratio is for the most part a function of the amount of *inventory* relative to current assets. But also *prepaid expenses* are excluded in this ratio, because we cannot get this money back to pay the debts.

For example in 20X2

Current assets – Assets with low liquidity= 338,000- 15,000-14,000 = \$309,000

Current Liabilities = \$214,000

Acid Test Ratio =
$$\frac{309,000}{214,000}$$
 = 1,44 times or 1,44 to 1

Meaning: For every 1€ of Current Liabilities, the firm has 1,44€ of Current Assets with **high liquidity**. After paying all Current Liabilities with all high liquidity assets, they still have a cushion of 0,44 cents for every 1€ of Current Liabilities. They will have for sure liquidity issues.

This result shows that for every \$1 of current liabilities, the hotel has \$1,44 of current assets with quick cash conversion, i.e. with high liquidity. Thus, there is a cushion of \$0,44 for every dollar of current debt.

In other words, if the hotel gets **ALL** the cash of the short investments and the cash from the accounts receivable, and uses it for paying **ALL** the short-term debt, still the 44% will be left.

Conclusion: in 20X2 do not have liquidity issues.

If the ratio was **below 1**, that would mean that **the hotel would not have cash on hand enough to pay the short-term debt**. We would say that the hotel would have **liquidity issues.**

Working Capital Turnover Ratio: The Working Capital Turnover Ratio compares Working Capital to Revenue.

For most business, the higher the revenue, the higher the greater the amount of working capital required.

Thus, as the revenue rises, the working capital is expected to rise also.

Working Capital Turnover = <u>
Revenue</u> <u>
Average Working Capital</u>

Average Working Capital = Working capital year 1 - Working capital year 0

Working Capital = Current Assets - Current Liabilities

We can see the Revenue in the P&L.

Example:

Revenue Year 20X2 = 1,352,000

Year	Current Assets	Current Liabilities	Working Capital
20X1	221,000	192,200	28,800
20X2	338,000	214,000	124,000

Average Working Capital =
$$\frac{124,000 + 28,800}{2} = 76,400$$

Working Capital Turnover Ratio $= \frac{1,352,000}{76,400} = 17,70$ times

A working capital turnover of 17,70 means that the working capital was "used" 17,70 times during this year. – According to this ratio we can say that the company has used the working capital money (the difference between current assets and current liabilities), 17,7 times during one year. This relates our revenue to our working capital.

Working capital: How much the company can use – how much they have in terms of assets after paying short term liabilities. Current assets – Current Liabilities) If the results of different years are positive, we can do the average between the two.

Everything else being the same, **the lower the current ratio**, **the greater the working capital turnover ratio**.

Therefore, those establishments in segments of the hospitality industry with virtually **no credit sales and low level of inventory** will generally have an **extremely high working capital ratio**.

• **Owners** prefer this ratio to be high, as they prefer low current ratio, thus low working capital.

• **Creditors** prefer a lower working capital turnover ratio than owners, because they prefer a relatively high current ratio. (banks, suppliers)

• **Management's** preferences fall between owners and creditors. Management desires to maintain an adequate amount of working capital to cover unexpected problems, yet management also desires to maximize profits by using available funds to make long term investments.

Solvency Ratios

Solvency ratios measure the degree of debt financing by a hospitality enterprise and are partial indicators of establishment's' ability to meet its **long-term debt obligations**.

This **ratios reveal the equity cushion** that is available to absorb any operating losses.

Primary users of this ratios are outsiders, especially lenders, who generally prefer less risk rather than more risk.

Owners like to use debt instead of additional equity to increase to increase their return on equity already invested.

=

Debt to Equity Ratio

ASSETS	20X0	20X1	20X2	LIABILITIES AND OWNERS' EQUITY	20X0	20X1	20X2	
Current Assets:				Current Liabilities:				
Cash	20,000	21,000	24,000	Accounts Payable	60,000	53,500	71,000	
Short-Term Investments	60,000	81,000	145,000	Accrued Income Taxes	30,000	32,000	34,000	
Accounts Receivable (net)	100,000	90,000	140,000	Accrued Expenses	70,000	85,200	85,000	
Inventories	14,000	17,000	15,000	Current Portion of Long-Term Debt	25,000	21,500	24,000	
Prepaid Expenses	13,000	12,000	14,000	Total Current Liabilities	185,000	192,200	214,000	
Total Current Assets	207,000	221,000	338,000	Long-Term Debt:				
Fixed Assets				Mortgage Payable	425,000	410,000	400,000	
Investments	43,000	35,000	40,000	Deferred Income Taxes	40,000	42,800	45,000	
Property and Equipment:				Total Long-Term Debt	465,000	465,000	445,000	
Buildings	810,000	850,000	880,000	Total Liabilities	650,000	645,000	659,000	
Furniture and Equipment	170,000	190,000	208,000	Owners' Equity:				
Land	68,500	68,500	68,500	Common Stock	55,000	55,000	55,000	
Less: Accumulated Depreciation	(260,000)	(320,000)	(381,000)	Paid-in Capital in Excess of Par	110,000	110,000	110,000	
	788,500	788,500	775,500	Retained Earnings	235,000	255,000	352,300	
Other Assets-Operating Eq.	11,500	20,500	22,800	Total Owners' Equity	400,000	420,000	517,300	
Total Assets	\$ 1,050,000	\$ 1,065,000	\$ 1,176,300	Total Ligbilities and Owners' Equity	\$ 1,050,000	\$ 1,065,000	\$ 1,176,300	

It is the **commonest** solvency ratio, which is the ratio of **total assets divided by total liabilities**.

Solvency Ratio = $\frac{Total Assets}{Total Liabilities}$

For Example, solvency ratio in 20X2

Total assets = \$1,176,000

Total Liabilities = \$659,000

Solvency Ratio $20X2 = \frac{1,176,300}{659,000} = 1,78 \text{ or } 1,78 \text{ times}$

The explanation is similar than previous ratios, the hotel has \$1,78 of assets for each \$1,00 of Liabilities, or a **cushion of \$0,78**.

In case the **assets lose value**, there is a **range up to 43,8%** $\binom{0,78}{1,78}$ and **creditors could still be fully paid**.

Exercise

Calculate the ratio in 20X1 and compare it with 20X2. Which year is more convenient for creditors?

Solvency Ratio 20X1 = $\frac{1,065,000}{645,000}$ = 1,65 or 1,65 times

The solvency ratio from 20X2 would be considered more favorable from the perspective of creditors, because there is a bigger cushion to pay the **long-term debt**.

In case my assets lose value, with this ratio we are going to evaluate the future. The higher the percentage, the better.

• **Owners** prefer to use debt to finance the assets in order to maximize their return on their investments.

This occurs as long as the earnings from the creditor-financed investment exceed the cost of the establishment's borrowing.

- <u>**Creditors**</u>, on the other hand, prefer a high solvency ratio, as it provides a greater cushion should the establishment experience losses in operations.
- **Managers** must satisfy both owners and creditors.

Debt to Equity: This ratio indicates the establishment **ability to withstand adversity and meet its long term obligations**.

$$Debt - Equity Ratio = \frac{Debt}{Total Owner's Equity}$$

For Example, debt-equity ratio in 20X2

Total Liabilities = \$659,000

Total Owners' equity = \$517,000

Solvency Ratio = $\frac{659,000}{517,300}$ = 1,27 to 1

For every \$1 of owner's net worth, there is \$1,27 of debt, i.e. the company owed creditors \$1,27

Exercise:

Calculate the ratio in 20X1 and compare it with 20X2. Which year is more convenient for creditors?

Total Owners' equity = \$420,000

Total Liabilities = \$645,000

Solvency Ratio =
$$\frac{645,000}{420,000} = 1,54 \text{ to } 1$$

For every \$1 of owner's net worth, there is \$1,54 of debt, i.e. the company owed creditors \$1,54

Thus, relative to its net worth, the company reduced its debt from 20X1 to 20X2.

- **Owners** prefer to use debt to finance the assets in order to maximize their return on their investments. They don't like risk; they prefer to use debt.
- <u>**Creditors**</u>, generally would favor a lower debt-equity ratio because their risk is reduced as net worth increases relative to debt.
- <u>Managers</u> as with the solvency ratio, prefers a **middle position** between creditors and owners. They have to balance the ratio to please everyone.

Profitability Ratios

Profitability ratios, as their name suggests, **measure the organization's ability to deliver profits.**

Profit is necessary to give investors the return they require, and to provide funds for reinvestment in the business.

- Profit Margin
- Return on sales (ROS)
- Return on Equity (ROE)
- Earnings Per Share (EPS)

ASSETS	20X0	20X1	20X2	LIABILITIES AND OWNERS' EQUITY	20X0	20X1	20X2	
Current Assets:	I			Current Liabilities:				
Cash	20,000	21,000	24,000	Accounts Payable	60,000	53,500	71,000	
Short-Term Investments	60,000	81,000	145,000	Accrued Income Taxes	30,000	32,000	34,000	
Accounts Receivable (net)	100,000	90,000	140,000	Accrued Expenses	70,000	85,200	85,000	
Inventories	14,000	17,000	15,000	Current Portion of Long-Term Debt	25,000	21,500	24,000	
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Total Current Assets	207,000	221,000	338,000	Long-Term Debt:				
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Buildings	810,000	850,000	880,000	Total Liabilities	650,000	645,000	659,000	
Furniture and Equipment	170,000	190,000	208,000	Owners' Equity:				
Land	68,500	68,500	68,500	Common Stock	55,000	55,000	55,000	
Less: Accumulated Depreciation	(260,000)	(320,000)	(381,000)	Paid-in Capital in Excess of Par	110,000	110,000	110,000	
	788,500	788,500	775,500	Retained Earnings	235,000	255,000	352,300	
Other Assets-Operating Eq.	11,500	20,500	22,800	Total Owners' Equity	400,000	420,000	517,300	
Total Assets	\$ 1,050,000	\$ 1,065,000	<u>\$ 1,176,300</u>	Total Liabilities and Owners' Equity	<u>\$ 1,050,000</u>	\$ 1,065,000	\$ 1,176,300	

Profit Margin: It measures the **ability to generate profits on sales**. We are talking about our result in the P&L divided by the total amount of money the company generated. Profitability of a company: the ability of a company to generate profit or sales and control expenses - how much is a company able to keep from sales as net income and as a percentage. Thanks to this ratio we can analyze **P&L**. We are able to see if the managers are able to control the business' expenses.

It's an overall measurement of **management ability to generate sales and control the** expenses.

$$Profit Margin = \frac{Net \, Income}{Total \, Revenue}$$

Calculate the Profit Margin in 20x1 and 20x2 and compare them. – we take the numbers from the P&L – Income statement.

Profit Margin year $1 = \frac{141,300*}{1,300,000} = 10,87\%$ Profit Margin year $2 = \frac{146,700*}{1,352,000} = 10,85\%$

What does that mean? Since the profit margin decreased a little bit? It depends on the net income.

The higher the profit margin the better BUT doesn't mean anything, we can have a higher PM%. Because the performance of a business may have a higher net income and that is better than having a higher profit margin.

If the Profit Margin is lower than expected, then expenses and other areas should be reviewed.

- Poor pricing and low sales volume could be contributing to the low ratio.
- To identify the problem area, management should analyze both the overall Return on Sales and the operated departmental margins.
- If the operated departmental margins are satisfactory, the problem would appear to be with overhead expense

Return on Sales

Return on sales looks at EBITDA earned as a percentage of revenue.

As well know as Operating Margin.

 $ROS = \frac{EBITDA}{Total Revenue}$

Again, in simple terms, the **higher the better**.

Poor performance is often explained by prices being **too low** or costs **being too high**.

(if we don't find EBITDA, we can use another line from the income statement – Total departmental income, EBIT, GOP – Any of the subtotals)

Example:

ROS 20x1 and 20x2 and compare them

Return on Sales year $1 = \frac{349,600*}{1,300,000} = 26,89\%$ *Return on Sales year* $2 = \frac{365,500*}{1,352,000} = 27,03\%$

If the Return on Sales is lower than expected:

- Expenses and other areas should be reviewed.
- Poor pricing and low sales volume could be contributing to the low ratio.

To identify the problem area, management should analyze both the overall Return on Sales and the operated departmental margins.

It is increasing, meaning that the performance of the company is improving.

In which cases could it **decrease**? Meaning in which cases could the **ROS be low**:

- When Total Revenue > EBITDA
- When EBITDA is close to zero

What would be strategies to battle this? – increase prices because Total Revenue = Price x Quantity – as it is hard to increase the sales quantity, we can increase the price.

(In luxury we can increase the price as much as we want).

Return on Equity

By similar logic, if we wished to calculate **return on ordinary shareholders funds** (the return to equity holders), we would use profit after interest and tax divided by total equity).

$$ROE = \frac{Net \, Income}{Total \, Equity}$$

Again, in simple terms, **the higher the better**.

Net income – in the P&L

Total Equity - Balance sheet (total owner's equity)

Example:

Calculate the Return on Equity in 20x1 and 20x2 and compare them

Return on equity $20X1 = \frac{141,300}{420,000} = 33,64\%$ *Return on Equity* $20X2 = \frac{146,700}{517,300} = 28,36\%$

In year 2 the Net Profit was higher, but, **because the owner's investment increased**, the ROE is **lower**. – when the denominator increases more than the nominator the number decreases.

Out of the equity provided by the shareholders, what is the return.

Earnings Per Shares (EPS)

The EPS calculation is a function of the capital structure of the hospitality enterprise.

If only common stock has been issued, (that is, there are no preferred stock), the EPS is determined by dividing net income by common shares outstanding:

$$EPS = \frac{Net \, Income \, *}{Nr. \, of \, Shares}$$

*or Net Profit

Again, in simple terms, the higher the better.

We can find this on google, we can search for the number of shares that a company has.

Examples:

EPS in 20X2 and 20X1 considering that the company has 10,000 shares.

EPS year $1 = \frac{141,300}{10,000} = 14,30 \in per share$ *EPS year* $2 = \frac{146,700}{10,000} = 14,67 \in per share$

In year 2 the company achieved **higher** earning per share than in year 1, therefore, at the first glance, **better**.

Stock Market (investors, stock exchange...) – not related to profitability

The **P/E** ratio is one of the most widely used by investors and analysts reviewing a stock's relative valuation. It helps to **determine whether a stock is overvalued or undervalued**. A company's P/E can also be benchmarked against other stocks in the same industry or against the broader market.

$$P/E = \frac{Share \ Price}{Earning \ per \ Share}$$

- The price-to-earnings (P/E) ratio is the proportion of a company's share price to its earnings per share.
- A high P/E ratio could mean that a company's stock is overvalued or that investors expect high growth rates. (you're paying more for something that is not that valuable)
- P/E ratios are most valuable when comparing similar companies in the same industry or for a single company over time.

Many investors say buying shares in companies with a lower P/E ratio is better because you are paying less for every dollar of earnings. A **lower P/E ratio** is like a lower price tag, making it **attractive to investors looking for a bargain**. In practice, however, there could be reasons behind a company's particular P/E ratio. For instance, if a company has a low P/E ratio because its business model is declining, the bargain is an illusion.

The result is not in numbers or euros!!! Some books say that from 10 to 20 is good. The theory can't be applied in some cases. Tesla case

For example: P/E ratio of 15 means that the company's current market value equals 15 times its annual earnings. Put literally, **if you were to hypothetically buy 100% of the company's shares, it would take 15 years for you to earn back your initial investment through the company's ongoing profits.** However, that 15-year estimate would change if the company grows or its earnings fluctuate.

<u>Vertical analysis:</u> Not comparing between years, but between the same year - we can say how much money each department is generating and the amount of money that each department is spending.

→ Exercise IS Vertical Analysis

<u>Horizontal analysis</u>: when you compare two consecutive years or from budget to real or from a company to another company.

→ Exercise BS Analysis Solution

Absolute and relative variation is something we have to do.

<u>Revenue Analysis</u> – 2 Exercises Variance Matrix

Working Capital and Cash Conversion Cycle

A study of working capital is important because of its close relationship to day-today operations. Working Capital Should be sufficient to conduct its business and meet emergencies without danger of financial disaster. (It is the first green or red light that we can check to understand the company's financial health).

Working capital = Current Assets

Net working capital = Current assets – Liabilities

In this topic we are talking about Balance Sheet, because CA and L are in the balance sheet.

Net Working Capital – tool that companies use to assess financial health of the business - linked to financial management (deep financial area it is all about deciding making, linked to decisions – managerial positions).

- Financial Management
- NWC= Current assets current liabilities
- NWC is a measure of a **company's liquidity and short-term financial health**.
- Ability: Allows us to see if we are able to payments to creditors (tax authority, bank, suppliers, government), salary paid to workers, purchase of raw material ...
- Challenges: to maintain an adequate working capital considering seasonality sometimes we need more current assets what is high season.

Classification of WC

 Positive Working Capital: This refers to the surplus of current assets over current liabilities. Also indicates that a company can fund its current operations and invest in future activities and growth. - **Negative Working Capital:** Negative working capital refers to the excess of current liabilities over current assets. **Low NWC** may indicate a risk of distress or default.





NWC=10

Even in situation 2 we have more CA than in situation 1, company's financial health is damaged. So we prefer to have situation 1.

Computation of Working Capital

- If **Current Liabilities exceed Current assets**, a net working Capital **deficit** occurs.
- Working Capital **cannot be manipulated** by loans from banks or extension of credit by suppliers.
- The **immediate availability** of **working capital** depends upon the composition of its current assets, especially cash, short term investments, and receivables.

	Company A		
Cash	100.000	50%	
Marketable Securities	25.000	12.5%	
Accounts Receivable	20.000	10.0%	
Inventories	40.000	20.0%	
Prepaid Expenses	15.000	7.5%	
Total Current Assets	200.000	100%	
Total Current Liabilities	100.000		
Working Capital	100.000		

<u>Classification of WC</u> – Companies have to deal with a cushion of working capital – it can't be the same in high season and low season – they have to see what they want to keep in high and low season – we need to adapt the working capital to the season specially in hospitality and retail. They have to state if it can fluctuate from 20 to 30 and if they can have negative capital in some months (maybe low season).

- **Permanent Working Capital:** The **minimum amount of working capital** which even required during the **dullest season** of the year is known as Permanent working capital.
- Temporary or Variable Working Capital: It represents the additional current assets required at different times during the operating year to meet additional inventory, extra cash, etc.

Adequate net Working Capital – most important slide!

- Allows the company to **operate more efficiently** because there are no delays in receiving goods or services.
- Permits the company to **pay all interest and debt when due**. (deadlines are also taken in consideration)
- Ability to face shocks and peak demand
- Enables the company to **extend credit** on open account to expand sales growth.
- **Higher liquidity**: Provides a **margin of safety** for the company during economic recessions, business is less dependent on external financing
- **Increases business value**, as firms generate more free cash flow, which results in higher business valuation company's value is affected by working capital
- Maintains the company's **good credit rating** studying the creditworthiness of individuals or companies (S&P, Fitch – Most famous companies for rating other companies)

Not good or bad – adequate or non adequate

Here we never talk about long term or solvency, it is always short-term and liabilities

We say that a company has an adequate working capital if they are able to operate normally – meaning that they have no problem paying short term debt on time (respecting the deadlines)

Factors affecting net working capital requirements

The hospitality industry, which is characterized by small inventories and minor sales on open account, can survive on smaller working capital than the manufacturing industry. (inventory is in Current Assets – so every time we touch inventory, we touch current assets)

The following are some **determinants** of working capital:

- Time from purchase of goods to sale (inventory turnover)
- **Credit policies** (receivables turnover) when we have stated with the creditors that we will give the money back

VAT Sales > VAT Purchases = Tax Debt VAT Sales < VAT Purchases = Tax Right

What is the Effect on working capital?

TRANSACTION	EFFECT ON WORKING CAPITAL
Purchased inventory for cash	No effect
Sold rooms for accounts receivable	Increase
Purchased land for cash	Decrease
Purchased suppliers to accounts payable	No effect
Sold used equipment for cash	Increase
Borrowed cash from bank payable in 2 years	Increase

Purchased Inventory for cash – meaning that we are paying the inventory (current assets) with our current assets (cash) so it will stay the same

- Sold rooms for accounts receivable **Account receivable Is a current asset** that is increasing we don't have the money but we have the right to ask for it; the rooms revenue goes to the P&L as revenue. So it means that will increase.
- Purchased land for cash Cash is from current assets that are going to decrease, the land is a non-current asset as it is a fixed asset that doesn't affect the net working capital
- Sold equipment for cash the sold equipment as a fixed asset that doesn't count for the calculation, and receiving cash will increase the net working capital

Ingredients: Inventory management, Sales realization,

Accounts payables If any of these goes for a toss—say, inventory mismanagement, sales constraints, or payables increasing in number, value, or frequency the business is set to suffer.

CCC accounts for the **time involved** in these processes that provides another view of the **company's operating efficiency**.

SUMMARY:

- <u>NWC</u>: CA, CL
- <u>CCC:</u> Inventory management, Sales realization AR (Accounts receivable) (N° of days it takes to receive cash from clients), Credit Policies – AP (Accounts payable) (N° of days it takes to pay suppliers)

Buy inventory \rightarrow Pay to Suppliers \rightarrow Sell Product to the clients \rightarrow Receive cash from sales Cash Outflow Cash Inflow

We pay the later the best (is very good to owe money). And the sooner we receive from clients the better.

<u>**Cash Conversion Cycle**</u> – the number of days that it takes for the company to convert the investment in the inventory into cash from sales.

The cash conversion cycle (CCC) is a metric that expresses the **time** (measured in days) **it takes for a company to convert its investments in inventory and other resources into cash flows from sales.**

Key elements: Inventory, AR (Sales realization) and AP

Number of days from the time suppliers are paid to the point where cash is received from customers (and vice versa).

- How much time the company needs to sell its inventory, how much time it takes
 to collect receivables, and how much time it has to pay its bills.
- Help **evaluate the efficiency** of a company's operations and management.
- Easy way to assess business liquidity
- CCC will **differ by industry** sector based on the nature of business operations.

Should CCC be lower of higher? LOWER THE BETTER and if it is negative is better. Negative means that our clients are financing you = because we are buying inventory with money from other sales – you are collecting cash from clients to pay to your suppliers.

CCC Formula:

CCC= Days of inventory outstanding (DIO) + Days of sales outstanding (DSO) – Days payable outstanding (DPO) = POSITIVE/NEGATIVE (The lower the better)

- **DIO and DSO** are associated with the company's **cash inflows**, while **DPO** is linked to **cash outflow**.
- DIO and DSO are linked to inventory and **accounts receivable**, respectively, which are considered as **short-term assets and are taken as positive**.

- DPO is linked to **accounts payable**, which is a liability and thus taken as **negative**.

As it Is better lower, what can we do to improve the CCC

- DIO Sell faster Marketing help.
- DSO Shorten time AR
- DPO We need to increase the number of days we take to pay suppliers.

Short and Long - CCC

• Short conversion cycle: A company only needs to finance its accounts receivable and/ or inventory for a short period of time.

Higher liquidity and effective management of inventory and credit sales

• Longer cash conversion cycle: Takes longer to sell its products / Takes longer to receive payments from its customers / Paying bills too quickly.

Exercise:

- **DIO:** 60 days to sell inventory
- **DSO:** 30 days to receive payments from customers
- **DPO:** 45 days to pay its suppliers

Doing a timeline (it has to follow the logic = buy inventory, pay suppliers, sell products, receive cash after sales

60 DAV	15	CCC 301	DAYS	
MAY 10TH 45 DAYS	JUNE	JULY 10TH	AUGUST 10TH	30TH AUGUST
44.004	PAY TO SUPPLIERS	SELL PRODUC. TO CULENTS	RECEIVE CASH F/SALES	spotting

CCC= DIO+DSO-DPO = 60+30-45= **45 days**

Number of days it takes for a company to convert the investment in inventory into cash. If the company decides to prologue payments to supplies to 55, how much is the CCC?

CCC= 60+30- 55= **35 days**

If collecting receivables faster, can also lower the CCC. A **lower value of DIO is preferred**, as it indicates that the company is making sales rapidly, implying better turnover for the business.

Information needed to calculate the CCC (DIO + DSO – DPO): FINAL EXAM

You need several items from the financial statements:

- **Revenue and cost of goods sold** (COGS) from the income statement (IS)
- **Inventory** at the beginning and end of the time period (BS)
- Account receivable (AR) at the beginning and end of the time period (BS)
- Accounts payable (AP) at the beginning and end of the time period (BS)
- The number of **days** in the period (e.g., year = 365 days, quarter = 90) = $(\notin/\notin) \times 365$ = Days

Important to have in consideration: Sales Revenue – Found in the income statement can be: Cash Sales or <u>Credit Sales</u>

<u>Days of inventory outstanding (DIO)</u>: **DIO**, also known as DSI, is calculated **based on the cost of goods sold (COGS)** -

Number of days we have the inventory in stock (in house). How many days it takes to sell inventory. How long do we have it in the warehouse. The shorter the better.

<u>Days of sales outstanding (DSO)</u>: Focuses on the **current sales** and represents **how long it takes to collect the cash generated from the sales.** How many days does it take for me to collect cash from sales = number of days it takes to receive cash from clients)

DSO= DSO= (Avg. Accounts Receivable / *credit sales) x 365

*We do not consider cash sales

Number of days it takes me to collect money from the debtors.

where: Avg. Accounts Receivable= 1/2 ×(BAR+EAR)

BAR=Beginning AR EAR=Ending AR A lower value is preferred for DSO.

Indicates that the company can collect capital in a short time, in turn enhancing its cash position.

Days Payables outstanding (DPO): Focuses on the current outstanding payable for the

business. Money the company owes its current suppliers for the inventory and goods it purchased, and it represents the time span in which the company must pay off those obligations. How many days does it take from me to pay suppliers. N° of days it takes to pay suppliers (since purchase day).

DPO= (Avg. Accounts Payable / Credit purchases) x 365

where: Avg. Accounts Payable= ½ x ×(BAP+EAP)

BAP=Beginning AP EAP=Ending AP A higher DPO value is preferred.

By maximizing this number, the company holds onto cash longer, increasing its investment potential.

Special Considerations

- If a business has hit all the **right notes** and is efficiently serving the needs of the market and its customers, it will have a **lower CCC value**.
- CCC may not provide meaningful inferences as a stand-alone number for a given period.
- If two companies have similar values for return on equity (ROE) and return on assets
 (ROA), it may be worth investing in the company that has the lowest CCC value.
- **Used internally** by the company's management to adjust their methods of credit purchase payments or cash collections from debtors

<u>EXERCISE 1</u>: Calculate the **Cash Conversion Cycle** and explain the meaning of it, if a company's average number of days to sell the product is 91 days. The company has negotiated payments to suppliers 51 days after receiving the raw material and receives money from the clients 33 days after selling the product.

DIO= 91 DSO= 33 DPO= 51 CCC= 91+33-51= 73 days

Number of days since I pay for the raw material, until I collect the money from my clients.

EXERCISE 2: Given this average periods regarding days it takes to sell inventory, average collection period and creditors payment period, create a timeline that explains the CCC, how you calculate it and how it can be improved.

DIO= 46 DSO= 31 DPO= 30

CCC can be lower either:

- Negotiating better creditors payment periods. (suppliers) (postponing)
- Negotiating better debtors' payments periods (clients) (anticipating)



EXERCISE 3:

Balance Sheet

	2021	2020
Assets		
Non-current assets		
Property, Plant, and Equipmet	449,000	502,000
Current Assets	138,600	156,350
Inventories	68,900	75,550
Accounts receivable	53,200	72,100
Bank	16,500	8,700
Total Assets	587,600	658,350
Equity and Liabilities		
Ordinary share capital	300,000	300,000
Retained earnings	94,350	83,802
Long-term Ioan (10%)	145,090	211,648
Accounts payable	48,160	62,900
Total Equity and Liabilities	587,600	658,350

Income Statement

The company in this scenario is selling

everything on credit.

Sales (all credit)	670,000
Cost of sales (All credit)	(562,700)
Gross profit	107,300
Operating expenses	(79,400)
Operating profit	27,900
Interest expense	(13,250)
Profit before tax	14,650
Tax	(4,102)
Profit after tax	10,548

DSI= (Inventory / COGS) x 365 = (68.900 / 562.700) x 365 = 44,67 = 45 days

DSO= (Avg. Accounts Receivable / Credit sales) x $365 = (\frac{53.200 + 72.100}{670.000})/2$ x 365 = 34.13 = 34 days (debtor collection period)

DPO= (Avg. Accounts Payable / Credit purchases) x 365 = (48.160 + 62.900)/2 x 365 = 36,02 = 36 days

562.700

(creditors payment period)



From the day we pay our suppliers until we receive cash payment from the clients, it takes 43 days.



How would you improve this scenario? – shorten the DSI period by making the company selling faster the inventory (marketing), making the DPO period longer by negotiating with the suppliers, negotiating with clients in order to try to reduce the time they take to pay, is about negotiating with them.

<u>EXAM</u>: Explain the situation of the company considering today the day we purchase inventory, calculate the CCC, explain meaning and improve it. Decide, assess the financial situation. Evaluate the financial situation.

Operational Leverage

Leverage Refers: to the effects that fixed costs have on the returns that shareholders earn; higher leverage generally results in higher but more volatile returns

Operating Leverage: Relates to the relationship between the firm's sales revenue and its earnings before interest and taxes (EBIT) or operating profit.

Financial Leverage: Relates to the relationship between the firm's EBIT and its common stock earnings per share (EPS)

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Sales Revenue (P x Q)

- Fixed operating costs (- FC)

- Variable operating cots (-VC x Q)

= GOP
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General Income Statement

Sales Revenue = Quantity x Price

Operating leverage	Sales revenue Less: Cost of goods sold Gross profits Less: Operating expenses
	Earnings before interest and taxes (EBIT)
Financial leverage	Less: Interest Net profits before taxes Less: Taxes Net profits after taxes Less: Preferred stock dividends Earnings available for common stockholders Earnings per share (EPS)

Operating Leverage

	Item	Algebraic representation
	Sales revenue	$(P \times Q)$
Operating leverage	Less: Fixed operating costs	– FC
	Less: Variable operating costs	$-(VC \times Q)$
	Earnings before interest and taxes	EBIT

Operating leverage results from the existence of fixed cost that the firm must pay to operate. We can define operating leverage as the **use of fixed operating cost to magnify the effects of changes in sales** on the firm's earnings before interest and taxes (EBIT).

The weight of fixed and variable costs is important.

High and Low Operating Leverage

- High level of fixed costs High -> Operating leverage
- High level of variable costs Low -> Operating leverage

EXAMPLE 1:

For the same Level of sales, profit is higher in Property B. If selling price is \$1 in both companies:

	Property	уA	Property	уВ
	S	%	\$	%
Revenues	\$500,000	100%	\$500,000	100%
Variable costs Fixed costs	300,000 200,000	60 40	200,000 300,000	40 60
Net income	\$0	0%	\$ O	0%

- In property A, after BEP for every unit they sell, \$1 of revenue, they have to pay \$0,60 to cover the VC \rightarrow Profit = \$0,40
- In property B, after BEP for every unit they sell, \$1 of revenue, they have to pay \$0,40 to cover the VC \rightarrow Profit = \$0,60



- Both properties will break even when their revenues equal \$500,000. They have to reach
 500 in order to start being profit
- Property A has a CMu of \$0,40, while Property B has a CMu of \$0,60. This reveals that, for each revenue dollar over the shared breakeven point: Property A will earn only \$.40 while Property B will earn \$.60.
- On the other hand, for each revenue dollar under the breakeven point, Property A loses only \$.40 while Property B loses \$.60.
- Both properties identify the same breakeven point as the difference between revenues and expenses, and, for both properties, the costs of failure equal the rewards of success.
- They both risk as much as they gain, but for Property B, the stakes are higher. Property B is more highly levered than Property A.
- We prefer company A.

EXAMPLE 2: CHERYL'S POSTERS

Assume fixed operating costs of \$2,500.

Sale price is \$10 per poster, and its variable operating cost is \$5 per poster.

$$Q = \frac{\$2,500}{\$10-\$5} = \frac{\$2,500}{\$5} = 500$$
 units

At sales of 500 units, the firm's EBIT should just equal \$0.

The firm will have positive EBIT for sales greater than 500 units and negative EBIT, or a loss, for sales less than 500 units.



Sensitivity of Operating BEP: Sensitivity of Operating Breakeven Point to Increases in Key Breakeven Variables

Increase in variable	Effect on operating breakeven point
Fixed operating cost (FC)	Increase
Sale price per unit (P)	Decrease
Variable operating cost per unit (VC)	Increase

Fixed increasing, it is going to be harder to reach BEP. This is the sensitivity of the BEP when we change one variable.

Assume that Cheryl's Posters wishes to evaluate the impact of several options:

- (1) Increasing fixed operating costs to \$3,000;
- (2) Increasing the sale price per unit to \$12.50;
- (3) Increasing the variable operating cost per unit to \$7.50;
- (4) Simultaneously implementing all three of these changes.

(1) Operating breakeven point
$$=\frac{\$3,000}{\$10-\$5}=600$$
 units
(2) Operating breakeven point $=\frac{\$2,500}{\$12.50-\$5}=333\frac{1}{3}$ units
(3) Operating breakeven point $=\frac{\$2,500}{\$10-\$7.50}=1,000$ units
(4) Operating breakeven point $=\frac{\$3,000}{\$12.50-\$7.50}=600$ units



If we compare the resulting operating breakeven points to the initial value of 500 units, we can see that the cost increases (actions 1 and 3) raise the breakeven point, whereas the revenue increase (action 2) lowers the breakeven point.

The combined effect of increasing all three variables (action 4) also results in an increased operating breakeven point.

DOL – Degree of Operating Leverage

The Degree of Operating Leverage is a numerical measure of the firm's operating leverage.

- saying how much my EBIT would increase if my sales increase or how much my GOP would

Degree of Operating Leverage= $\frac{\%}{\%}$ change in GOP
 $\frac{\%}{\%}$ change in Salesdecrease if my sales decrease.Degree of Operating Leverage= $\frac{Q \times (P - VC)}{Q \times (P - VC) - FC}$ $\stackrel{P = Sale price per unit
<math>Q = Sales quantity in units
<math>FC = Fixed operating cost per period
<math>VC = Variable operating cost per unit$

EXAMI: Using the data for Cheryl's Posters calculate and interpret the DOL:

t VC = \$5 per unit

FC = \$2,500

	Case	2	Case 1
	-50%	6	+50%
ales (in units)	\$ 500	1,000	1,500
ales revenue ^a	\$5,000	\$10,000	\$15,000
ess: Variable operating costs ^b	2,500	5,000	7,500
ess: Fixed operating costs	2,500	2,500	2,500
arnings before interest and taxes (EBIT)	\$ 0 ▲	\$ 2,500	\$ 5,000
	-100	%	+100%

DOL = $2x \rightarrow$ If in this company we increase our sales 50% and the DOL is 2, for every one \in that my sales increase, my EBIT is going to increase $2\in$.

"Sales revenue = \$10/unit × sales in units.

^bVariable operating costs = $\frac{5}{\text{unit}} \times \text{sales in units.}$

Scenario of Risk and Uncertainty the DOL should be Low -> FC are lower than VC – Low season

Amazing Perspective of sales = DOL High -> FC are higher than VC – High season

If sales increase from 1,000 to 1,500 units (Q1 to Q2), its EBIT increases from \$2,500 to \$5,000 (EBIT1 to EBIT2).

In other words, a 50% increase in sales (1,000 to 1,500 units) results in a 100% increase in EBIT (\$2,500 to \$5,000).



 $DOL=\frac{Percentage change in EBIT}{Percentage change in sales}$

	Case	e 2	Case 1
	-50	%	+50%
	¥		¥
ales (in units)	500	1,000	1,500
ales revenue ^a	\$5,000	\$10,000	\$15,000
ess: Variable operating costs ^b	2,500	5,000	7,500
ess: Fixed operating costs	2,500	2,500	2,500
arnings before interest and taxes (EBIT)	\$ 0	\$ 2,500	\$ 5,000
	*		+
	-100)%	+100%

"Sales revenue = \$10/unit × sales in units."
^bVariable operating costs = \$5/unit × sales in unit.

EXAM QUESTION: 1000 units, Revenue 10k, VC will change from 5 to 4,5; FC will change from 2,5 to 3. Explain how VC and FC variables can influence in the cost structure when calculating the DOL. How much is it? Explain how much would the EBIT increase if the Sales Increase 50%?.

Effect when FC increases

Assume that Cheryl's Posters eliminates sales commissions and increases salaries. This exchange results in a reduction in the variable cost per unit from \$5 to \$4.50 and an increase in the fixed costs from \$2,500 to \$3,000.



Case 1 $\frac{+100\%}{+50\%}$

Case 2 $\frac{-100\%}{50\%}$

Although the EBIT of \$2,500 at the 1,000-unit sales level is the same as before the shift in cost structure **The firm has increased its operating leverage by increasing fixed costs and lowering variable costs.**

DOL at base sales level $Q = \frac{Q \times (P - VC)}{Q \times (P - VC) - FC}$

DOL at 1,000 units = $\frac{1,000 \times (\$10 - \$4.50)}{1,000 \times (\$10 - \$4.50) - \$3,000} = \frac{\$5,500}{\$2,500} = 2.2$

	-50%		+50%	
Sales (in units)	₹ 500	1,000	1,50	
Sales revenue ^a	\$5,000	\$10,000	\$15,00	
Less: Variable operating costs ^b	2,250	4,500	6,75	
Less: Fixed operating costs	3,000	3,000	3,00	
Earnings before interest and taxes (EBIT)	-\$ 250	\$ 2,500	\$ 5,25	
	-1109	6	+110%	

Increment in Profit = DOL * Increment in Sales $\Delta Profit = DOL * \Delta Sales$

Therefore, if we are able to predict how much will be the sales increment, we will know how

much the profit will increase.

 $\Delta Sales = \frac{\Delta Profit}{DOL}$ From another point of view, we can calculate how much should be the sales increment in order to achieve certain profit.

 $\Delta Profit = DOL * \Delta Sales$

- How much will the profit increase if sales increase 25%? If the sales increase 25%,
 EBIT will increase 25% *2 = 50%
- How much will the profit decrease if sales decrease 15%? If the sales decrease 25%,
 EBIT will decrease (-15%) *2 = -30%