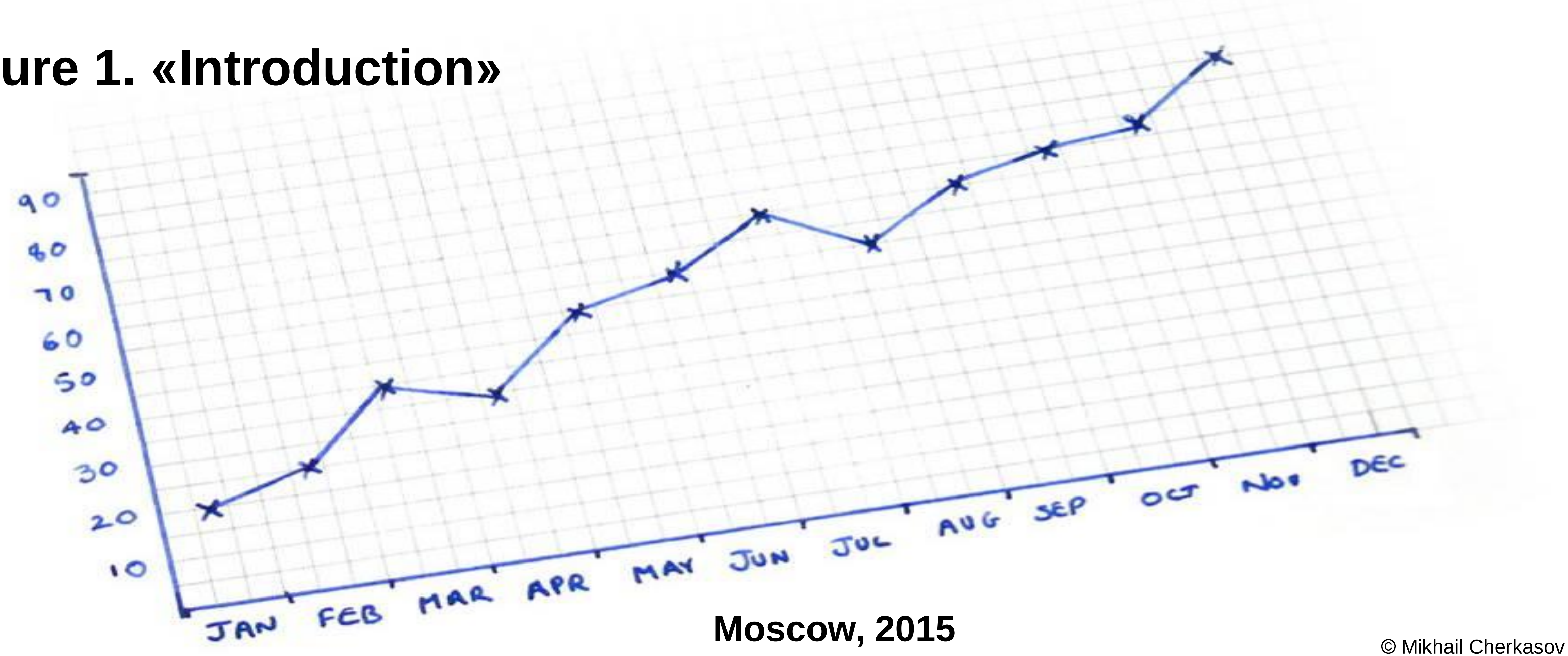
National Research University – Higher School of Economics

Investment Project Management

Lecture 1. «Introduction»



Moscow, 2015

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What is a project?

The word “**PROJECT**” came from the Latin word “projectum” as a form of Latin verb “proicese” (to throw something forwards).

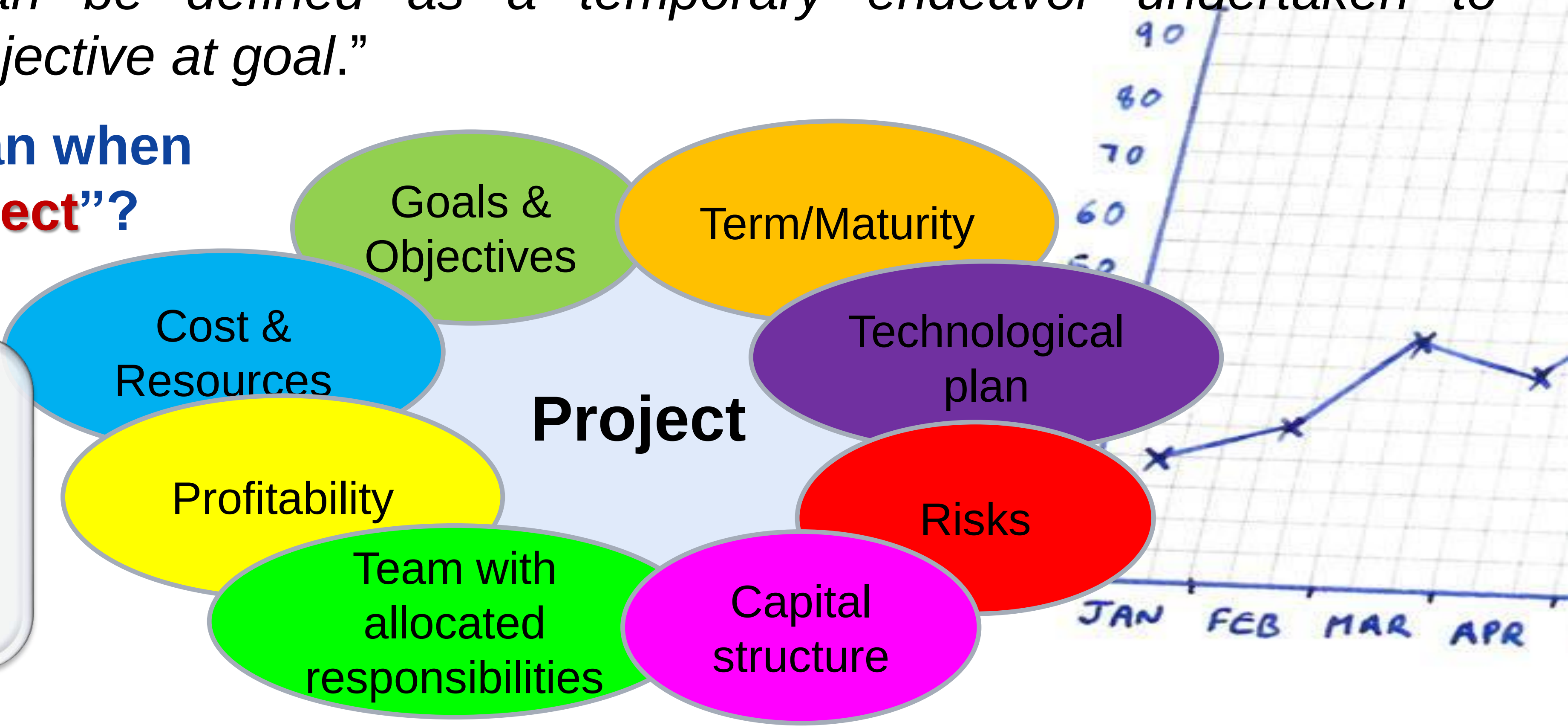
➪ According to **F. Harrison**: “*Project is a non routine, non repetitive, one-off undertaking, with well defined time, financial and technical performance goal*”.

➪ According to A Guide to the Project Management Body of Knowledge (**PMBOK**), “*Project can be defined as a temporary endeavor undertaken to accomplish a unique objective at goal.*”

What do we mean when describe “project”?

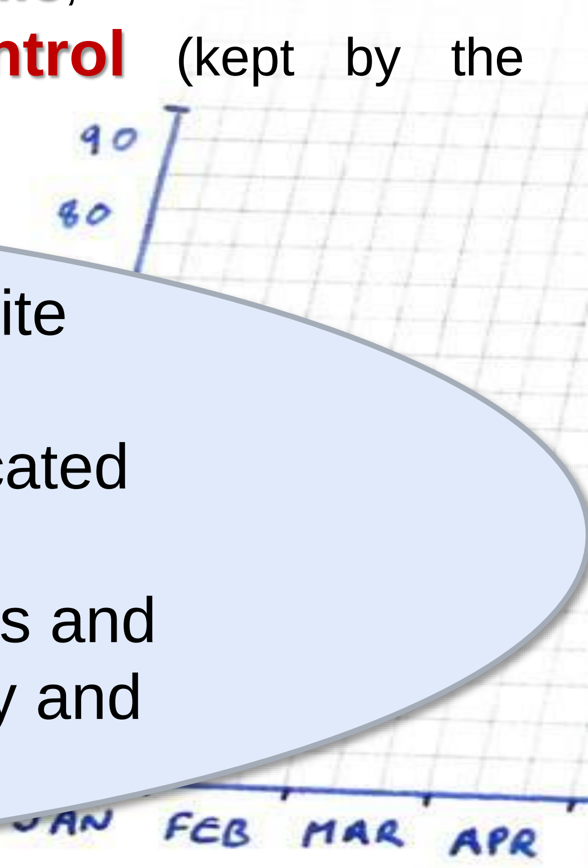
Types of projects:

- Personal;
- Local;
- Organizational;
- National;
- Global.



What is a project?

- Non-repetitive **venture** (not an entity!!!) to accomplish some **objectives** & goals;
- **Set of** interrelated **jobs** (allocated responsibilities + technological plans). When all are accomplished the project is completed;
- Consumption of **time** & **resources**;
- Targeted: **profitability** and **capital structure**; approved **schedule**;
- Planned system of **risk management** and execution **control** (kept by the **stakeholder**);
- **Team** of people.



The Project is:
‘Not-recurring activity directed to accomplish definite objectives
which is carried out by the authorized team with allocated responsibility
in accordance with strictly planned technical conditions and norms of resources consumption; targeted profitability and risk management system
under the control of the stakeholder’.

What is a Project?

	Projects	Programs	Portfolio
Definition	**(ISO)** A project is a unique process consisting of a set of co-ordinated and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirements including the constraints of time, cost and resources. **(PMI)** A temporary endeavor undertaken to create a unique product, service or result.	**(PMI)** A group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually. Programs may include elements of related work outside of the scope of discrete projects in the program.	**(PMI)** A collection of projects or programs and other work that are grouped together to facilitate effective management of that work to meet strategic business objectives. The projects or programs of the portfolio may not necessarily be interdependent or directly related.
Example	PepsiCo: A new milk product	PepsiCo: Implementation of 3 complementary projects: new milk product; new wrapper for new milk product; new storage facility for the new product	PepsiCo: Portfolio of milk products, drinks, snacks, kids food

What is a project management?

PMBOK defines: the Project Management is a set of interrelated tasks to be executed over a fixed period of time and within certain cost and resources limitation.

For Financial people (about the commercial projects): The PM represents several strange actions of the technical dudes which are needed only to reach the right:

- **Cash Flow**;
- **Profitability**;
- the Stakeholder's **Return**.

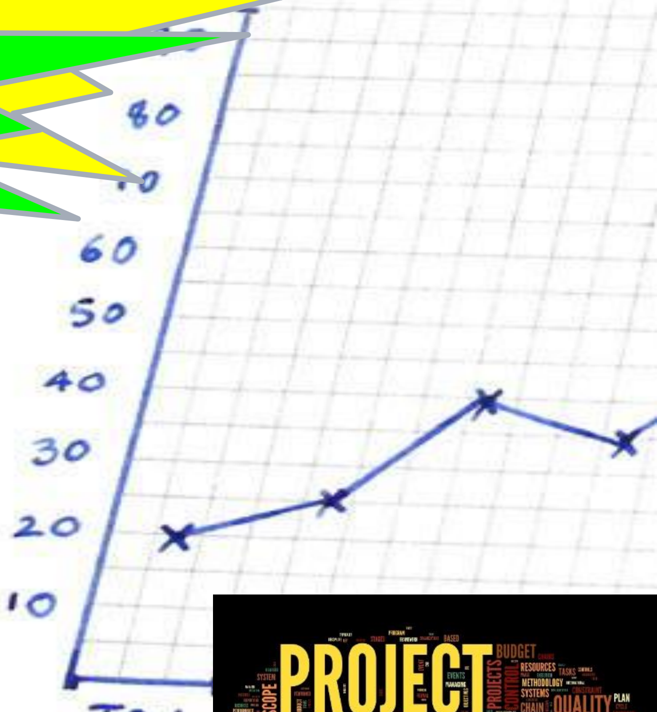
PM becomes Investment Project Management

A few similar terms:

Asset Management - the management of collective investments (Banking Practice).

Project Finance - the process of debt financing of the projects (Banking Practice).

Capital Budgeting – almost the same as "IPM" but includes only financial performance of the Project (Corporate Finance).



Types of Projects

By today the mankind has committed 2 global technological revolutions *(there are much more ones since Upper Paleolithic Period which are defined by the scientists but for us only 2 modern revolutions are significant):*

Industrial & Digital (2nd stage of Industrial) Revolution

Atoms

New products

Surplus value is generated by exploitation of workers and by material assets

Traditional Projects

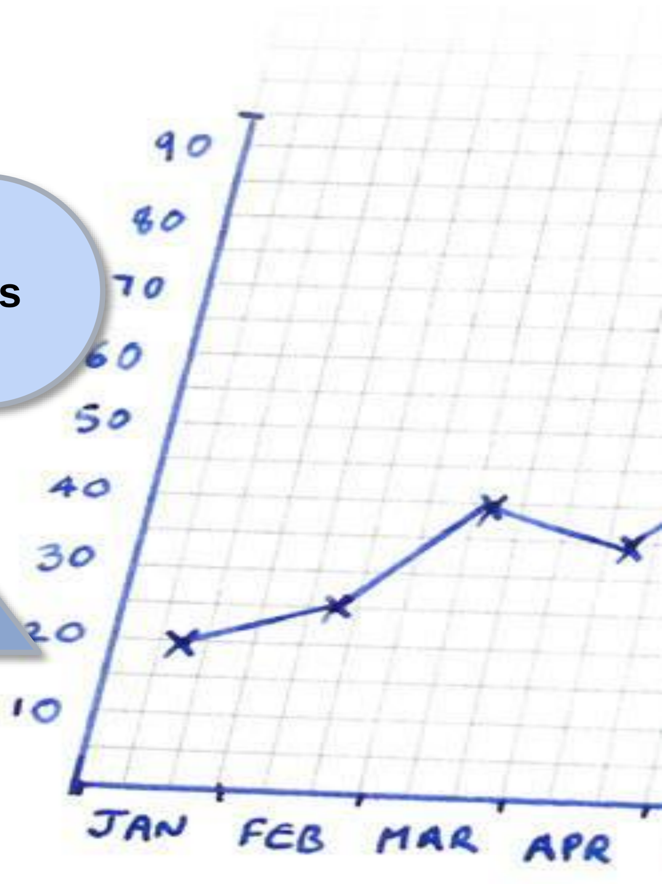
Information Revolution

Surplus value is generated by exploitation of customers and by intangible assets

New markets

Bits

Start Up Projects



Types of Projects

New type of economy has generated new types of projects, financing, corporate structure, profitability and companies’ valuation.

Traditional Projects

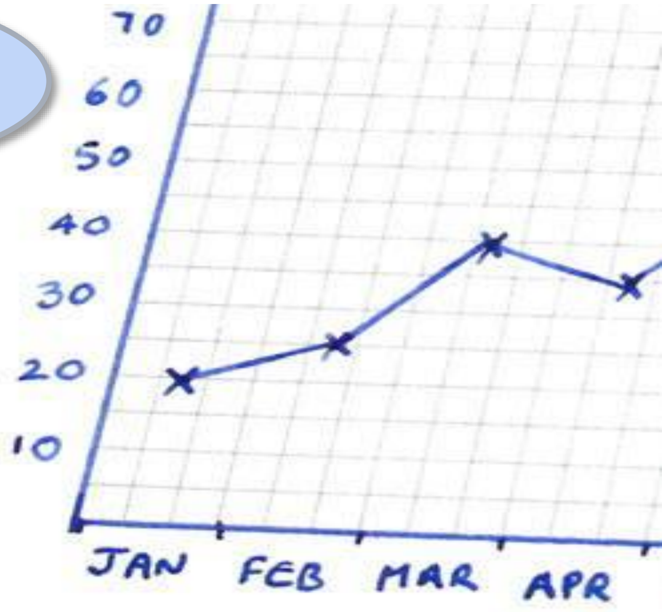
- Corporate finance
- Traditional profitability ratios: NPV, IRR, ROI
- Usual corporate structure
- Team: Industriuos people

Start Up Projects

- New profitability ratios: CPA, LTV, ARPU, CPM
- Venture finance
- New corporate structure
- Team: Creative people

FYI:

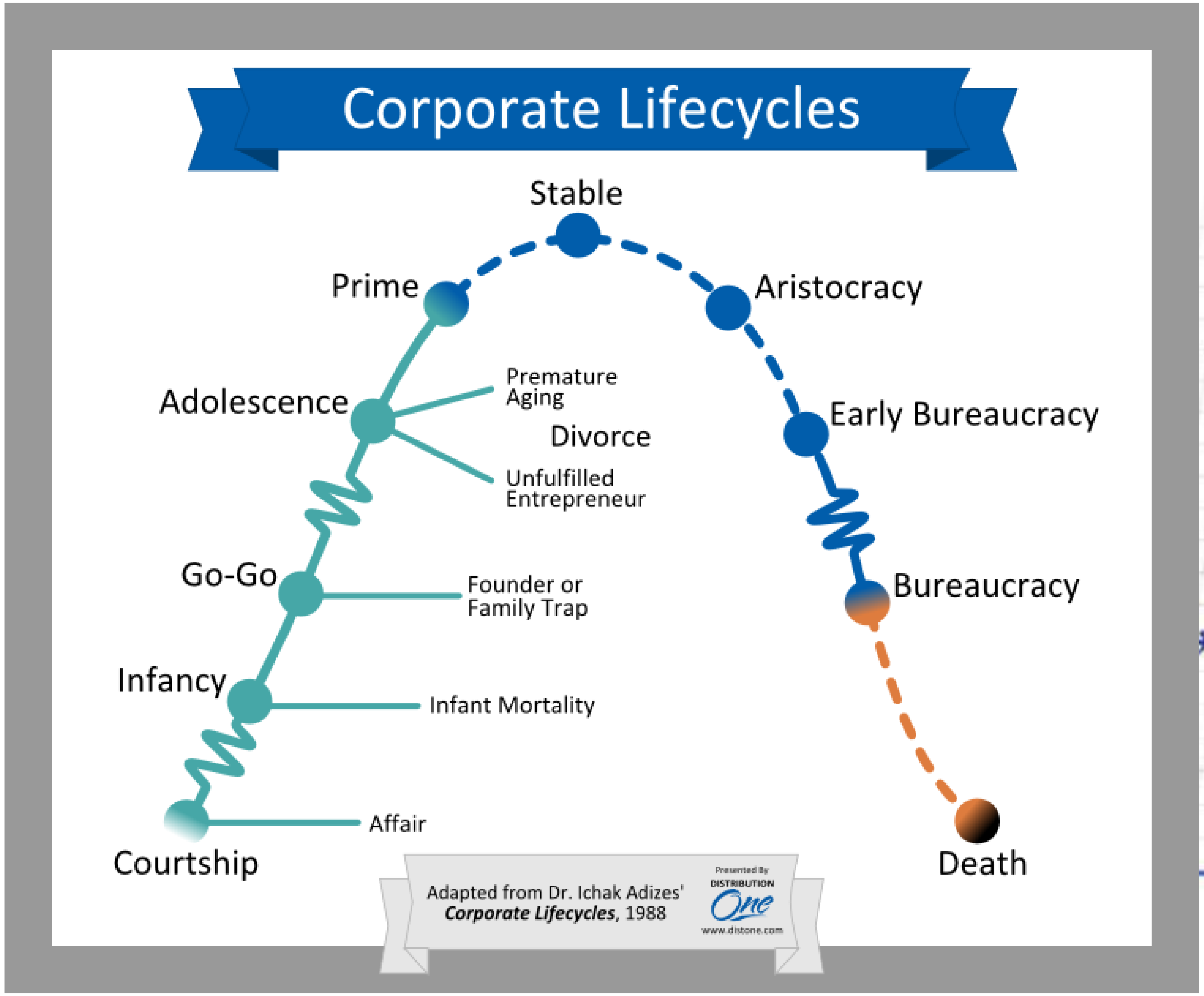
CPA – Cost per Action;
LTV – User Life-Time Value;
ARPU – Average Revenue per User;
CPM – Cost per mille.



Goals and Objectives

But despite of substantial difference both types of projects have the same **GOALS**: to **EARN MONEY** and to become a usual **FIRM**. And the similar **Life Cycle**.

Ichak Kalderon Adizes *corporate lifecycle model.*



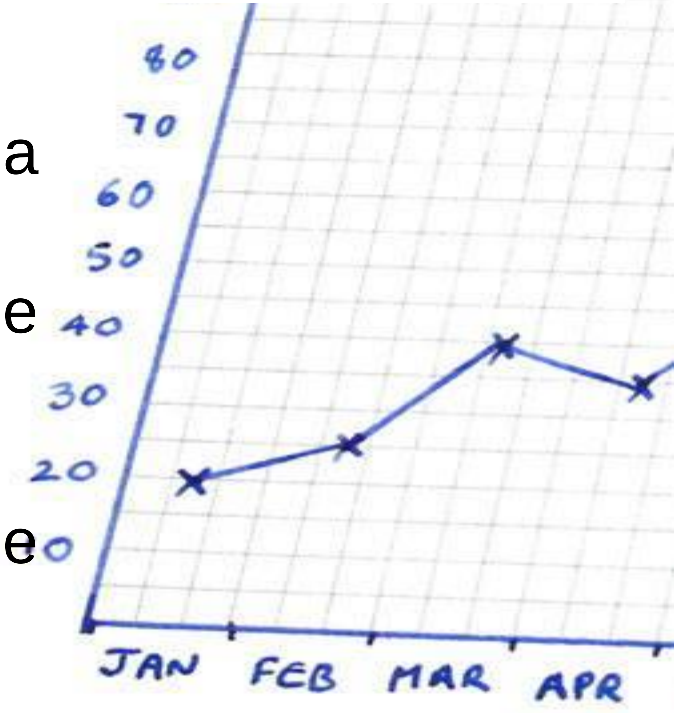
At the point between '*Prime*' and '*Stable*' stages both types of Projects (Traditional & Start Up) become **TRADITIONAL ENTERPRISES**. But for the traditional project this point means '**DEATH**' – it's completed.

Goals and Objectives

	Goals	Objectives
Definition	Something what you try to achieve in general	A specific result that a person or system aims to achieve within a time frame and with available resources.
Time Frame	Usually long-term.	A series of smaller steps, often along the way to achieving a long-term goal.
Example	“I want to retire by age 50”	“In order to reach my goal of retiring at age 50, I need to save $20,000 by the end of this year”

Investment Project Management is a set of Managerial and Financial techniques targeted to:

- the initial **SELECTION** and further execution of the approved business process,
- fulfilling of scheduled **OBJECTIVES**
- and achieving of the **GOAL** – to turn the Project into the Entity (or the Part of existing Entity) or to SELL it.



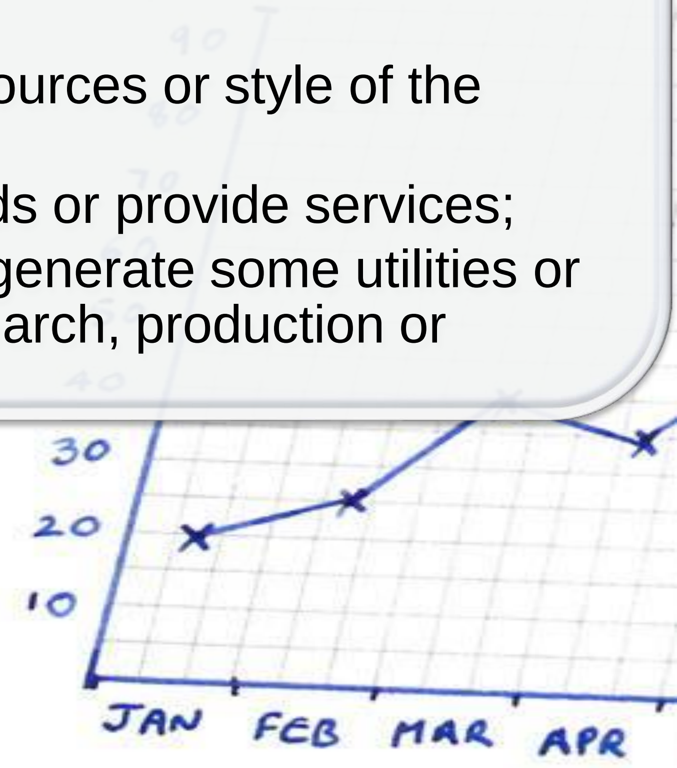
Goals and Objectives

The 'physical' RESULTS of Project's objectives achieving (*PMBOK*):

- new product (an element of other manufactured article or self-sufficient good) or service;
- new or reconstructed building or facility;
- implementation of the new business-process;
- construction or implementation of new or updated information system;
- changes in the structure, human resources or style of the entity;
- creation of an ability to produce goods or provide services;
- consequences or documents which generate some utilities or tendencies to be used in further research, production or social life.

Project Success Conditions:

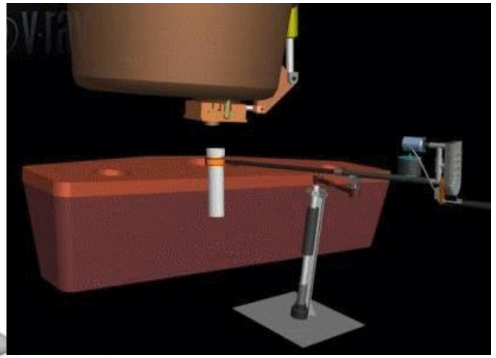
- To be finished on time;
- To remain within its cost budget;
- To perform technical/profitability standards which satisfy the project sponsor.



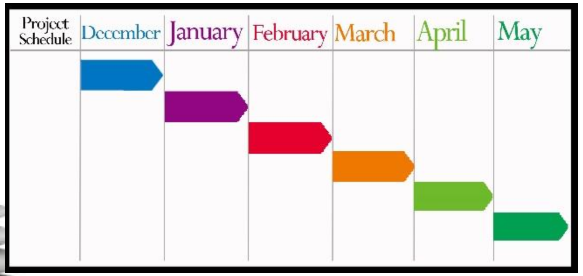
What’s an Investment Project Management?

It’s a process of selection and implementation of the

Business
IMPROVEMENT

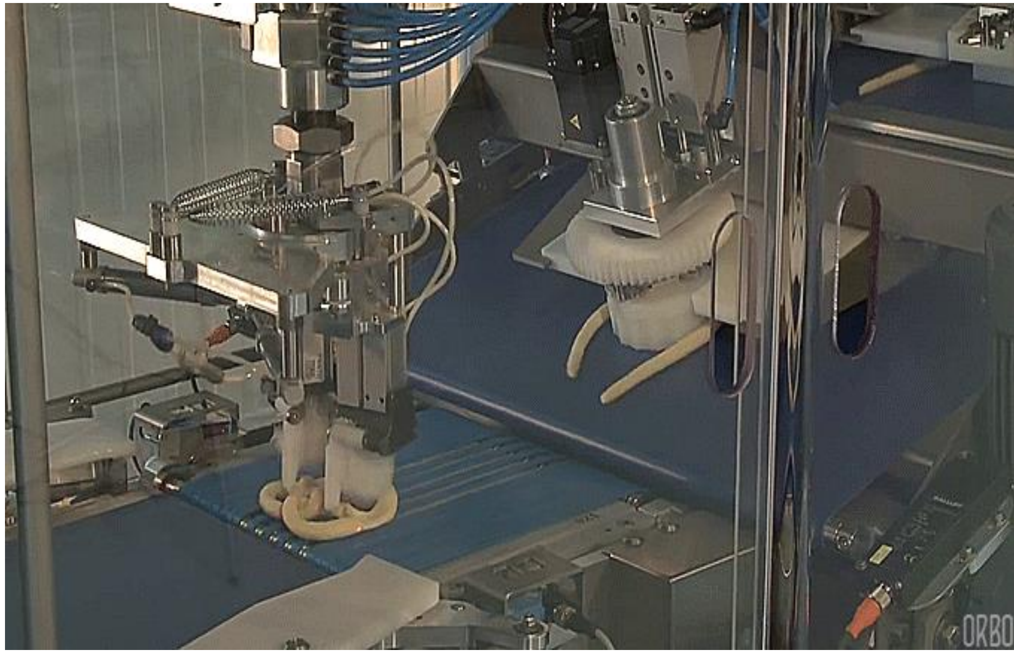


WEIGHTED with applying of
MONEY TIME-VALUE CONCEPT



Strictly
SCHEDULED

In order to achieve a
GOAL:



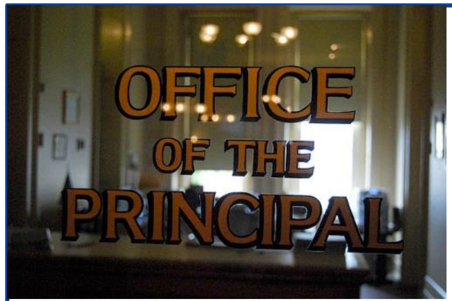
To create a **MARKET VALUE** =
To become a Traditional
ENTERPRISE or a part of
existing one

Project Roles

Детское и молодёжное творческое объединение
ИНИЦИАТОР

Initiator

Analyst



Principal = Sponsor

Authority

Investor

Contractor

Technical Project Maker

Executor

Project Team

Outer expert

Supervisor

Sub-contractor (s)

Project Life Cycle

Various sources define very different stages of the Project Life Cycle. But from the standpoint of Financial Manager there are:

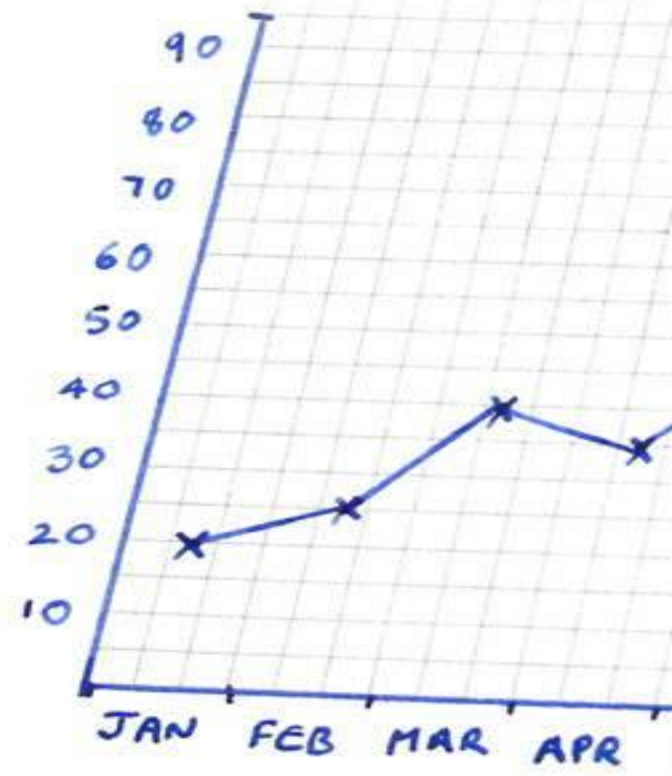
Initiating and Identification *(generation of possible ideas (long-list), original selection to the short-list);*

Defining *(comparing appraisal of short-listed projects and final selection of the one to be implemented);*

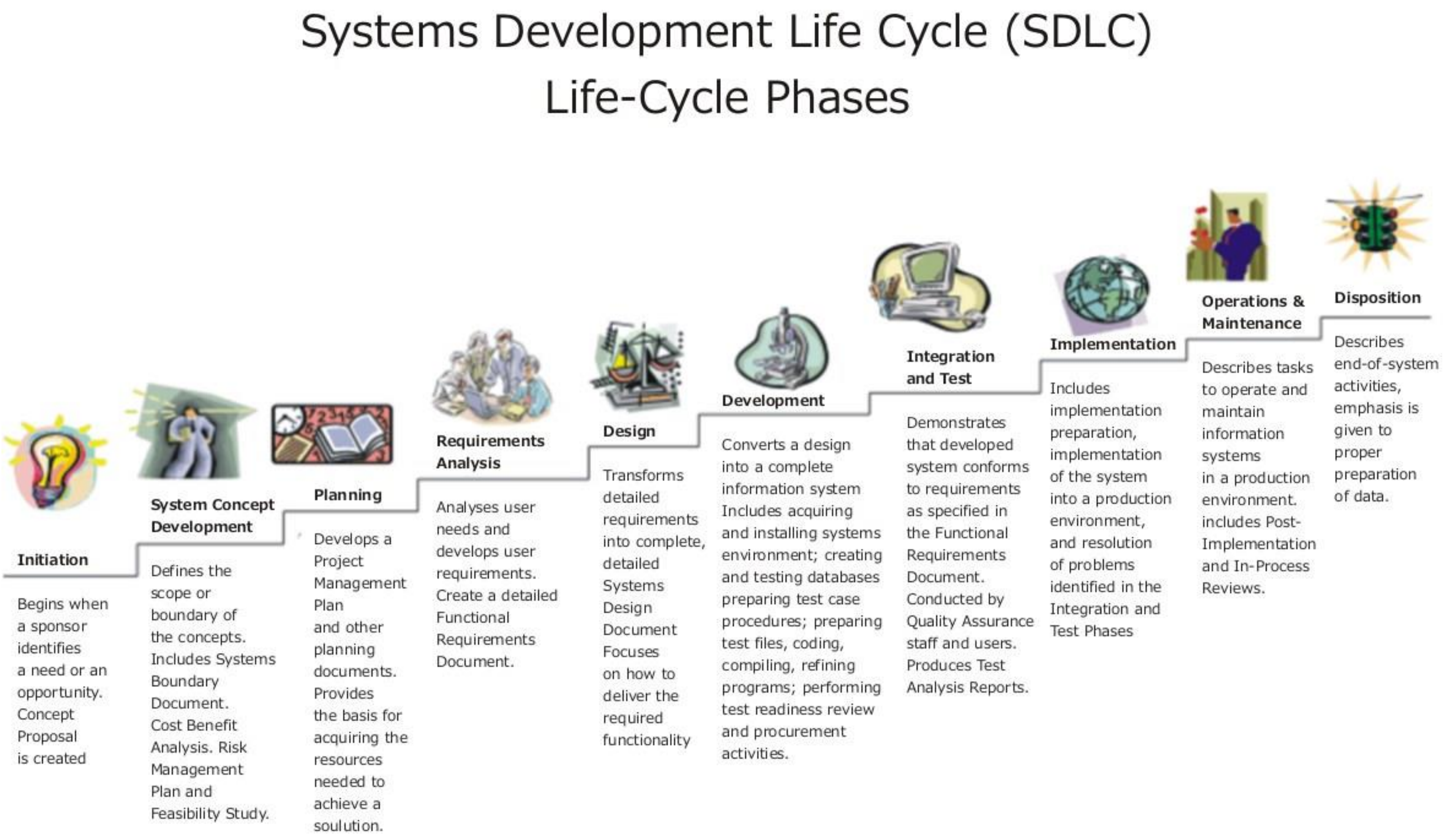
Planning *(creation of the detailed technological, organizational, financial, procurement and other plans and schedules);*

Execution *(actual implementation of the project plans created at the previous stage);*

Completion *(Control, Handover and Closing of the Project).*



Project Life Cycle



Project Life Cycle

http://weill.cornell.edu/

Appraisal: Cash Flows only

NPV>0; Net Income <0				
Sales - in USD; accounting - in RUR				
	Y0	**Y1**	**Y2**	
Equipment	-1 000			
Depreciation		-500	-500	
Export sales yearly		1 490	1 520	
COGS		-1 000	-1 000	
Monthly accounts receivable		124	124	
USD/RUR		45	35	
Receivables impairment			-28	
Net income	***0***	***-10***	***-8***	***-18***
NPV				***10***

The appraisal of the projects is always based on **CASH FLOW** projections. No accounting financial results are used as the benchmark for project selection and planning. Discounting of the perspective cash flow is an only generally accepted method of the project financial appraisal.

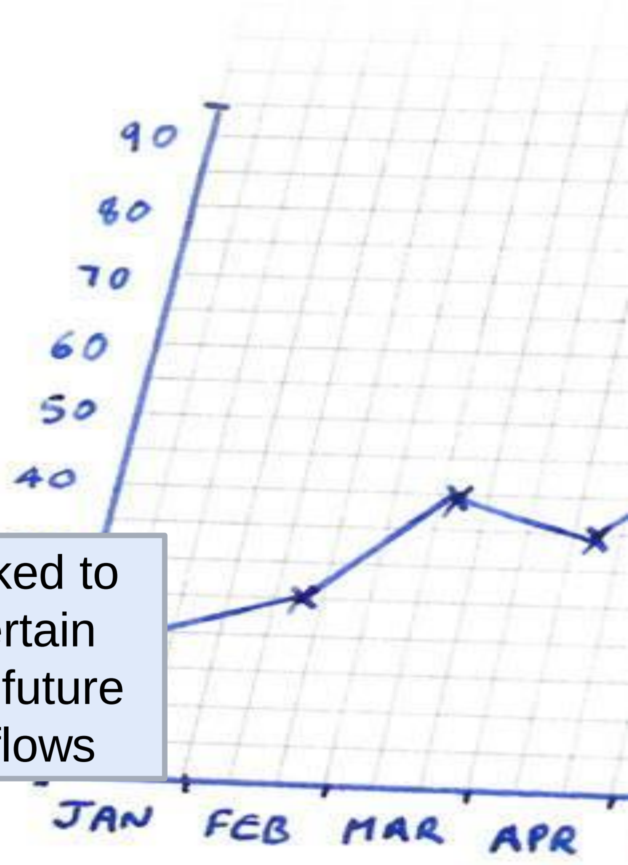
Appraisal: The Relevant incomes & costs

All Incomes & Costs
RELEVANT
IRRELEVANT

Relevant Incomes & Costs
(future cash inflows/expenses directly linked to the project execution)

Irrelevant Incomes & Costs
(past cash inflows/expenses or future ones not directly linked to the project execution)

- Sunk costs
- Committed (past already done) costs
- Non-cash (Notional) incomes & costs
- Not-linked to the certain project future cash flows

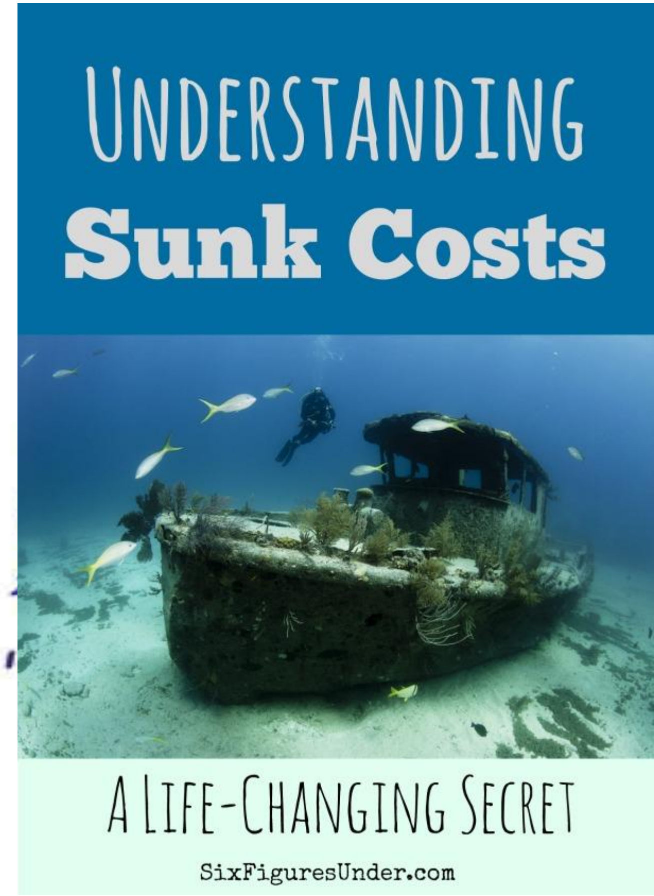


Appraisal: The Sunk costs

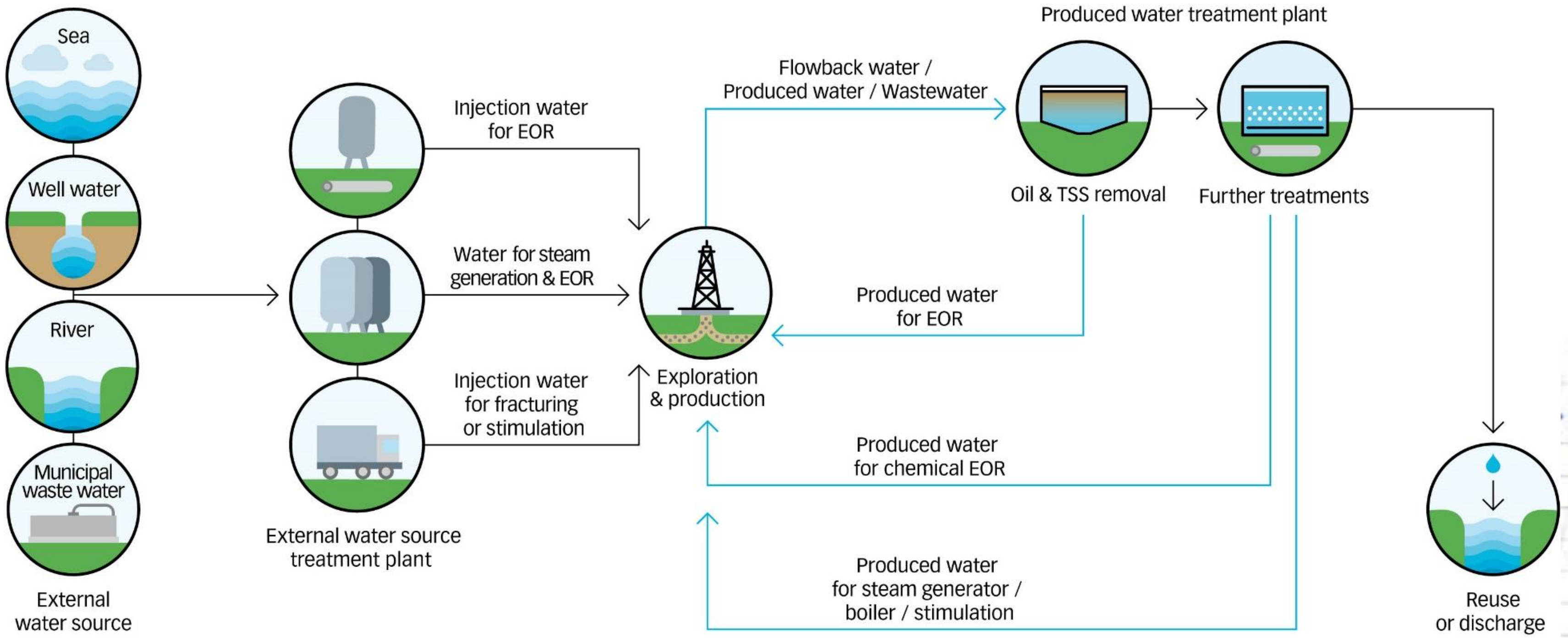
The **SUNK COSTS** are the retrospective costs that has already been incurred and cannot be recovered.

The Sunk Costs are **NEVER** considered as relevant to the analyzed projects.

As far as the sunk costs are often might be a reason for new project decision there are theories (The **SUNK COSTS FALLACY** or the **ESCALATION of COMMITMENT**) which try to explain the impossibility of applying of the past investments to the perspective projects.



Appraisal: The Cannibalization

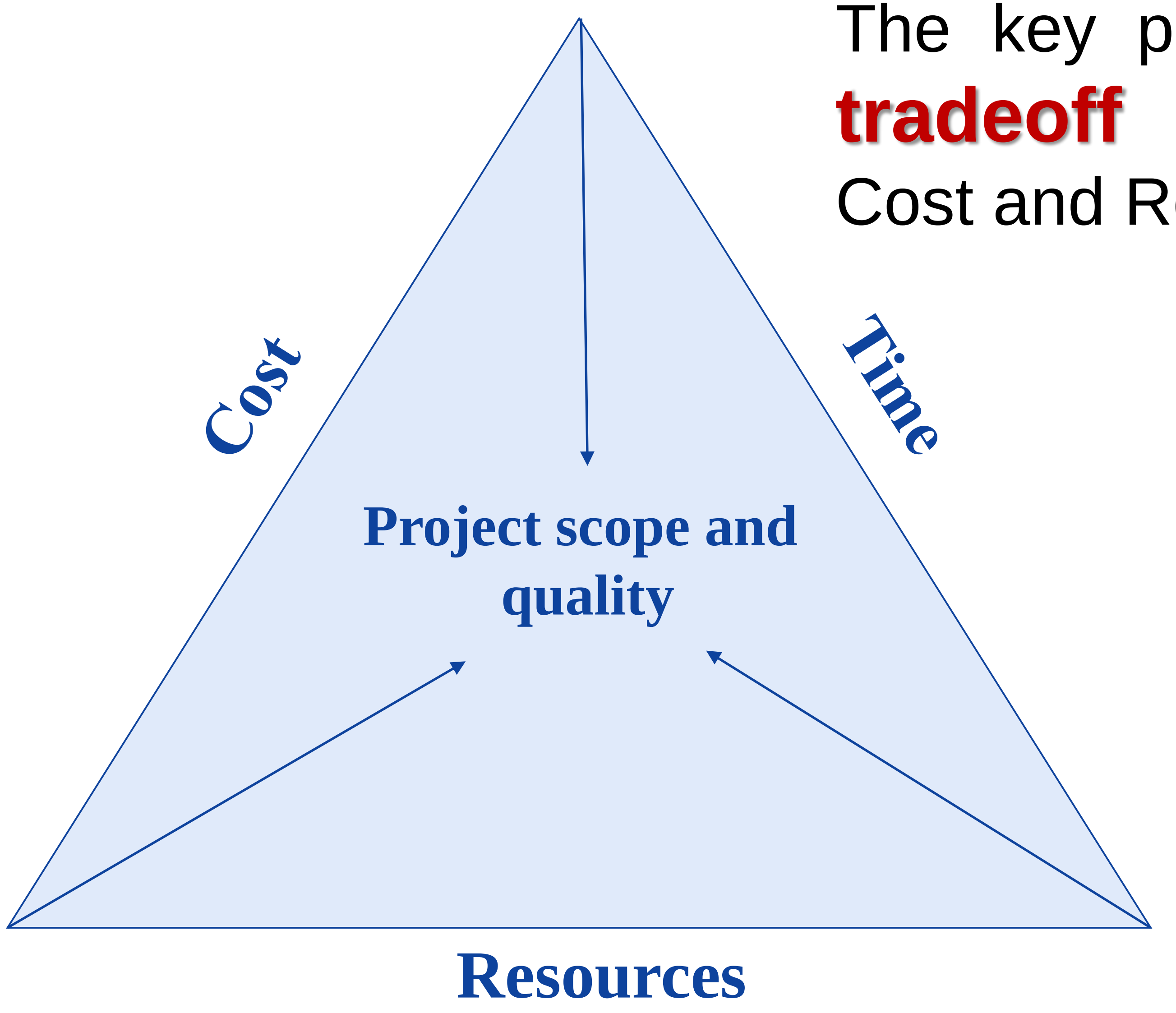


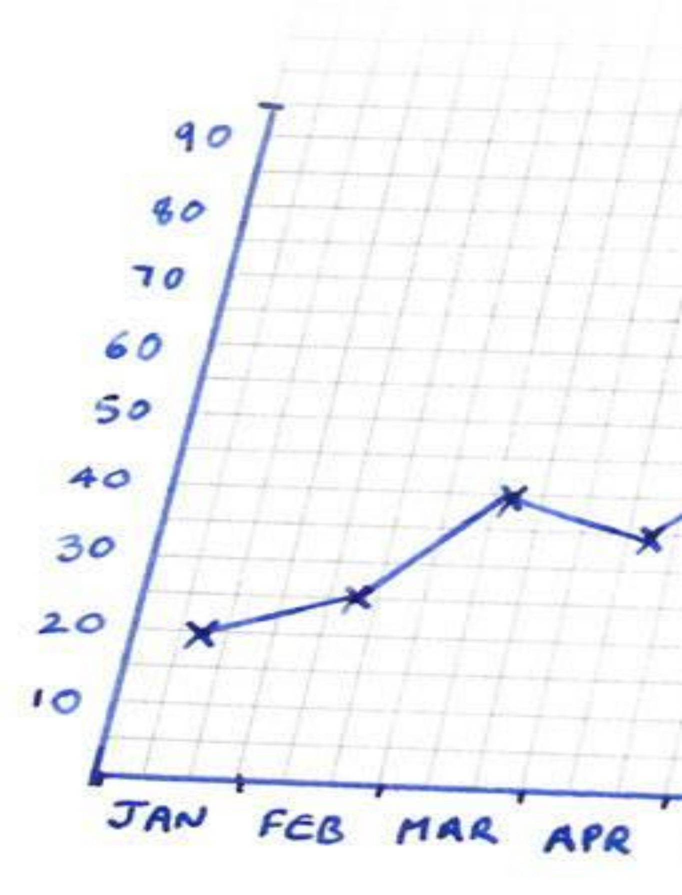
Different projects which exist within the same company/group can consume the resources or incomes from each other or use the same assets or opportunities. It's named **Projects Cannibalization**. The appraisal of the project should strictly differentiate the inflows and outflows generated by the certain project.

Also there's an obstacle to separate the embedded projects (production upstream and downstream projects) in order to be convinced that some related projects do not hide the negative profitability of the considered one.

Appraisal: The Scope Triangle

The key problem of any project is a **tradeoff** between 3 factors: Time, Cost and Resources





Appraisal: The Risks

Risk is the potential of losing something of value. A Project business plan should certainly include the Risk analysis and the Risk management description.

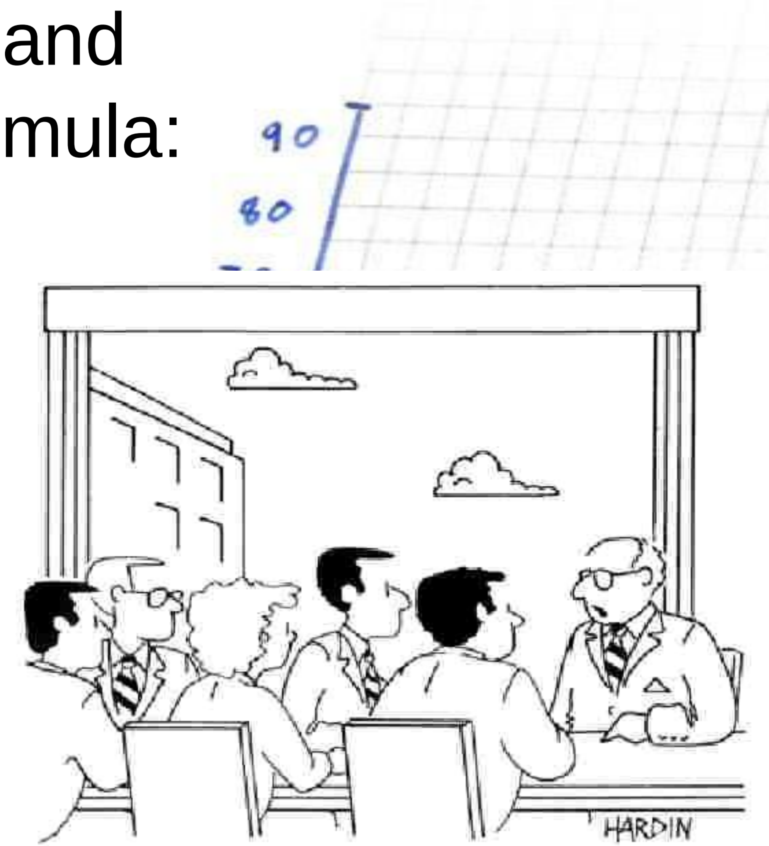
PERT (Project/Program Evaluation and Review Technique) time estimation formula:

“And then one day I decided that not taking risks was the greatest risk of all.”

$$Te = \frac{To + 4Tm + Tp}{6}$$

*You can weight this formula towards pessimism if it's imperative the deadline is hit. Change 4 to 3.

Te – estimated time;
To – optimistic time;
Tp – pessimistic time;
Tm – most likely time.



"We've considered every potential risk except the risks of avoiding all risks."

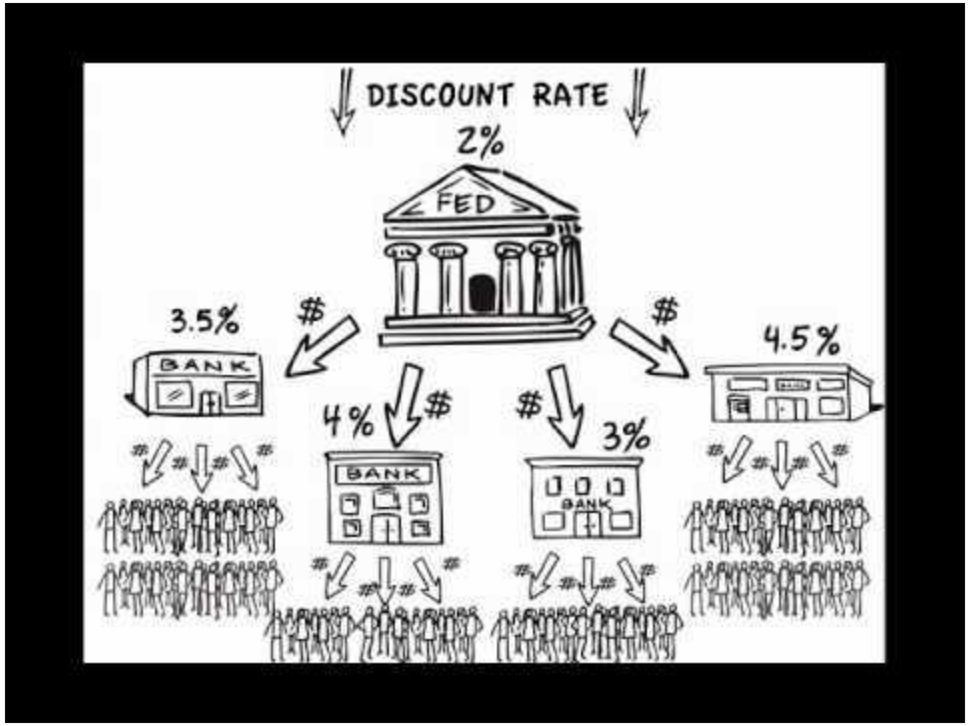
Appraisal: The Inflation

The key problem of any project is whether to do analysis in “nominal” or “real” terms. Not inflated cash flows should be discounted at a nominal discount rate. The inflated ones have to be discounted at a real rate.

(1 + Nominal Rate) = (1 + Real rate) * (1 + Inflation rate)

As well, the inflation affects project appraisal by changing tax savings real amount, cash dividend repayment, etc. Inflation changes also pricing of various components in different way.
The higher is an inflation the correspondingly lower is a project profitability.

Appraisal: Discount Rate selection



The choice of the right **Discount rate** is the key problem of Project's appraisal. The required rate of return should be based on the Project's risk. The high-risk projects can't be assessed with applying company's WACC or any other benchmark rates – these projects have to be evaluated using required rate of investment return.

Business plan (Modeling)

The mistakes in the business plan are very expensive. Once the mistake has been done it continues generating the multiplying errors ever.

Finally, the business plan is the only document which will be exchanged to Investors’ or Bank’s money.