

MBA Basics

The essentials taught in America's top business schools

Seminar Procedure

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Bernhard Frieß
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Time: Wed. 14 c.t. – 15:45

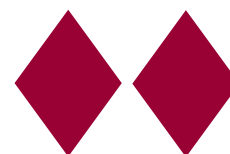
Place: Computerlab WBW

Preliminary
Discussion

Lectures

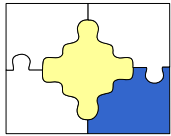
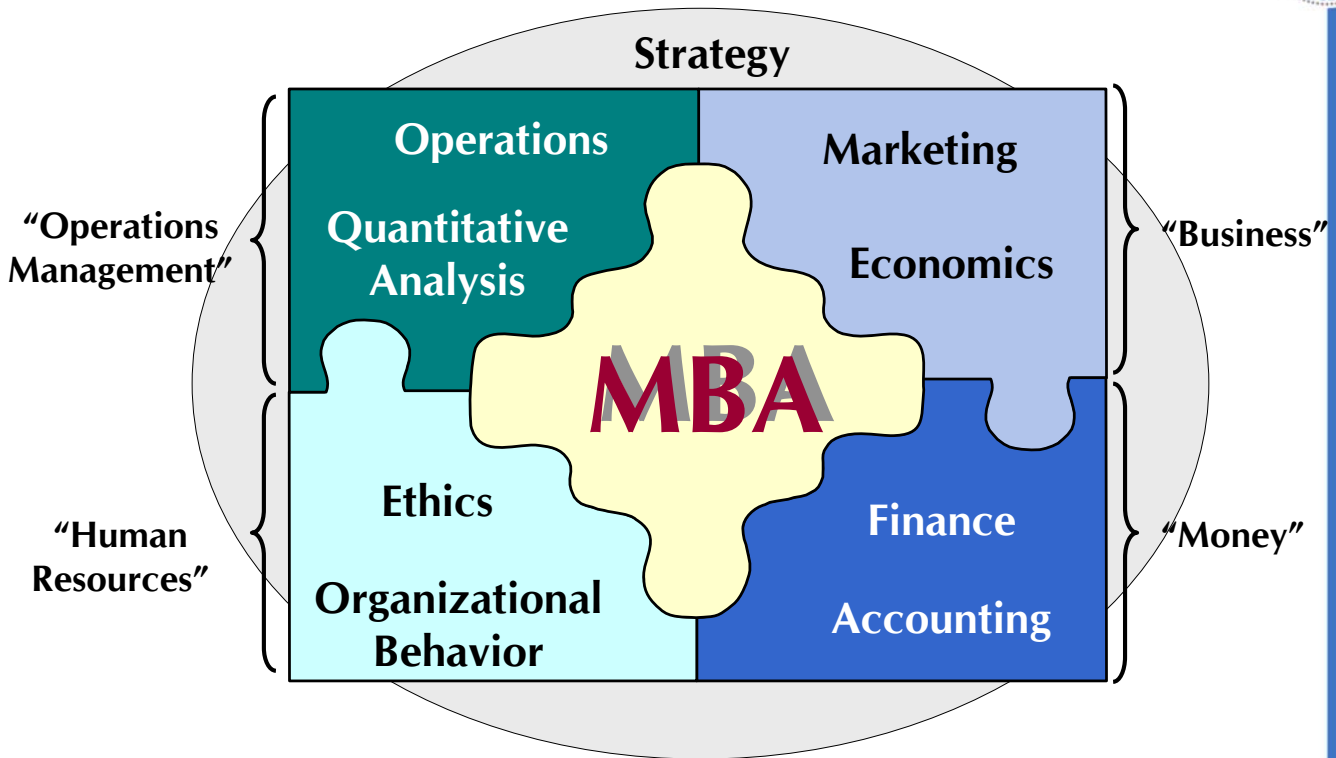
Presentations

Written Exams



- The grading is made up of 40 per cent presentation and 60 per cent written examination.

Seminar Content



Accounting



Topic 1: Accounting

- Accounting Rules (GAAP) and Concepts
- The Financial Statements
- Ratio Analysis

■ What is accounting for?

Accounting Rules and Concepts

- **GAAP Rules: General Accepted Accounting Principles**
 - Standard setting for an comparison on an equal basis
- **The Fundamental Concepts of Accounting:**
 - The Entity
 - Cash Basis Versus Accrual Accounting
 - Objectivity
 - Conservatism
 - Going Concern
 - Consistency
 - Materiality

The Financial Statements



■ The Balance Sheet

- Presents the assets owned by a company, the liabilities owed to others, and the accumulated investment of its owners at a specific date

■ The Income Statement

- Shows the flow of activity and transactions over a specific period of time

■ The Statement of Cash Flows

- Presenting the “sources” and “uses” of a company’s cash

The Balance Sheet



- **Assets:** are the resources that the company possesses for the future benefit of the business

- Cash, inventory, accounts receivable, equipment, buildings

- **Liabilities:** are cash-specific obligations to repay borrowing, debt, and other obligations to provide goods or services to others

- Bank dept, accounts payable, taxes owed, wages owed to employees

- **Owner’s Equity:** is the accumulated cash measure of the owners’ investment in the company

- Common stock, additional paid-in capital (both investment by owners), retained earning (reinvestment of earnings by owners)

$$\text{Assets (A)} = \text{Liabilities (L)} + \text{Owners' Equity (OE)}$$

The Balance Sheet - Important Issues

Liquidity

- Liquidity means the ability of an asset to be converted to cash
 - Current: cash, accounts receivable, inventory (within next period)
 - Fixed - long-term – non-current assets (NCA) respectively NCL

Working Capital (WC)

- Refers to the A and L that a company constantly “works with” as a part of daily business
 - WC items are consequently the CA and the CL
 - Net working Capital (NWC): $NWC = CA - CL$

Owners' Equity

- Owners are paid only after all other dept payments are made
 - OE captions can be affected: contribute more funds (+), retain profits (+), receive dividends (-)

Example: Balance Sheet

Bob' Market - Balance Sheet, as of Dec. 31, 1999			
Assets		Liabilities	
Current Assets		Current Liabilities	
Cash	5000	Account Payable	80000
Accounts Receivable	10000	Wages Payable	5000
Store Inventory	100000	Taxes Payable	2000
Total Current Assets	115000	Total Current Liabilities	87000
Noncurrent Assets (longterm)		Noncurrent Depts (longterm)	
Store Equipment (<1a)	30000	Bank Dept	10000
Accumulated Depreciation	(3000)		
Net Long-term Assets	27000	Total Liabilities	97000
		Owners Equity	
		Common Stock	15000
		Retained Earnings	30000
		Total Owners' Equity	45000
Total Assets	142000	Total L & OE	142000

The Income Statement



- There are **revenues** from sales and **expenses** relating to those revenues. When both are properly matched using accrual accounting, the difference is “**income**”

$$\text{Revenue} - \text{Expenses} = \text{Income}$$

Income Statement Terminology

- Gross Margin = Sales - The “Direct” Cost of the Goods Sold (COGS)
- Operating Profit = EBIT
- Net Income

Example: Income Statement



Bob's Market - Income Statement for the Year Ending Dec. 31,1999	
Sales to Customers	5.200.000
Cost of Goods Sold	(3.900.000)
Gross Margin	1.300.000
Less Selling, General and Administrative Expenses	
Payroll	(1.000.000)
Rent	(150.000)
Utilities	(75.000)
Advertising	(18.000)
Allocated Cost of Store Equipment (Depreciation)	(3.000)
All Other	(10.000)
Operating Income (EBIT)	44.000
Less Interest Expense	(1.000)
Income Before Taxes	43.000
Less Income Taxes	(13.000)
Net Income	30.000
Net Income Per Share (1000 shares)	30

The Statement of Cash Flows

- The Cash Flow Statement is a management tool to help avoid liquidity problems.
- $\text{Cash} = \text{CL} + \text{NCL} + \text{OE} - \text{AR} - \text{INV} - \text{NCA}$
- It answers the following questions:
 - What is the relationship between cash flow and earning?
 - How are the dividends financed?
 - How are the debts paid off?
 - How is the cash generated by operations used?
 - Are management's stated financial policies reflected in the cash flow?
- Three types of business activities
 - Operations Activities
 - Investing Activities
 - Financing Activities

The Three Types of Activities

- **Operating Activities**
 - Generated from the day-to-day operations
 - Accrual Accounting to Cash Accounting
- **Investing Activities**
 - Long-term (non-current) "investments" by the company
 - Reflection to Balance Sheet
- **Financing Activities**
 - Two way of financing: borrow or raise from investors

Example: Cash Flow Statement



Bob's Market Statement of Cash Flows for the Year Ending Dec. 31, 1999		
Operating Activities:		
Net Income		30.000
Add Back Expenses Not Using Cash		
Depreciation		3.000
		33.000
Adjust for Changes in WC		
	Incr./Decr.	
Current Assets:		
Customer Receivable	I	(10.000)
Store Inventory	I	(100.000)
Current Liabilities:		
Vendor Payable	D	80.000
Wages Payable	D	5.000
Taxes Payable	D	2.000
		(23.000)
Cash Flow from Operating Activities		10.000
Investing Activities:		
Purchase of Store Equipment		(30.000)
Cash Flow from Investing Activities		(30.000)
Financing Activities:		
Proceeds from Bank Borrowing		10.000
Sale of Stock to Owners		15.000
Payment of Dividends to Owners		0
Cash Flow from Financing Activities		25.000
Increase in Cash for the Year		5.000
Cash at Beginning		0
Cash at End		5.000

Reading the Statements with Ratios



■ Liquidity Measures

- Current Ratio = CA / CL

■ Capitalization Ratios

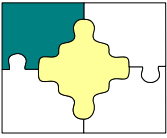
- Financial Leverage = $(Total\ L + OE) / OE$
- Long-term Debt (LTD) to Capital = $LTD / (L + OE)$

■ Activity Ratios

- Asset Turnover per Period = $Sales / Total\ A$
- Inventory Turns per Period = $COGS / Average\ Inventory$
- Days Sales in Inventory = $Ending\ Inventory / (COGS/365)$

■ Profitability Ratios

- Return on Sales (ROS) = $Net\ Income / Sales$
- Return on Equity (ROE) = $Net\ Income / OE$
- Return on Assets (ROA = $NI/Total\ A$) = Profit Margin (ROS) x Asset Turnover



Quantitative Analysis



"IT'S MY FERVENT HOPE, FERBAUGH, THAT THESE ARE MEANINGLESS STATISTICS."

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Topic 2: Quantitative Analysis



- Cash Flow Analysis
- Net Present Value
- Decision Analysis

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Cash Flow Analysis



- „What does the investment cost and how much cash will it generate each year? What is the current investment and what are the future benefits?“ 5 Steps:
 - Define the value of the investment
 - Calculate the magnitude of the benefits
 - Determine the timing of the benefits
 - Quantify the uncertainty of the benefits
 - Do the benefits justify the wait?
- Don't mistake cash flow and profit!
- Cash Flow Analysis is a technique used to evaluate individual projects *over the life* of the project.
- Depreciation is not relevant in cash flow analysis!
- Financing costs are not included in cash flow analysis!

Example: Cash Flow



Quaker Oats is considering a \$ 100,000 investment in a cereal filling machine for its plant in Kansas City. The fibre craze has spurred the demand for oatmeal to the point of exhausting plant capacity. If the machine is purchased, additional cereal sales of \$80,000 could be made each year. The cost of goods sold is only \$20,000 and the profits derived would be taxed at 30 percent. The increased sales will also require holding \$10,000 in inventory. Quaker will partially offset that use of cash by increasing its payables by \$8,000 to farmers for the oats and Stone Container for the boxes to net a \$2,000 additional cash investment.

At the end of three years the machine will be worn out, but the equipment will still be useful to a milling company in Mexico. Quaker plans to sell it to Molino Grande at a price of \$10,000.

Milling Project (in thousands of dollars)

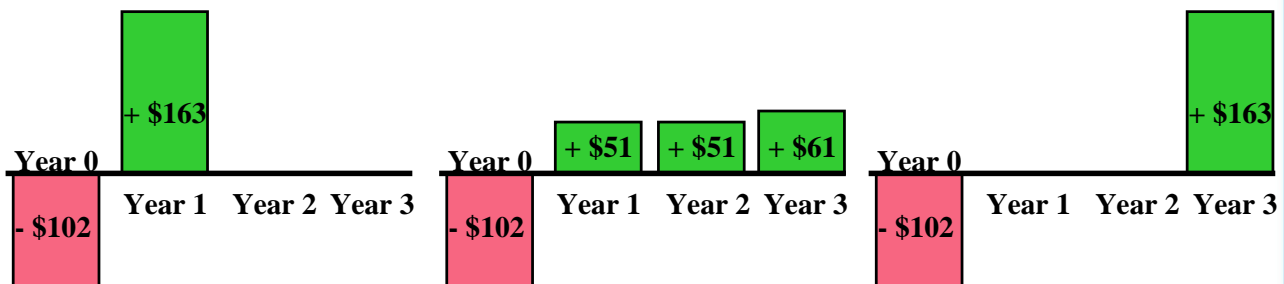


	Year 0	Year 1	Year 2	Year 3
Investment	- \$ 100			
Revenue		+ \$ 80	+ \$ 80	+ \$ 80
Cost of Goods sold		- \$ 20	- \$ 20	- \$ 20
Taxes		- \$ 9	- \$ 9	- \$ 9
Increase in Inventory	- \$ 10			
Increase in Payables	+ \$ 8			
Sale of Equipment				+ \$ 10
Total Cash Flow	- \$ 102	+ \$ 51	+ \$ 51	+ \$ 61

The Timing of Cash Flows



- The timing of cash flows is critical to determining the project's value. Bar graphs are often used to represent the timing of cash flows. There are several possibilities for timing the flows; three of them are shown below.



When the milling project produces cash, Quaker reinvests it rather than let it remain idle. Therefore the company earns income with the cash of two more years in Scenario 1 than in Scenario 2. Scenario 3 is the worst.

Accumulated Value Calculation



Accumulated Value: $\$51,000 + \$51,000 + \$61,000 = \$163,000$
+ **earned interest** $\$34,230 = \mathbf{\$197,230}$

Earned interest: the investment opportunities yield 10 percent.

Year one: there are \$163,000 to be invested in year two

Year two: $\$163,000 \times 0.1 = \$16,300$ gained

Year three: $\$163,000 \times 0.1 = \$16,300$ gained

$\$16,300 \times 0.1 = \$1,630$ gained

End of year 3: $\$16,300 + \$16,300 + \$1,630 = \mathbf{\$34,230}$ earned interest.

Future Value of a \$ in a periods = (\$ today) $\times (1 + \text{reinvestment rate})^{\text{exp. } a}$

\$1 today = \$1 today

\$1 invested = \$1.1 in 1 year

\$1 invested = \$1.21 in 2 years

} Accumulation Factors at
a rate of 10 percent

Net Present Value (NPV)



- Cash flow analysis determines the flows of a project.
- NPV technique values them in today's dollars.
- Different projects can be compared regardless of timing.
- Basic idea: A dollar today is worth more than a dollar received in the future.
- NPV analysis takes future cash flows and discounts them to their present-day value (inverse of accumulated value).

NPV = (\$ in Future) $\times (1 + \text{Discount Rate})^{-\text{Number of periods}}$

\$1 today = \$1 today

\$1 in 1 year = \$.90909 today

\$1 in 2 years = \$.82645 today

\$1 in 3 years = \$.75131 today

} Discount Factors at
a rate of 10 percent

Probability Theory



- Probability theory describes how statistics are used to solve problems.
- In situations where multiple outcomes are possible, the result is a distribution of outcomes.
- Each possibility is assigned a probability.
- A graph showing the distribution of outcomes is called a probability mass (only few possibilities) or density (many possibilities) function.
- Most used: binomial distribution and normal distribution

Decision Theory - Decision Tree



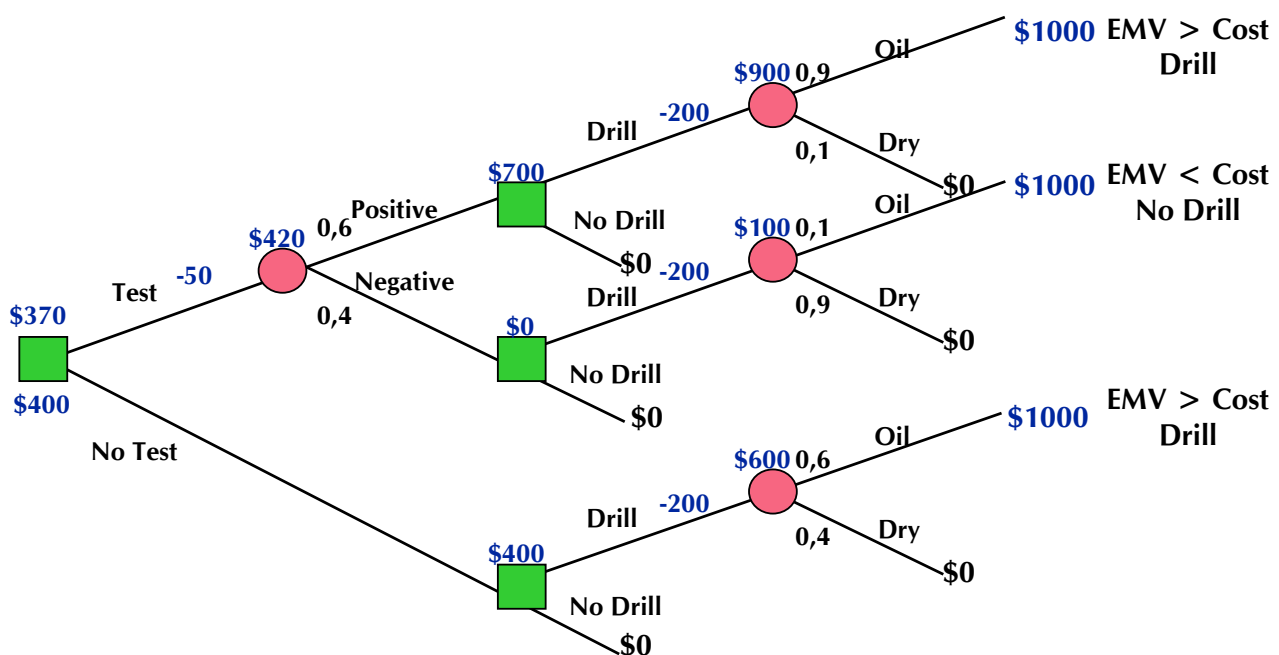
- Decision theory teaches how to break complex problems into manageable parts.
- It is a framework to attack difficult situations.
- A decision tree diagram organizes the problem's alternatives, risks and uncertainty. 5 steps:
 - Determine all the possible alternatives and risks associated with the situation.
 - Calculate the monetary consequences of each of the alternatives.
 - Determine the uncertainty associated with each alternative.
 - Combine the first three steps into a tree diagram.
 - Determine the best alternative (highest EMV) and consider the non-monetary aspects of the problem.

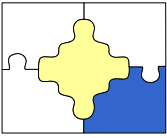
Decision Tree - Example

Mr. Houston is about to exercise his option to drill for oil on a promising parcel. Should he drill? If he hits a gusher there is an estimated \$1,000,000 to be gained. When he investigated all of the alternatives, Mr. Houston made the following list:

- He paid \$200,000 for the drilling option.
- He could lower his risks if he hired a geologist to perform seismic testing (\$50,000). That would give him a better indication of success and lower his risk of wasting drilling costs.
- Should he roll the dice and incur \$200,000 in drilling costs without seismic evaluation to guide him?
- He consulted with oil experts. They believe his parcel has a 60% chance of having oil without the benefit of any tests.
- If seismic tests are positive, there is a 90% chance that there is some oil.
- If the tests are negative, there is still a 10% chance of success.
- He could decide not to drill at all.

The Decision Tree (in thousands of dollars)





Topic 3: Finance

- Business Structures
- Risk
- Capital Asset Pricing Model
- Investment Valuations
- Discounted Cash Flows
- Capital Budgeting and Structure
- Dividend Policy
- Mergers and Acquisitions

Business Structures

■ Proprietorships

- Business is owned by an individual
- The owner reaps all the profits and has unlimited liability for all losses

■ Partnerships

- Business is owned by several individuals
- General partnership: unlimited liabilities for all business debts
- Limited partnership: shielded to the extend of their investment

■ Corporations

- Legal entities that are separate from the individuals who own them
- The ownership is split into shares of stock that investors can trade
- Problem of double taxation: company and stock owner

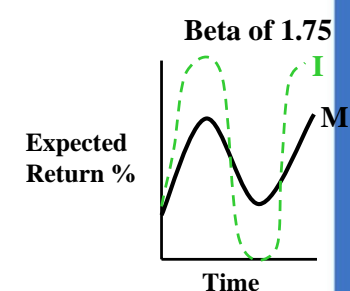
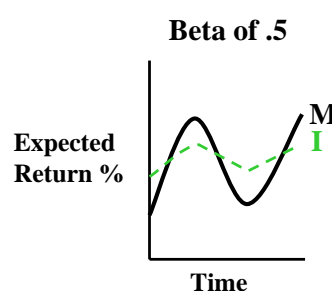
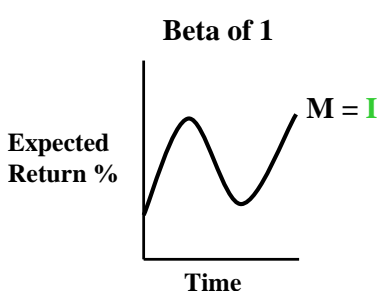
Investments - Risk and Returns

■ Types of Risks

- Systematic risks: applies a whole class of assets (stock market..) - movements in the economy, interest rates and inflation
- Unique or unsystematic risk: applies a particular or a small group of assets (single stock) - can be largely compensated by diversification (portfolio)

■ Beta Risk - Risk Within a Portfolio

- Volatility of stocks is equated with risk
- Beta quantifies the risk of holding a particular investment versus owning a very large portfolio representing the "market" (S&P 500, Nikkei)



Investments - Risk and Returns

■ The Capital Asset Pricing Model for Stocks (CAPM)

- The CAPM determines the required rate of return of an investment by adding the unsystematic risk and the systematic risk of owning an asset

$$K_e = R_f + (K_m - R_f) \times \beta$$

■ CAPM Exercise:

You want to know what IBM should yield to be a worthwhile investment!

The Value Line Survey tells you that IBM has a conservative β of 1.2. The Wall Street Journal tells you that the long-term risk-free US Treasury Bond pays a return of 8%. A study conducted since 1926 shows the average return on the S&P 500 has exceeded the the risk-free rate of investing in US Treasury Bonds by 7.4%. What return rate should IBM yield to be interesting for an investment?

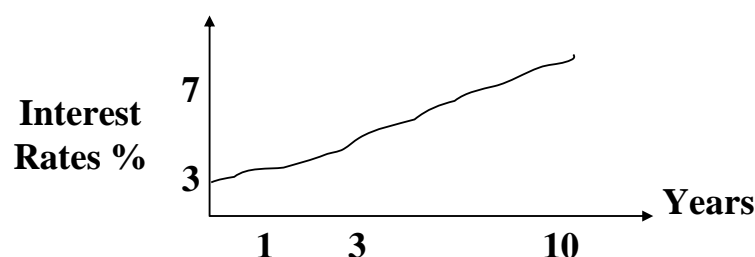
Financial Markets - Bonds

■ Bonds are issued by companies or government agencies to raise money at fixed rates of interests

- Coupons / Face (Par) Value / Maturity Date

■ A bond's value comes from the present value of future cash flows.

■ The Yield Curve



Caterpillar Bond Valuation of Discounted Cash Flows



	<i>Interest @ 8 % Coupon</i>	<i>Principal Repayment</i>	<i>Payment Total x</i>	<i>Discount Factors @ 8 % Market =</i>	<i>Net Present Value</i>
1992	\$ 8	\$ 0	\$ 8	.9259	\$ 7.41
1993	\$ 8	\$ 0	\$ 8	.8573	\$ 6.86
1994	\$ 8	\$ 0	\$ 8	.7939	\$ 6.35
1995	\$ 8	\$ 0	\$ 8	.7350	\$ 5.88
1996	\$ 8	\$ 0	\$ 8	.6806	\$ 5.44
1997	\$ 8	\$ 0	\$ 8	.6302	\$ 5.04
1998	\$ 8	\$ 0	\$ 8	.5835	\$ 4.67
1999	\$ 8	\$ 0	\$ 8	.5403	\$ 4.32
2000	\$ 8	\$ 0	\$ 8	.2002	\$ 4.0
2001	\$ 8	\$ 100	\$108	.4632	\$ 50.03
Total	\$ 80	\$ 100			\$ 100.00
		<i>Face Value</i>			<i>Market Value</i>

Financial Markets - Stocks



- Stocks have no contractual terms of payment and no maturity – if earnings are adequate they pay dividends (no obligation)
- Classes of stocks

Stock Class	Description	Examples
Growth Stocks	Rapidly Growing Companies	Wal-Mart
Blue Chips	Very Large Companies	Kodak, Coke
Cyclicals	Fluctuate Greatly with Economy	Ford, GM
Pennies	Risky, Small Companies	Jet Electro

■ Stock Valuation Models

- Dividend Growth Model

$$\text{Value per Share} = D / (K - g)$$

- Price Earnings Ratio (PE-Ratio)

- EPS - current stock price to the current or projected earning per share

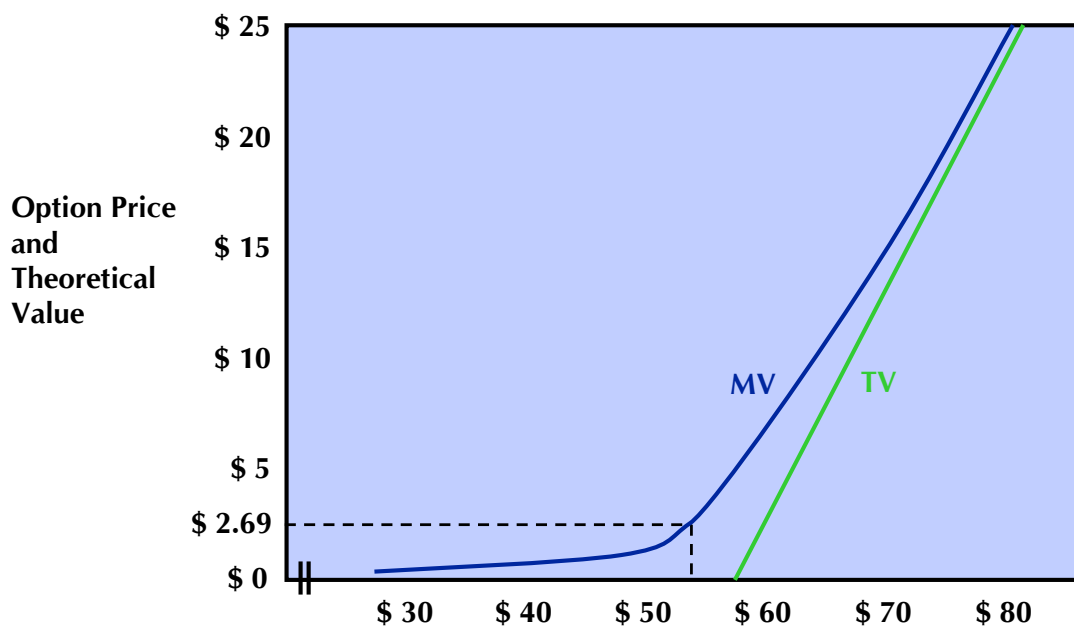
Financial Markets - Options

- Options are contractual rights to buy or sell any asset at a fixed price on or before a stated date
 - At a stated price - the *strike price*
 - By a certain date - the *expiration date*
 - At a cost for the privilege - the *option premium*
- Call Options (right to buy) - Put Options (right to sell)

	Underlying Stock Price Movement	
	UP	DOWN
CALL	Gain	Loss
PUT	Loss	Gain

- Hedging
 - Hedging is buying an option to offset a possible decline in value in an owned investment

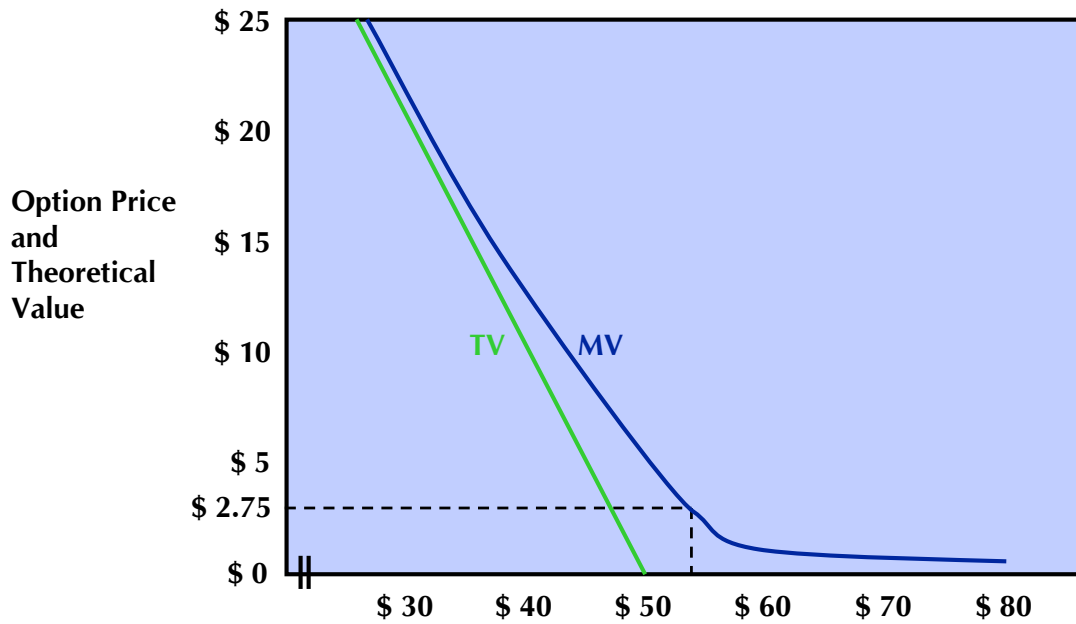
The Value of a Wal-Mart SEP \$55 Call Option



MV = option market value

TV = option theoretical value

The Value of a Wal-Mart SEP \$55 Put Option



MV = option market value

TV = option theoretical value

Business Investment Decisions

■ Three basic decisions

- Accept or reject a single investment proposal
- Choose one competing investment over another
- Capital rationing - which project among many should be chosen

■ Two basic MBA tools

- Payback Period
 - Payback = Number of years to recover initial investment
- Net Present Value
 - $NPV = \text{Cash to be Received} \times (1 + \text{Discount Rate})^{-\text{Number of Periods}}$
 - Riskiness of projects - different discount rates
 - Unequal lives of projects - in the discount rate
 - Scale differences - Profitability Index

$$PI = \text{NPV of Future Cash Flows} / \text{Initial Investment}$$

Business Financing Decisions

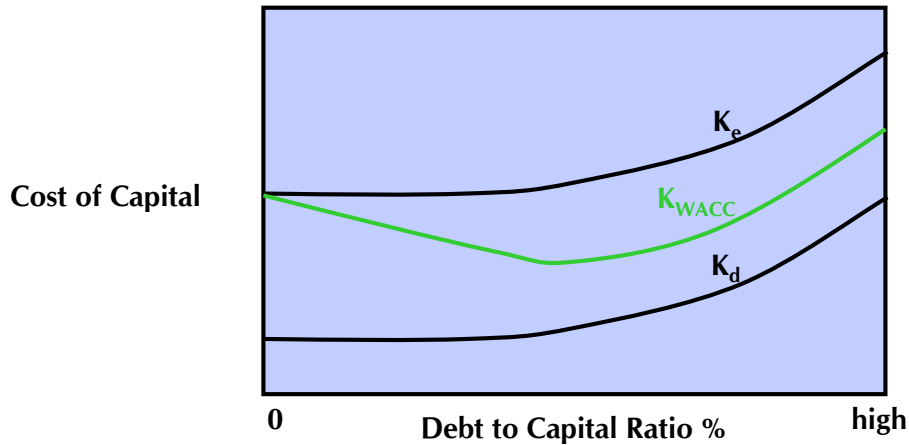
- **The goal of corporate finance is to raise sufficient capital at the least cost for the level of risk that management is willing to live with**
- **Five basic ways of financing a company's needs:**
 - **Supplier Credit**
 - Negotiate longer longer credit terms or stretch payables by paying late
 - **Lease Financing**
 - Operating Lease (asset returned) - Capital Lease (asset stays at lessee)
 - **Bank Financing**
 - Long- and short-term credits are often secured by the assets of the company
 - **Bond Issuance**
 - The risk to the firms owners comes if the mature bonds cannot be serviced
 - **Stock Issuance**

Business Financing Decisions

- **The After-Tax Cost of Borrowing (interest cost less tax benefit)**
 - Interest payments for borrowing e.g. from bankers are tax-deductible, while dividends to shareholders are not
 - **After-Tax Cost of Borrowing = Borrowing Rate x (1 - Tax Rate)**
- **The financing mix's risk and return**
 - What is the best mix between dept and equity?
 - To find a solution the acronym **FRICTO** can help:
 - **Flexibility:** how much to meet unforeseen events (new competitors)?
 - **Risk:** with how much can you live to meet foreseen events (strikes)?
 - **Income:** what level of interests or dividends can earnings support?
 - **Control:** how much stock ownership do you want to share?
 - **Timing:** attractive rates on dept markets - own shares overvalued
 - **Other:**

Optimal Capital Structure

The Cost of Capital



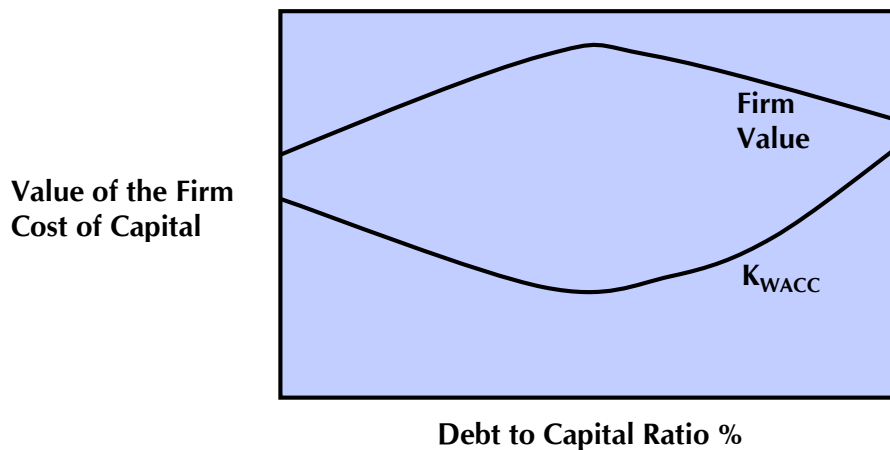
Capital = Debt + Equity

K_e = Cost of Equity , K_d = Cost of Debt

K_{WACC} = Weighted Average Cost of Capital

Optimal Capital Structure

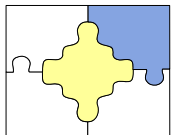
The Value of the Firm and the Weighted Average Cost of Capital



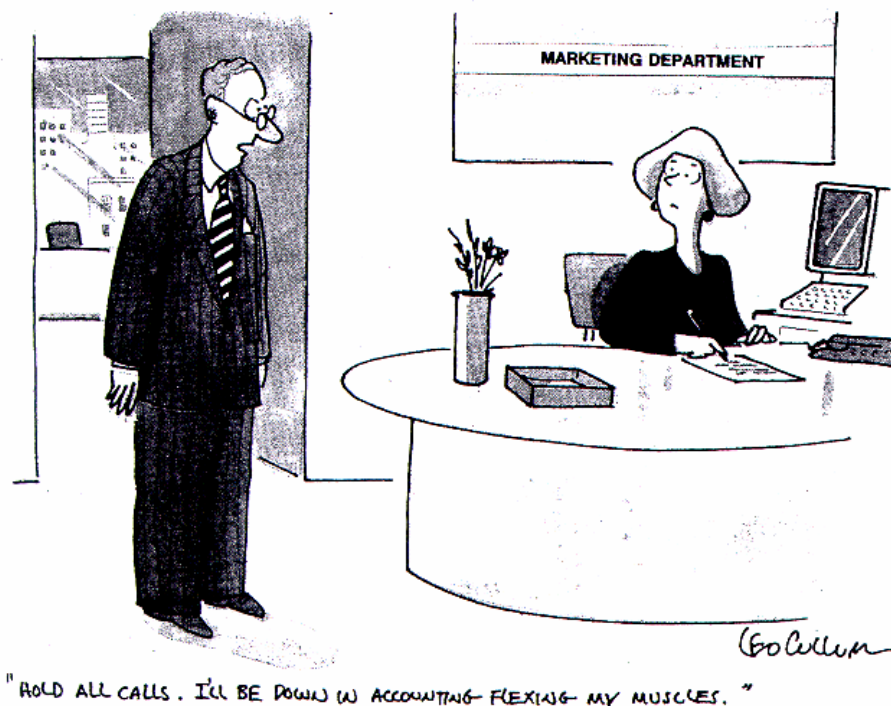
Capital = Debt + Equity

Final Financing Decision Questions

- Can the company do a better job by investing its earnings back into the firm than investors could by investing elsewhere?
- Who is our stockholder?
- What will be the stockholder's reaction be to any changes in dividend payment?
- What is the degree of financial leverage of the company?
- What is the growth strategy of the company?



Marketing

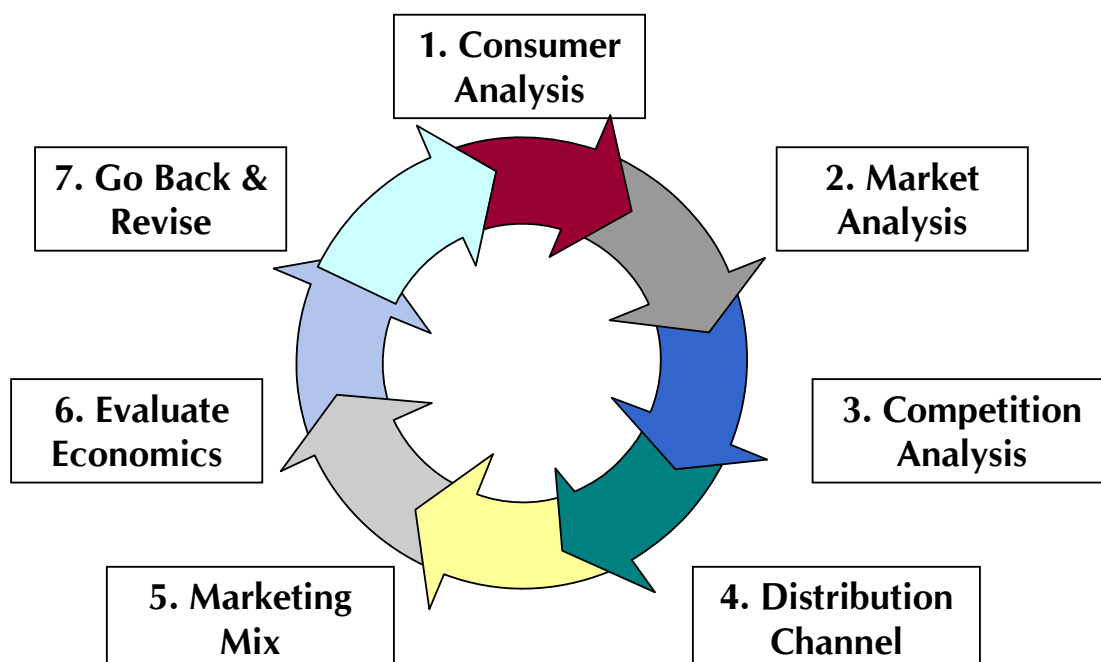


Topic 4: Marketing

“Marketing comes first” Philip Kotler

- Marketing integrates all the functions of a business and speaks directly to the customer through advertising, salespeople and other marketing activities.
- The 7 Steps of Marketing Strategy Development

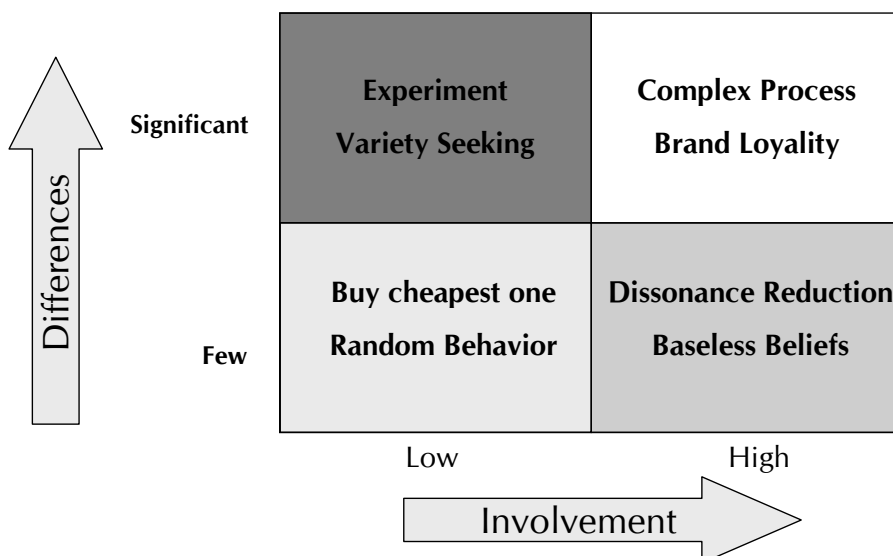
The Marketing Strategy Process



Step 1: Consumer Analysis

- **What is the need category?**
- **Who is buying and who is using the product?**
- **What is the buying process?**
 - Awareness - Information Search - Evaluate Alternatives - Purchase - Evaluate
- **Is the product a high- or a low-involvement product?**
 - High price - the need for the benefit - the need for the psychological reward (Consumer Behavior Matrix)
- **How can a segmentation be done?**
 - Segments: large enough, efficiently reached, help develop marketing programs

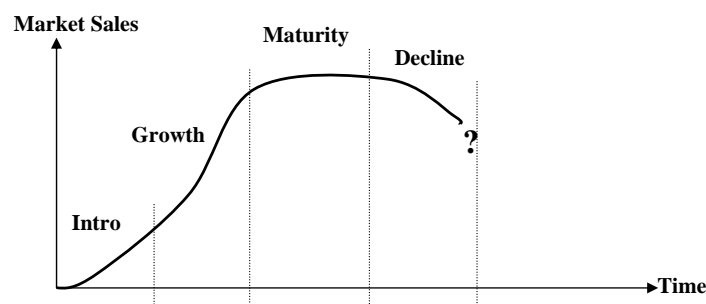
The Consumer Behavior Matrix



Step 2: Market Analysis

- **What is the relevant market?**
 - Once identified: accessible and large enough?
Yes = Marketable product
- **Where is the product in its product life cycle?**
 - Intro - Growth - Maturity - Decline
- **What are the key competitive factors in the industry?**
 - Key Competitive Factors:
 - Quality, Price, Advertising, R&D, Service?

The Product Life Cycle (PLC)



- **Introduction: What is it?**
 - Awareness and education needed - innovators/adopters
- **Growth: Where can I get it?**
 - Education and competition - selective distribution (boost your sales volume)
- **Maturity: Why this one?**
 - Price competition and brand loyalty - strong segmentation
- **Decline: How much?**
 - Slow price decline or increase - relationship marketing, relaunch

Step 3: Competitive Analysis



- **What is the the company and the competitors good at?**
 - Distribution, new product development and intro (3M), advertising?
- **Who are we in the marketplace?**
 - Market size and relative share, financial position, historic performance and reputation?
- **What are our and the competitors resources?**
 - People, technology-research, sales forces, cash, trade relations, manufacturing (core competencies)?
- **Entry Barriers?**
- **Market Share Leverage?**

“What are the Strengths and Weaknesses”? (SWOT-Analysis)

Step 4: Distribution Analysis



- **How can my product reach the consumer?**
 - Direct selling (mail selling, e-commerce) or channel intermediaries (wholesalers, distributors, retailers, sales forces...: e.g. B2B-Marketing)
- **How do the players in each distribution channel profit?**
 - Everyone who touches the merchandise takes a cut = margin
 - Percent Markup on Selling Price (SP) = $(\$ \text{ Markup} / \$ \text{ SP}) \times 100$ (Exercise)
- **Who has the power in the channels?**
 - Grower, refiner, stock exchange, supermarket?

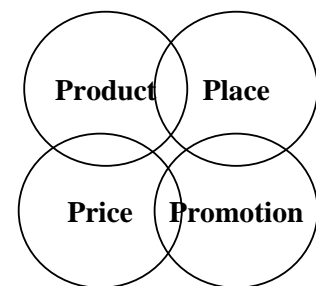
Exercise: What is the Retail Price?

Channel Participant	Channel Function	Margin	SP to next level
Sr. Juan Valdez	Grower		\$2/kg
Westway Merkuria	Coffee Broker	4.8%	
Kraft General Food	Processor	75%	
Associated Grocers Inc.	Grocery Wholesalers	9%	
Bob's Market	Retailer	23%
Mr. & Mrs. Student	Consumer		

Step 5: The Marketing Mix

The four P's

- Product:
 - How does my product fit with my others?
 - How do I differentiate my product?
 - How does the PLC affect my plans?
- Place - Where to Sell?
 - What distribution strategy? (exclusive, selective, mass)
 - Which channels? (product specifics, need for control, margins desired)
- Promotion:
 - Advertising, Personal Selling, Sales Promotion, Public Relations-Publicity, Direct Selling
- Price: What should my price be?
 - Cost Plus, Perceived Value to the Customer, Skimming, Penetration, Price/Quality Relationship, Meet Competition, Market Size, Price Elasticity



Step 6: What are the Economics

■ What are the costs?

- Fixed or Variable Costs?

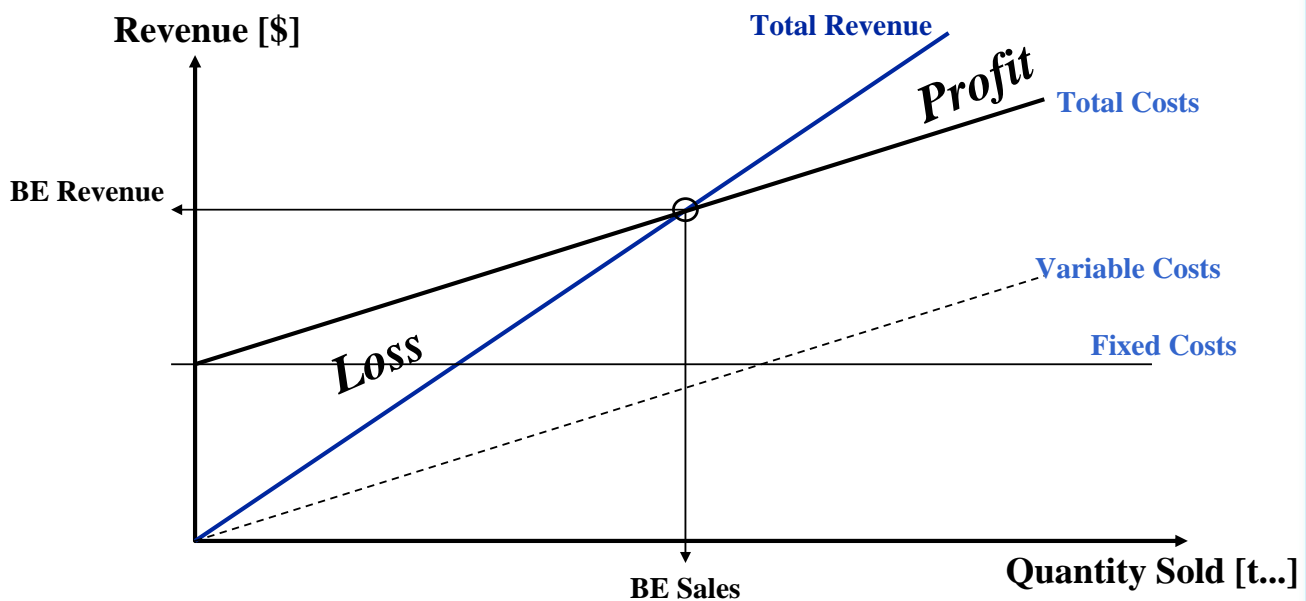
■ What is the Break Even?

- "BE is the point at which the fixed cost are recovered from the sale of goods but no profit is made"
- BE Unit Volume = Fixed Costs / Unit Contribution (= Price - Variable Costs)
- Target Volume = (FC + Profit) / Unit Contribution

■ How long is the payback of my investment?

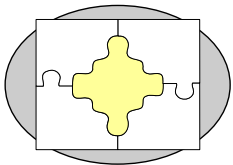
- "How long does it take to get my investment back?"
- Payback = Initial Investment / Annual Profit

The Break Even Point



Step 5: Go Back and Revise the Plan

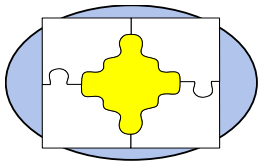
- At this stage revisit the marketing strategy development process outlined before:
- *Should another segment be targeted?*
- *Is the mail order respectively e-commerce an option?*
- *Should I not advertise and rely on a cheap price to move my product?*
-



Strategy



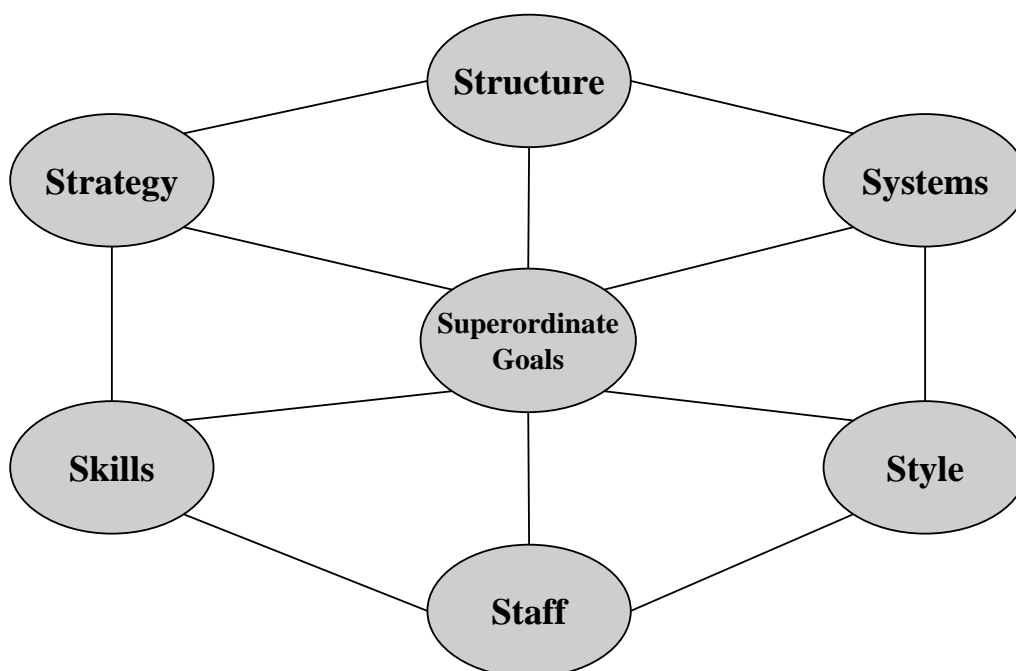
"WELL, THE DISCUSSION HAS APPARENTLY TURNED TO STRATEGY; AND I MUST CONFESS TO BEING OUT OF MY DEPTH"



Topic 5: Strategy

- The Seven S Model
- The Value Chain
- Integration and Expansion Strategies
- Industry Analysis
- Competitive Strategies
- Signaling
- Synergy
- Portfolio Strategies

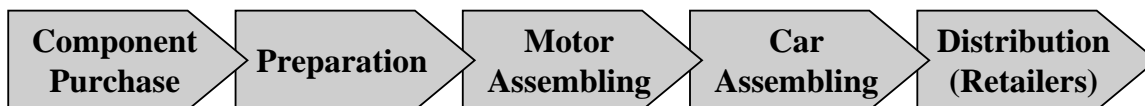
The Seven S Model



The Value Chain and Integration

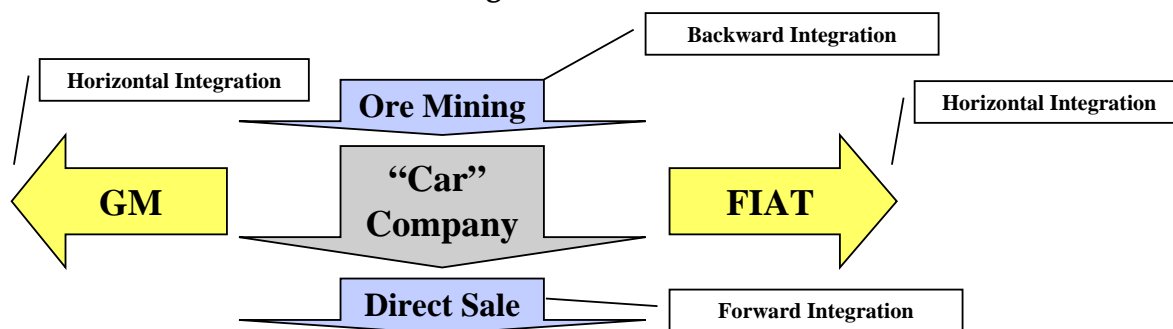
Porter: Value Chain

- Each link in the chain, a channel participant, adds value to the product



Integration

- Forward and backward integration
- Vertical and horizontal integration



Level of Strategy

Functional Strategy

- Are those operational methods and “value adding” activities that management chooses for its business (lower cost by advanced productions technology)

Business Strategy

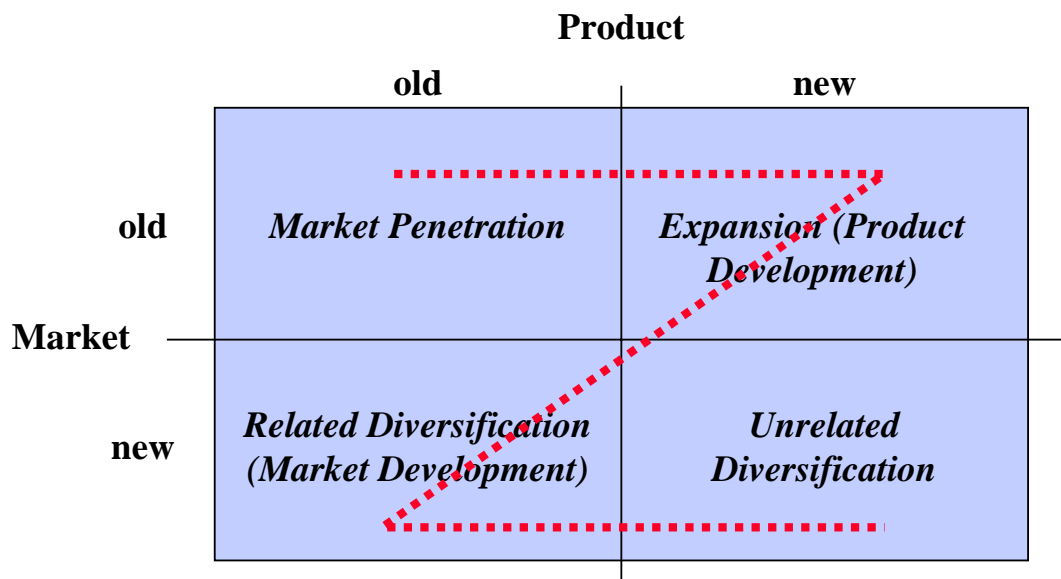
- Are the battle plans used to fight the competition in the industry that a company currently participates in (heavy marketing activities)

Corporate Strategy

- Looks at the whole gamut of business opportunities (launch a new product in a new market)

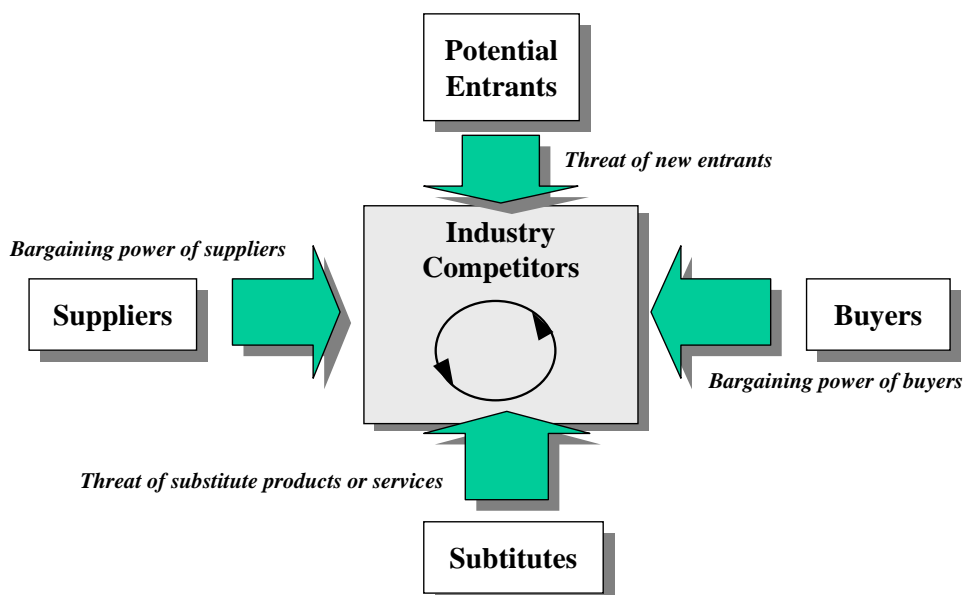
Expansion Strategy

■ Ansoff Matrix

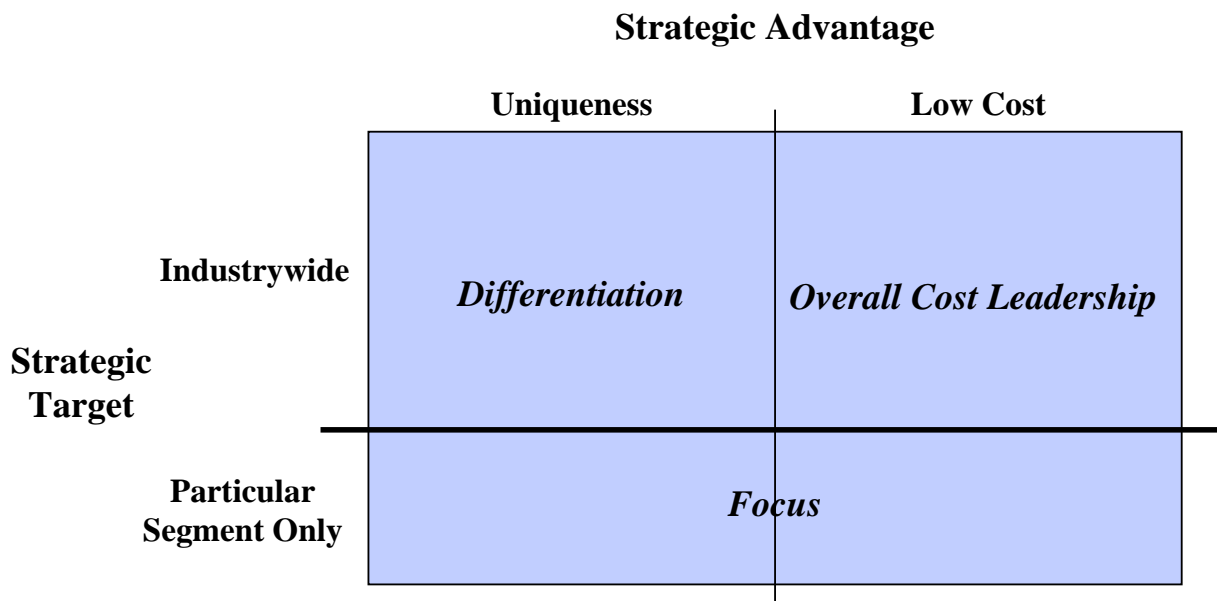


Industry Analysis

■ Porter: The Five Forces Theory



Generic Strategies



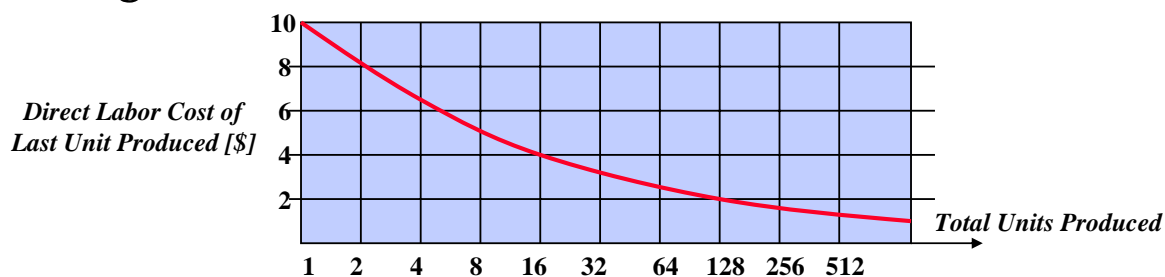
Cost Leadership

■ Economies of Scale

■ Learning efficiencies

- Labor Efficiency: repetition and automation (CIM, CAM)
- New processes and improved methods
- Product redesign: to lower cost of labor, material...(CAD)
- Product standardization: decreasing the variations (CI)
- Efficiencies of scale: doubling capacity doesn't cost twice as much
- Substitution: using less expensive materials

■ Learning Curve



Competitive Tactics

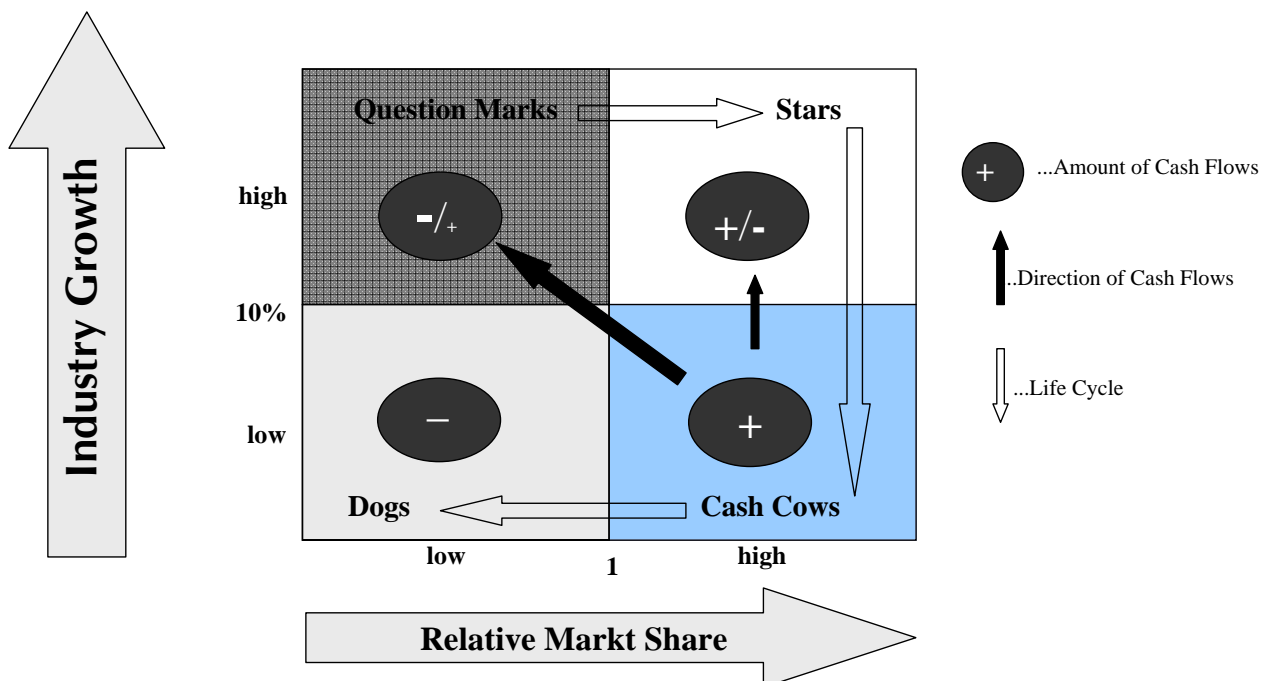
■ Signaling: Letting your competitors know what is on your mind - or just bluffing

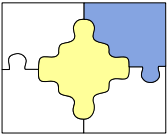
- Price movements
- Prior announcements
- Media discussion
- Counterattack
- Announced results
- Litigation: to tie up a competitor in court

■ Synergy

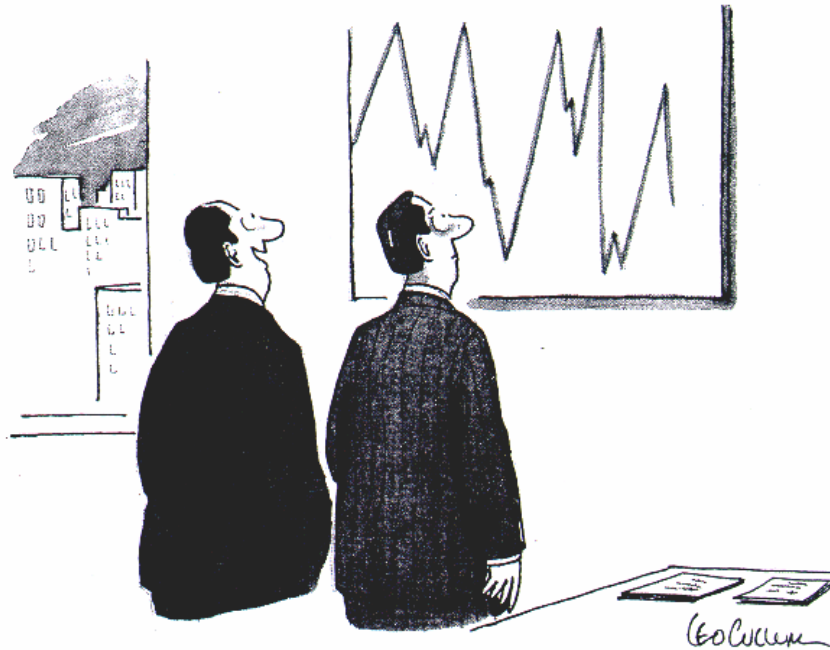
- Market linkages: customer bases, distribution channel, brands
- Technological linkages: factory processes, research, IT
- Product linkages: excess capacity, staff functions
- Intangible linkages: know-how, experience, similar strategy

PIMS and Portfolio Strategies





Economics



"I HAVE NO IDEA WHAT IT MEANS BUT I LOVE THE ACTION."

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Topic 6: Economics



"Like kings of old dispensing with their astrologers, big business is sacking its economic soothsayers. Their stargazing proved entertaining and interesting - but not very useful." Forbes, Jan. 21, 1991

■ Supply and Demand

■ Microeconomics

- Opportunity and Marginal Costs, Marginal Utility
- Elasticity
- Market Structures

■ Macroeconomics

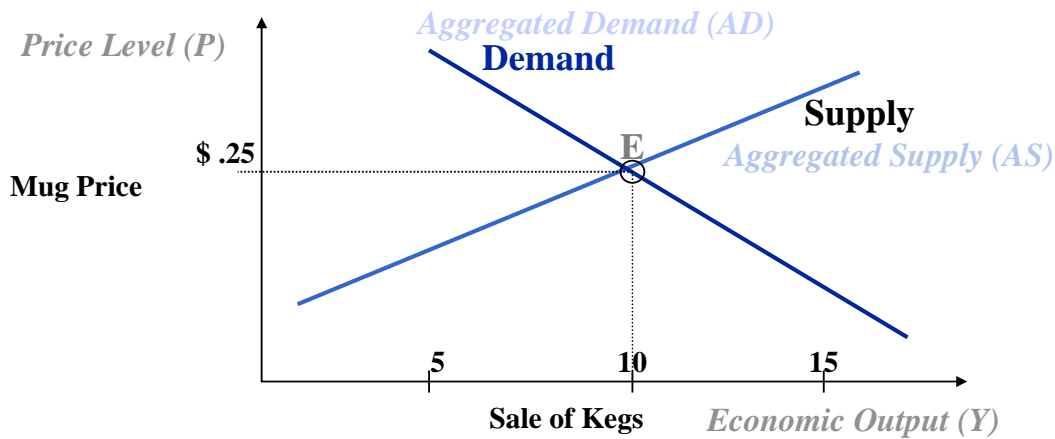
- Keynesian and Monetarist Theory
- Gross National Product Accounting
- Fiscal and Monetary Policy

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Supply and Demand

- The basis of all economic theory:

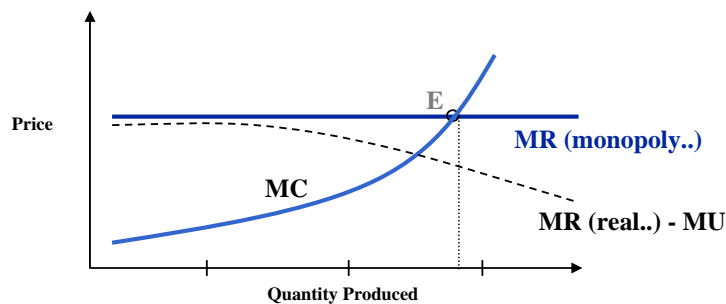
At what is referred to as equilibrium (E), the market price allows the quantity supplied to equal the quantity demanded.



Microeconomics

“Microeconomics deals with the supply and demand equation of individuals, families, companies or industries”

- **Opportunity Costs:** is the cost of choice, when output, time and money are limited
- **Marginal Revenue (MR) and Marginal Costs (MC)**



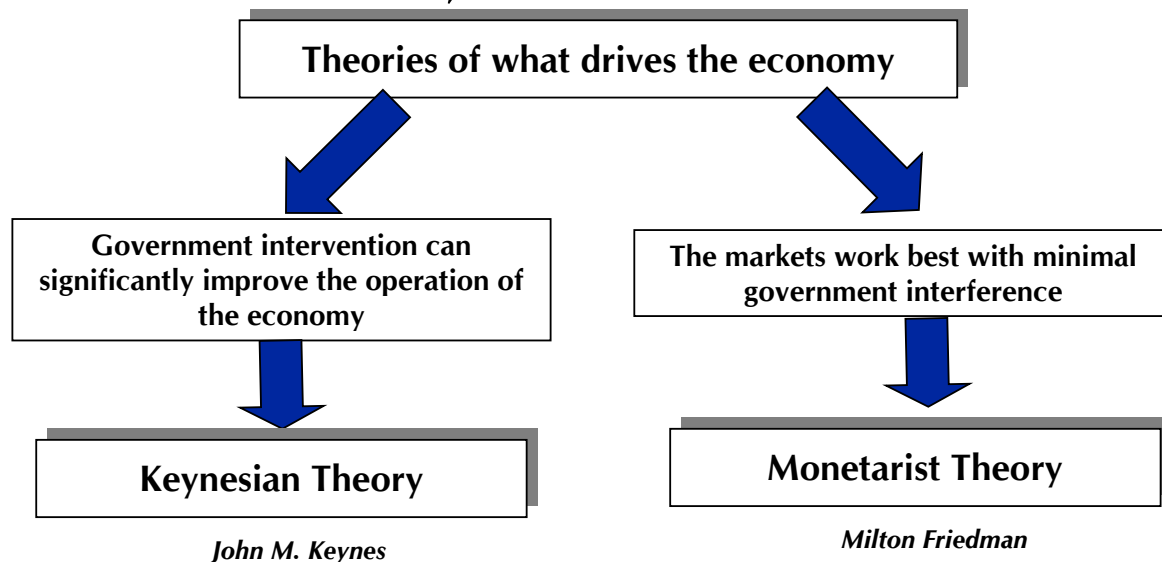
- **Marginal Utility (MU):** means the usefulness or utility of having an additional unit

Microeconomics

- **Price Elasticity:** buyers responsiveness or sensitivity to changes in price
 - Elastic: customers are very sensitive to price changes
 - Fast food - “value meals”
 - Inelastic: the purchasing behavior do not change with price changes
 - Cigarettes - nicotine addicts, medical services - drugs
- **Competitive Market Structure:** drives supply, demand and price
 - Pure Monopoly: only one seller with a unique product
 - Oligopoly: few suppliers with a product without real substitutes
 - Monopolistic Competition: many producers but product can be differentiated
 - Pure Competition: many producers selling a similar, substitutable product

Macroeconomics

“Macroeconomics concerns itself with the economics of cities, countries or the world”



Keynesians vs. Monetarists

Keynesian Thoughts

- Free enterprise without government intervention does not cause full employment
- Unemployment is the big problem that needs a solution
- With government spending and monetary policy, government should smooth out the business cycles
- Adequate information is available to take government action
- Government spending can help spur efficient economic growth

Monetarist Thoughts

- Free market economics are the best in the long run even at the cost of unemployment
- Inflation is the big evil, it is a tax on everyone
- Government tinkering makes the economy worse off in the long run
- Available economic data are usually inaccurate and too late for useful intervention
- Government spending crowds out efficient private activity

Keynesian Topics

■ Gross National Product (GNP)

- GNP is the total market value of all final goods and services produced by an economy in a year
- Changes are a measure of the health on an economy
- If the price level of GNP rises, it is called inflation (CPI, PPI)
- Net National Product (NNP) = GNP - asset depreciation
- Gross Domestic Product (GDP) - produced within the borders
- The GNP Equation:

$$\text{GNP} = C + I + G + X$$

C...Personal Consumption
G...Government Purchase

I...Private Investment
X...Net of Exports over Imports

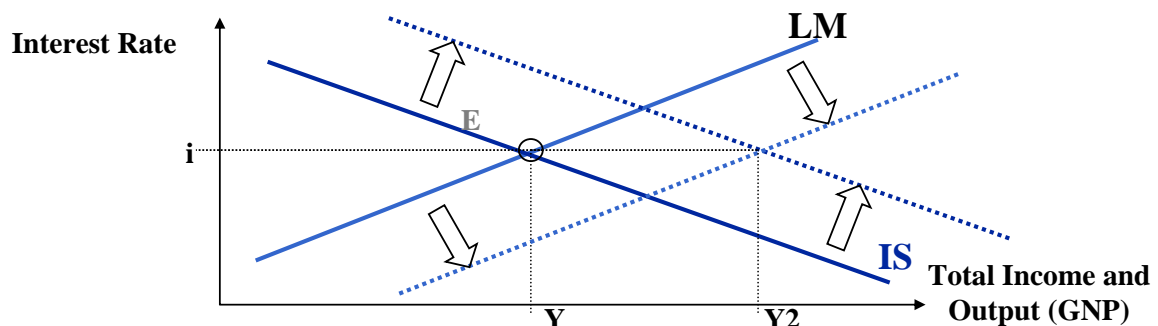
Keynesian Topics

■ Fiscal Policy

- How the government decides to spend the money is called fiscal policy (G)
- the fiscal policy can “prime the pump” of a weak economy

■ The IS/LM Curve

- Interest rates are also powerful driving forces in the economy
- High interest rates retard investments - investment and spending curve (IS)
- The higher the interest rates the higher the liquidity preference for money - liquidity and money curve (LM)



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Monetarist Topics

■ What is money?

- Money is the medium of exchange to buy and to sell goods and services
- Money is cash (M1) and money equivalents (e.g. checking account balances, M2)

■ The Quantity Theory of Money

- Money is the main driver of GNP (Keynes = LM-curve)

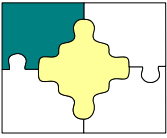
$$M \times V = P \times Q$$

$$\text{Money} \times \text{Velocity} = \text{Price Level} \times \text{Real GNP}$$

■ Monetary Policy Tools

- Change the discount rate
- Trade government securities
- Change the reserve requirement of financial institutions

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Operations



Topic 7: Operations

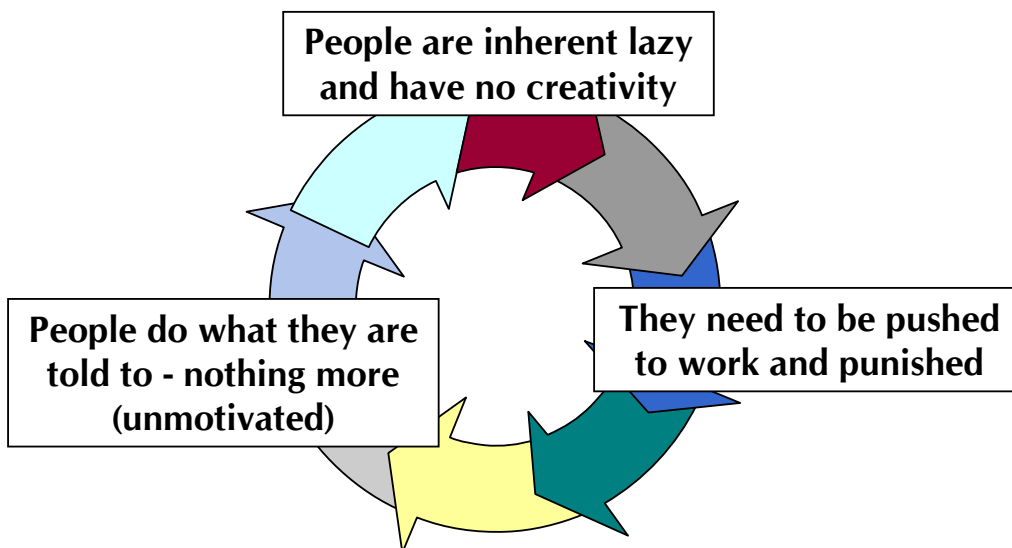
- Operation Research
- Gantt Charts
- Critical Path Method
- Linear Programming
- Inventories
- Quality
- Six Sigma



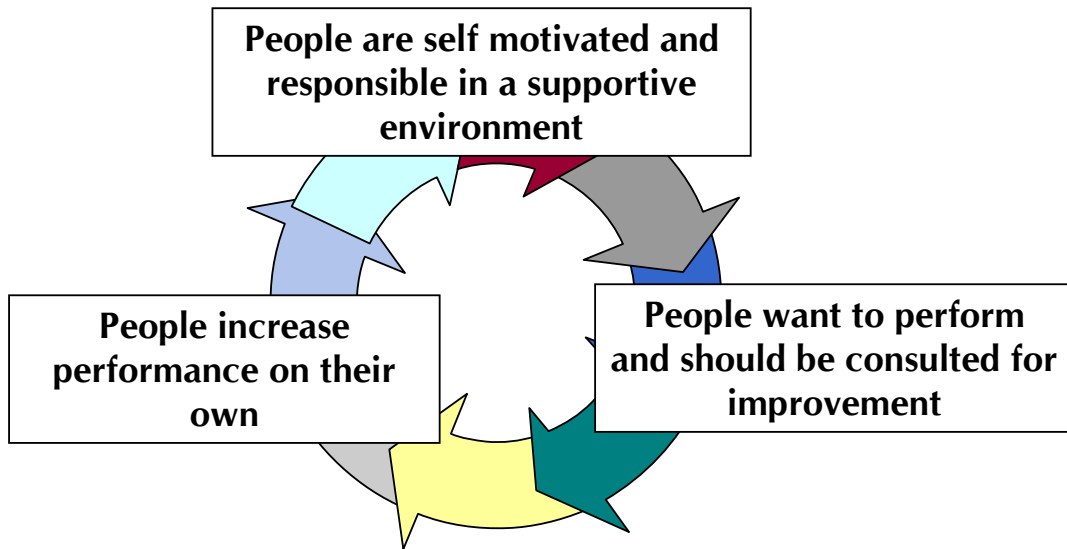
POM-History and -Scientists

- **Frederick Taylor – “Job Fractionalization”**
 - Studies of steel workers. Breaking down a complex task into smaller components, which could be improved by time and motion studies
- **F. and L. Gilbreth – “Therblig”**
 - Identification of 17 different workers movement. Efficiency improvement by elimination of waste movements.
- **Elton Mayo – “Human Relations”**
 - The emotional state of workers is just as important as finding the right combination of movements.
- **Churchman... – “Operations Research”**
 - Bottleneck elimination by mathematical models
- **Douglas McGregor – “Theory X-Y”**
- **William Ouchi – “Theory Z”**

Theory X



Theory Y (Z)



Basic Issues of POM

■ Capacity - How much can I produce?

- 6M: Methods, Materials, Manpower, Machinery, Money, Messages
- Methods: continuous process, assembly line, job shop

■ Scheduling

- Gantt Charts, networks (CPM).....

■ Inventory

- Inventory Flow Diagram
- Economic Order Quantity

■ Standards and Control

- Accounting (succeeding chapters)
- Total Quality Management

Scheduling



■ Basics of Statistics and Operational Research

■ Special topics

- Project planning and scheduling
 - Bar/Gantt charts
 - CPM/PERT network
- Linear programming

Quantitative Techniques (QT)



■ Statistics:

- Basic probability, Sampling & Estimation
- Decision theory
- Hypothesis testing
- Linear regression & Time series analysis

■ Operation Research (OR):

- Scheduling methods [Gantt charts & CPM/PERT]
- LP, transportation & assignment models
- Inventory control
- Queuing
- Simulation

Bar/Gantt Charts

■ Features

- Activities plotted against time/cost
- Listing of activities, activity duration, schedule dates, progress to-date

■ Advantages:

- Simple to understand and easy to change
- Best visualization form for a project

■ Disadvantages

- Fails to retain logic as project gets bigger
- Provides vague description of project

CPM/PERT Network Analysis

■ Requirements

- Project breakdown into activities
- Estimate activity duration, schedule and critical path
- Estimate resource requirements

■ Advantages

- logical relationships maintained
- Problem areas/effects of changes identifiable
- Alternative plans possible

■ Disadvantage

- Complex - implementation problems

Linear Programming [LP]



■ Resource allocation

■ Steps

- Mathematical formulation
 - Identify controllable variables and the objective
 - Express objective & constraints as linear relationships of variables
- Optimal solution
- Evaluation & sensitivity analysis

Inventory



■ The Balancing Act

- Different departments want different levels of inventory

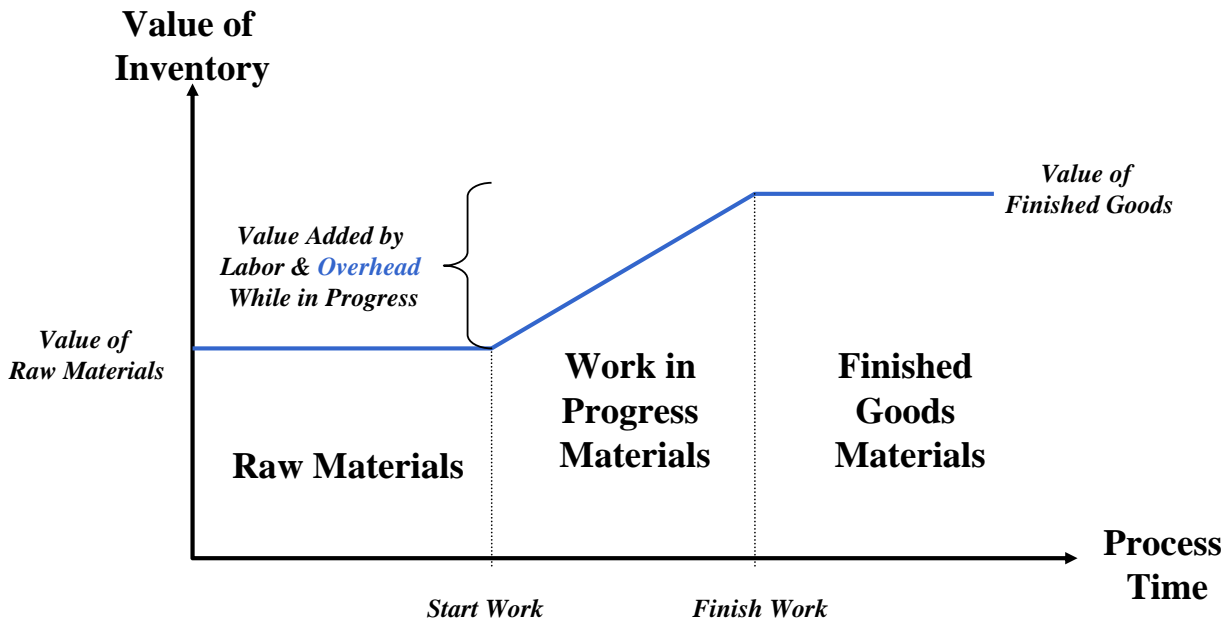
■ Reasons for holding inventory

- Pipeline: inventory on hand to minimize production delays and maximize efficiency
- Cycle: suppliers have minimum order amounts that are greater than the immediate need
- Safety: avoid a shortage because of uncertain production demands
- Anticipatory: inventory held in anticipation of known demand
- Speculative: items purchased to beat supplier prices increases

■ Just in Time inventory (JIT)

- Materials arrive just in time for production - supply chain management necessary

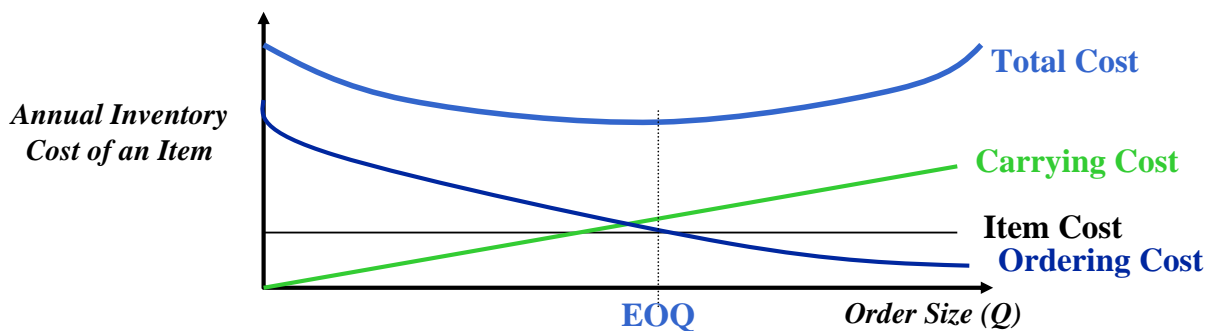
Inventory Flow Diagram



Economic Order Quantity (EOQ)

Find just the right quantity of inventory

- Based on the trade-off of two costs associated with inventory
 - Carrying Cost: storage, insurance, financing (+ opportunity cost)
 - Ordering Cost: ordering costs including accounting and clerical labor



- EOQ-Formula

$$EOQ = [(2 \times R \times O) / C]^{0.5}$$

Total Quality Management



■ What is quality?

- User-based? Manufacturing-based? Product-based?

“Quality is the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs” ,ASQC

■ Quality affects a company in 4 ways:

- Costs and market share
- Company reputation
- Product liability
- International implications

■ Quality Standards

- Europe: ISO9000, USA: Q90-94

■ Total Quality Management

- Refers to a quality that encompasses the entire organization, from supplier to customer.

Demings 14 Points



1. Create consistency of purpose
2. Lead to promote change
3. Build quality into the product, stop depending on inspections
4. Build long-term relationships based on performance instead of awarding business on the basis of price
5. Continuously improve product, quality and service
6. Start training
7. Emphasize leadership
8. Drive out fear
9. Break down barriers between departments
10. Stop haranguing workers
11. Support, help, improve
12. Remove barriers to pride in work
13. Institute a vigorous program of education and self-improvement
14. Put everybody in the company to work on the transformation

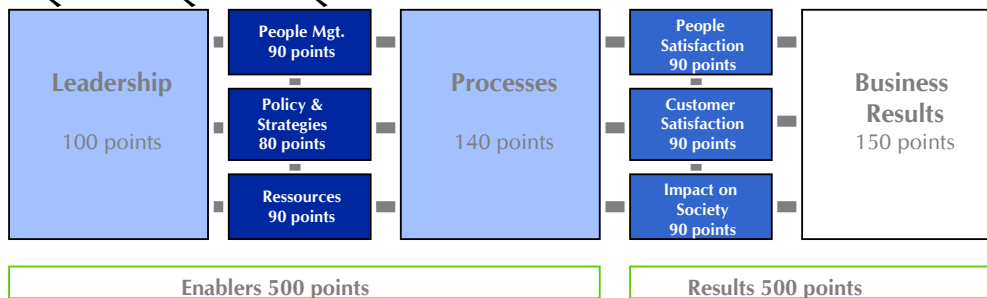
Total Quality Management

Basics of TQM

- Quality focus
- Continuous Improvement
- Employee Empowerment
- Benchmarking

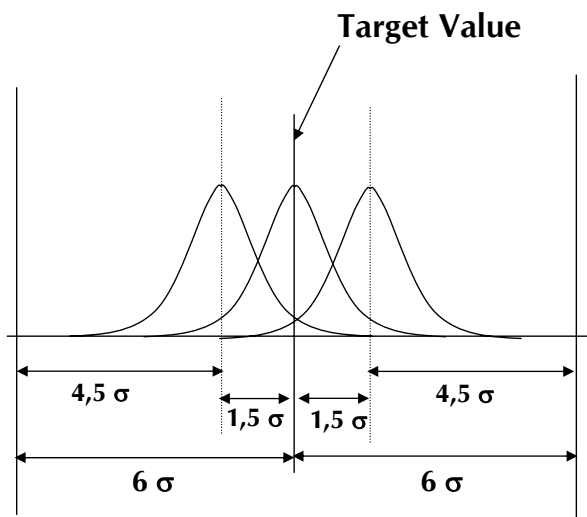
Quality measures - Award systems

- BNQA
- EFQM - EQA - AQA

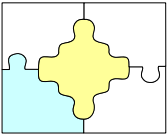


Six Sigma

- Six Sigma is a management concept for cost reduction and quality increase with an increase of customer satisfaction at the same time
- The sigma level indicates the probability of defect occurrence. (The higher the sigma value, the better the process capability)



Sigma Level	Defects per Million Units
6	3,4
5	233
4	6.210
3	66.807
2	308.537



Ethics



Topic 8: Ethics

■ Examples

- Environment issues: pollution
- Employee privacy issues: AIDS, drug testing
- Diversity issues: race, gender, ethnicity
- Sexual harassment
- Others: antitrust actions, insider trading

■ The Social Responsibility of Business

■ Relativism

■ Organisational Culture

■ Stakeholder Analysis

The Social Responsibility of Business



■ Neoclassical View: Milton Friedman

- Social Responsibility = the aim of the company to stay for a long time in the market by raising its profits

Vs.

■ Modern View: Corporate Sustainability

- Social Responsibility = companies have societal obligations which go beyond maximizing profits

Relativism



- ***We can't decide on matters of right and wrong, or good and evil!***
- ***Ethics is "relative" to the personal, social and cultural circumstances in which one finds oneself.***
- **Naive Relativism:** every person has his or her own standard
- **Role Relativism:** distinguishes between private and public role
- **Social Relativism:** people refer to social norms
- **Cultural Relativism:** no universal morale code to judge other society

Organisational Culture (OC)



■ Characteristics of OC (Schreyögg)

- OC is of implicit character
- OC is lived and accepted as natural within the firm by its members
- OC tends to exist of uniform and coherent behaviour
- OC communicates sense and orientation
- OC is not directly learned but internalised within a process of socialisation.

■ Culture influenced by various characteristics

- Several cultural models and studies (e.g. Schein, Hofstede, Trompenaars,...)

Stakeholder Analysis



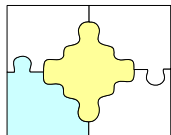
■ Stakeholder Analysis is a a simple tool for weighting various elements and reaching a decision

1. List all potentially affected parties
2. Evaluate harms and benefits that a particular action will have on those involved
3. Determine the parties' rights and responsibilities
4. Consider the relative power of each
5. Consider the short- and long-term consequences
6. Formulate contingency plans for alternative scenarios
7. Make a judgment

Exercise: Stakeholder Analysis

- **Example: The “spotted owl” case!**
 - Decision: Stop logging due to the owls?

	Lumber Companies	Loggers	Logging Communities	Owls & Trees
Harms & Benefits	Higher costs Lower profits Higher value on private lands owned	Less work More free time	Lost wages in local economy Business failures	Survival
Rights & Responsibilities	Value maximization for owners within the law	Reasonably exploit natural resources Make a living	Reasonably exploit natural resources	Life



Organizational Behavior



Collier
 "YOU'RE FIRED, NEVINS, BUT WE'VE ENJOYED YOUR BEING HERE AND HAVE SOME LOVELY PARTING GIFTS FOR YOU."

Topic 9: Organizational Behavior



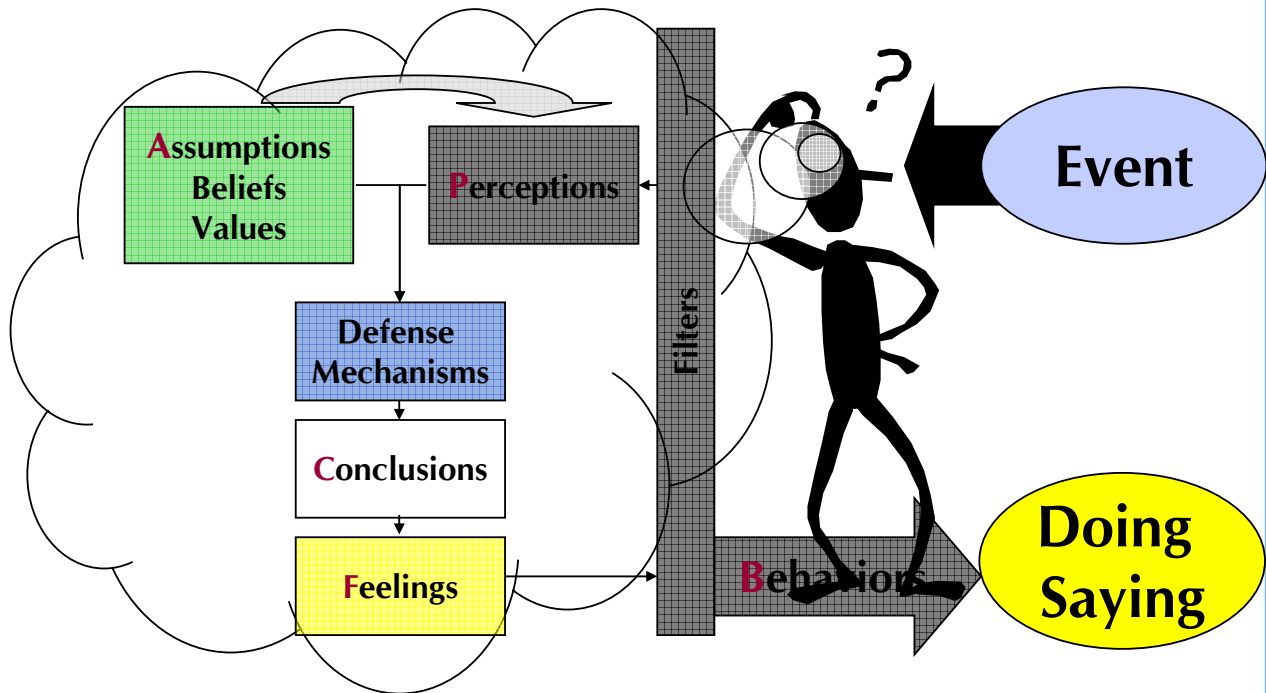
- **Problem Solving**
- **Psychology - APCFB**
- **Motivation**
- **Leadership**
- **Basic Organizational Model**
- **Evolution and Revolution**

The OB Problem Solving Model



- **Problem Definition**
 - Want-Got Gaps
 - The Level of Problems
 - Individual, group, organization
 - Source Problems and Causal Chains
- **Analysis**
 - Link Problems and Causes - Understand
- **Action Planning**
 - Set Specific Goals - Define Activities, Resources, Responsibilities - Set a Timetable - Forecast Outcomes - Formulate a Detailed Plan of Action - Implement, Supervise Execution and Evaluate Goals

Psychology: The APCFB Model



Motivation

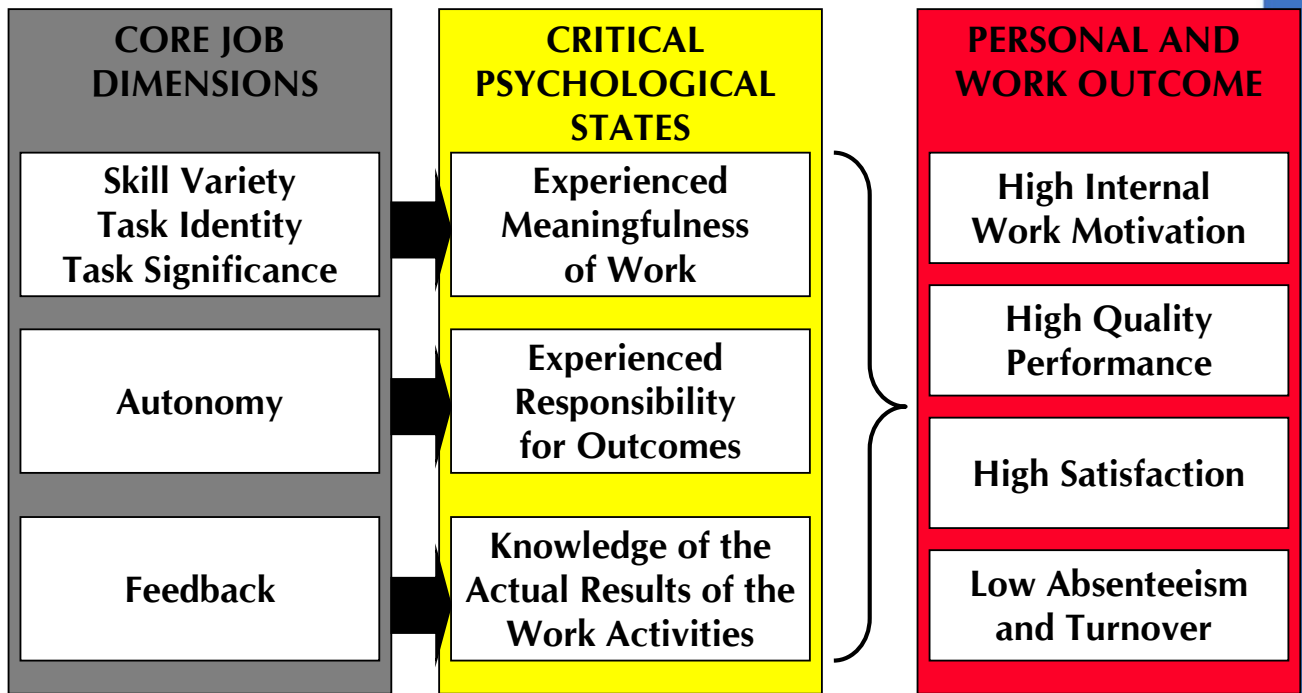
■ Expectancy Theory:

- Motivation = Expectation of Work will lead to Performance x Expectation of Performance will lead to Reward x Value of Reward

■ Herzberg, Maslow and McClelland:

- "Behavior is motivated by the urge to satisfy needs"
 - Maslow: Pyramid of Needs (primary - safety - belong - status - self-actualization)
 - Herzberg: Maximizing "Satisfiers" (Motivators) and Minimizing "Dissatisfiers" (Maintenance Factors)
 - McClelland: 3 Needs: Achievement - Power - Affiliation

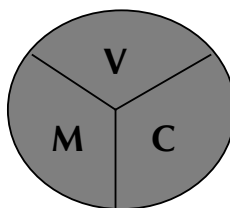
Job Design



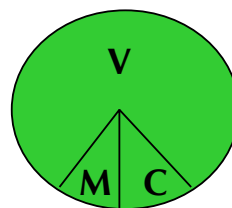
The Leadership VCM-Model

■ Three characteristics are part of a leader's personal profile:

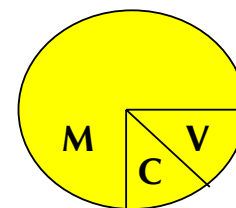
- Vision
- Commitment
- Management Skills



Balanced



Visionary



Managerial

■ Characteristics are based on the idea of man a leader has!

■ Active Listening

- Respond to information - don't lead
- Respond to personal information - don't give advice
- Identify the interviewee's feelings as well as the content

■ Performance Appraisals

- Organizational (aim at proper conduct, performance, pay..)
- Feedback and Evaluation (process and documentation of performance)
- Coaching and Development (the primary goal of appraisal)

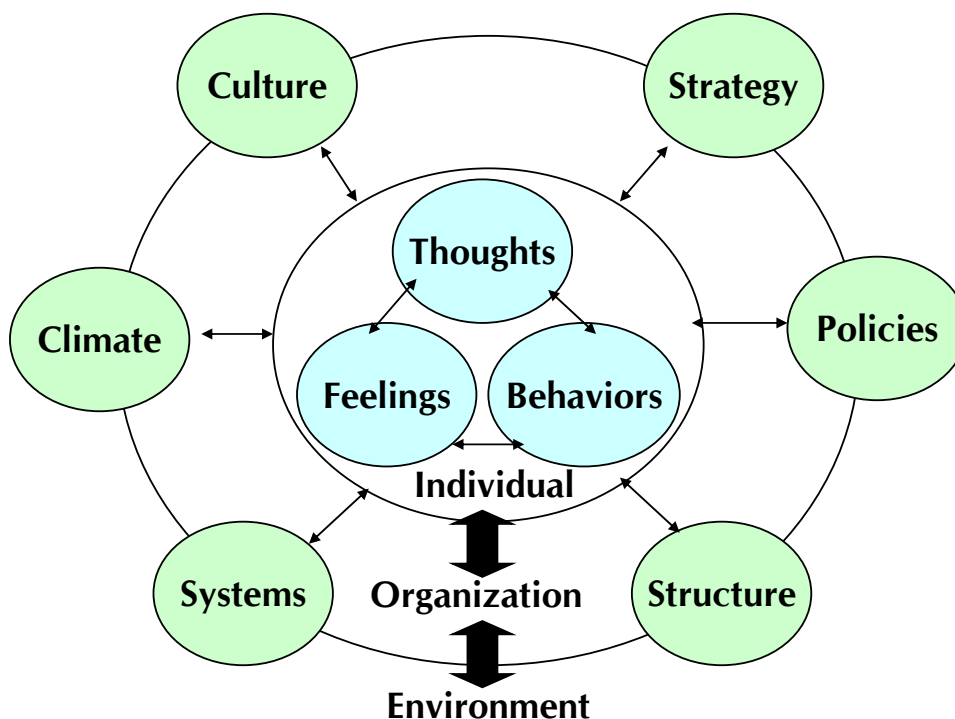
■ Reprimands

- Check the facts - Pause and express your displeasure - Display a carrying attitude

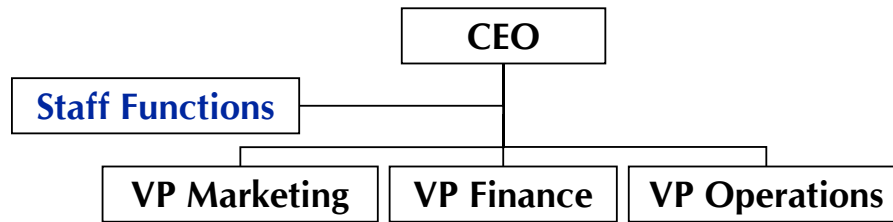
■ Power on the Job

- Coercive - Reward - Referent - Legitimate - Expert

Basic Organizational Model



Organizational Structures



■ Classic

- Functional - Product - Customer - Geographic

■ Divisional

- Divisions are independent businesses operating under the umbrella of a parent corporation (except financing)

■ Matrix

- The matrix departs from the principle of unity of command: *“Only one boss for each employee”*

■ Amorphous

- No formal structure at all

Evolution and Revolution

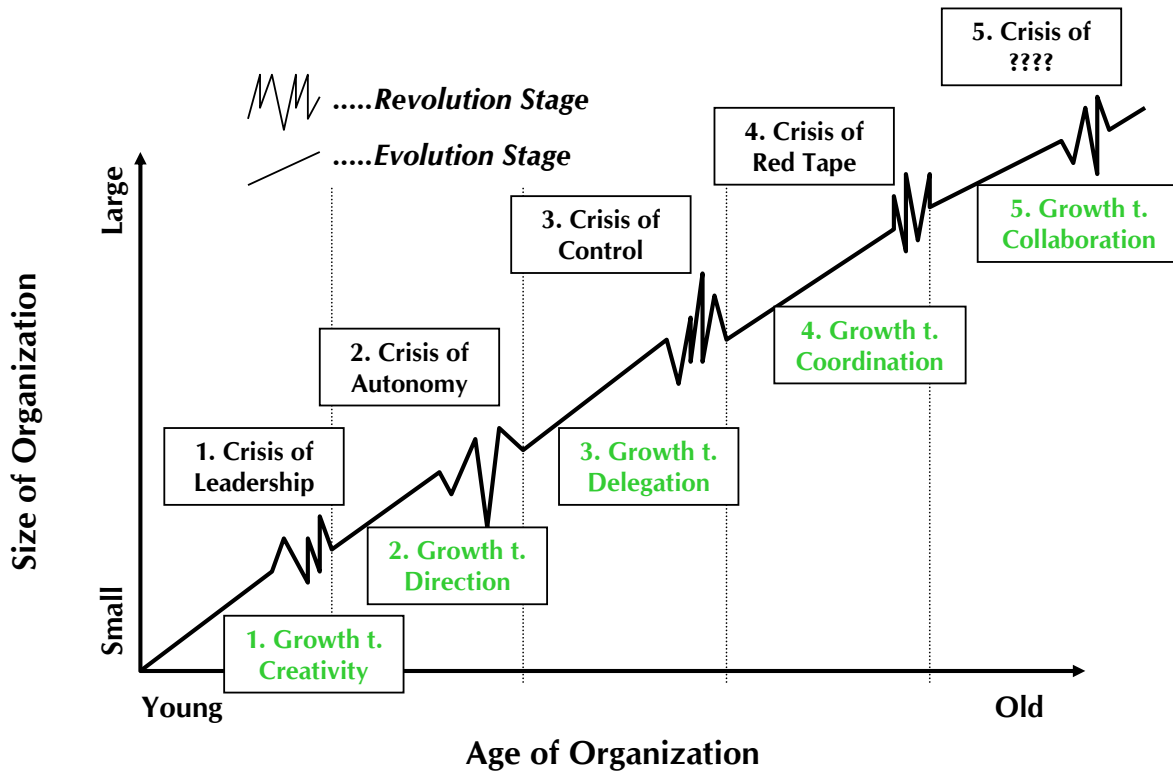
■ Two Different Ways to Achieve Change

Change of 1 st Order	Change of 2 nd Order
Reduced to single aspects	Multidimensional
Reduced to single levels	Comprises all levels
Quantitative change	Qualitative change
Change of the content	Change of the context
Continuity, same direction	Discontinuity, new direction
Incremental	Revolutionary
Logical and rational	Supposed irrational
Without changing paradigm	Change of paradigm

TQM, CI

BPR

The 5 Phase Change-Theory



Choosing Tactics for Change

■ Situation - Action Needed for Change (Kotler, Schlesinger)

- Company Lacks Information - Education and Communication Tactics
- You Need Information and You Have Little Leverage - Participation and Involvement Tactics
- Adjustment Problems - Support and Facilitation Tactics
- Your Desired Changes Will Cause Losses and Opponents have the Power to Block You - Negotiation and Agreement Tactics
- You have No Alternatives and No Money for Facilitation - Manipulation (No Choices)
- Speed is Needed and You Have the Power - Explicit Orders and Coercion Tactics