

# Estimering av BI prosjekter

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# Capgemini's Business Intelligence Practice

Resources	
• Europe	1500+
• NA	1500+
• Asia	3000+

Key Sectors
• Financial Services
• Retail / Consumer Products
• Manufacturing
• Life Sciences
• Telecommunications & Entertainment
• Utilities
• Public and local authorities

Key Offerings
<b>BI Strategy &amp; Architecture</b> BI/DW Strategy / Roadmap
<b>Data Warehousing Infrastructure</b> Data Acquisition & Integration Data Warehousing Data Quality & Metadata Mgmt Master Data Management (MDM)
<b>Business Intelligence / Analytics</b> Enterprise Reporting Dashboards, Scorecards Data Mining / Predictive Analytics
<b>Analytical Applications</b> Customer Value Management Credit Risk, Fraud Detection

## Alliances



## Clients

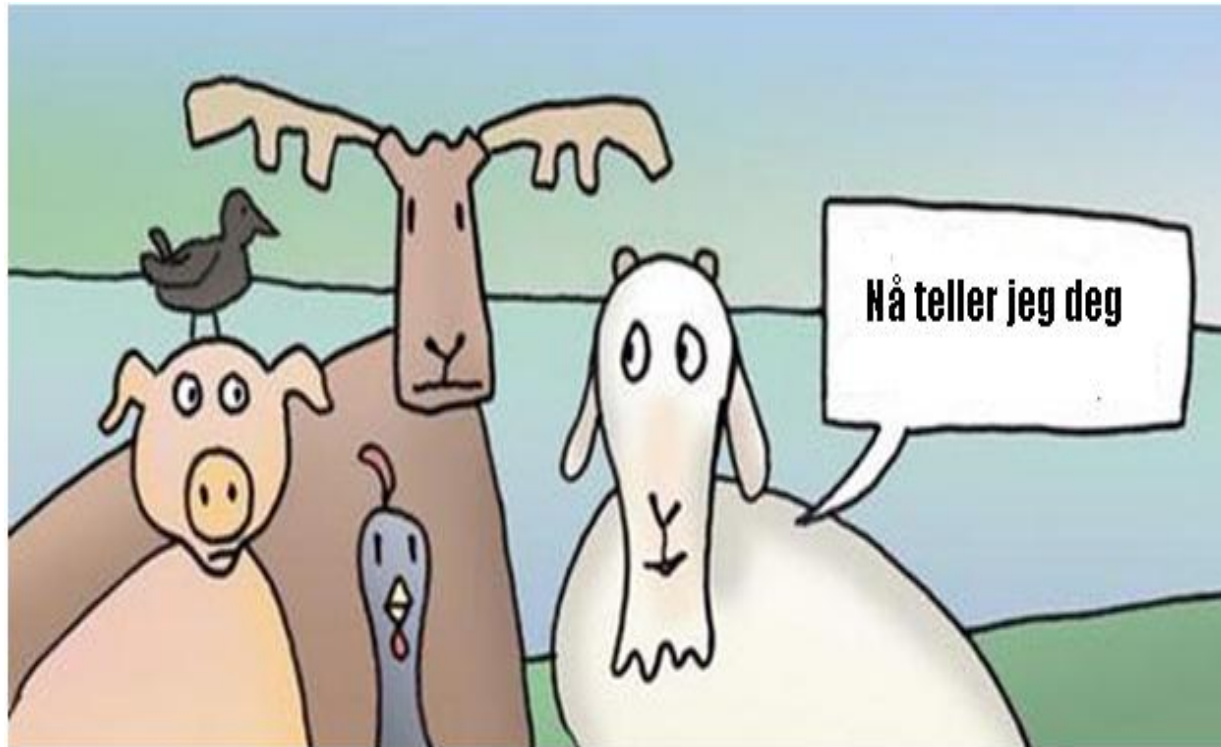


# Estimering = Kunsten å telle



Hva om alle kunne telle det samme på samme måte

# Estimering en enkel affære



Man skal ikke undervurdere frykten for å bli telt

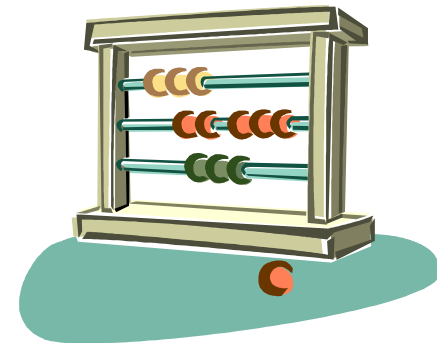
## Og hva kan resultatet bli



Estimering kan ha uante konsekvenser

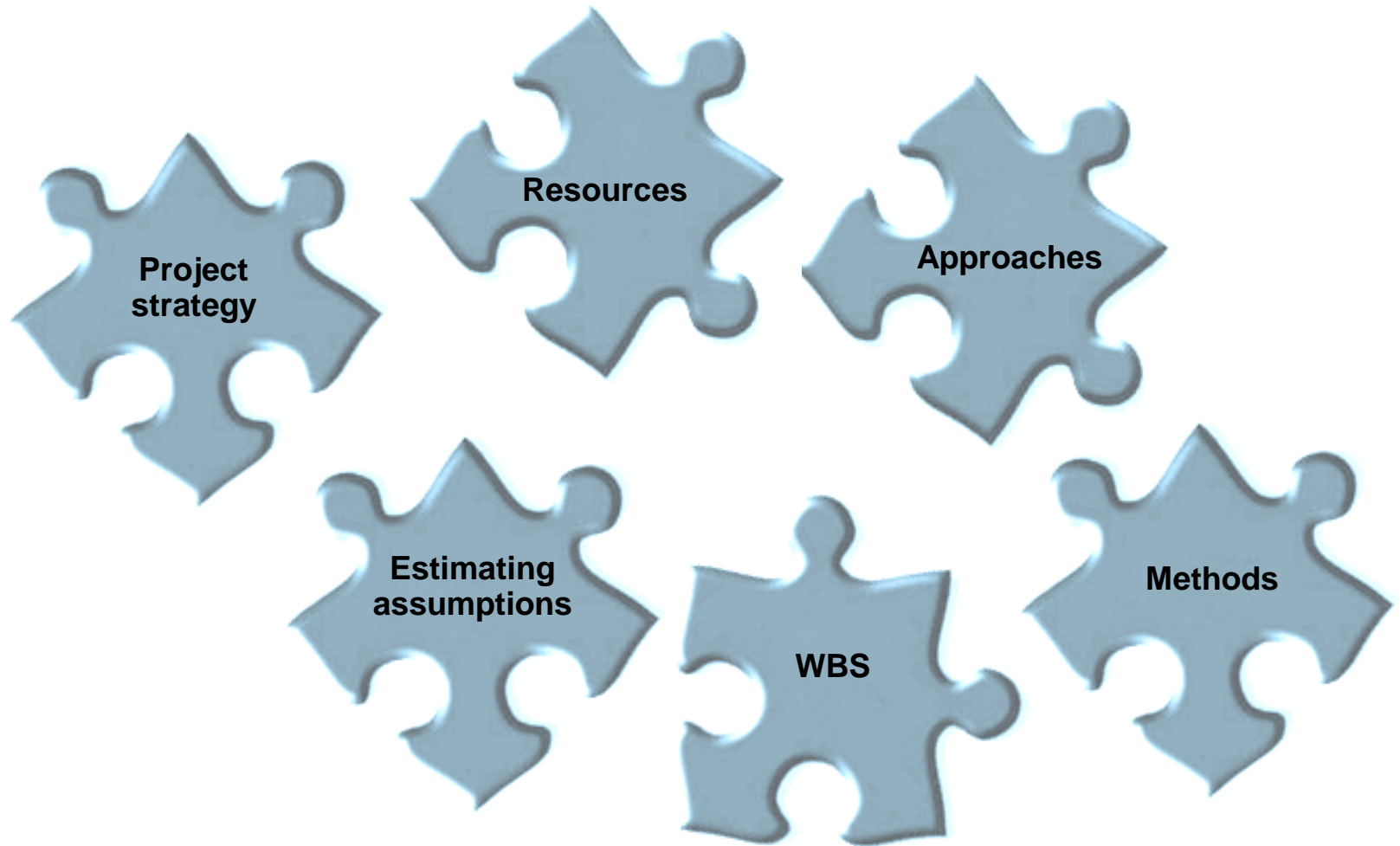
# Why we estimate

- To determine the size of the project and its associated tasks and activities
- To evaluate a project's estimated effort & cost before authorising implementation
- To provide the project manager with a tool for planning and re-planning the project

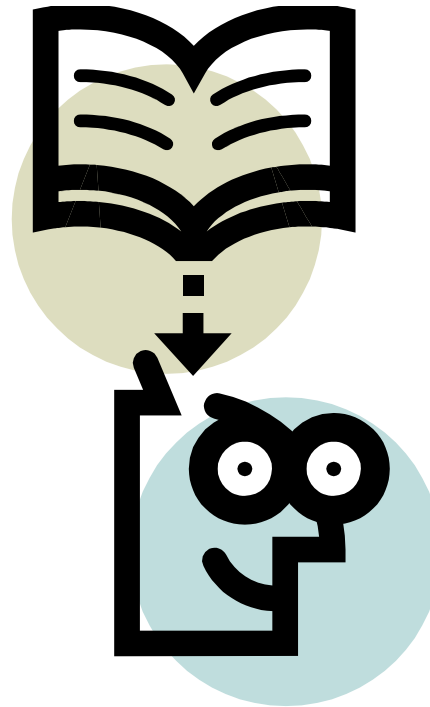




# The estimation puzzle

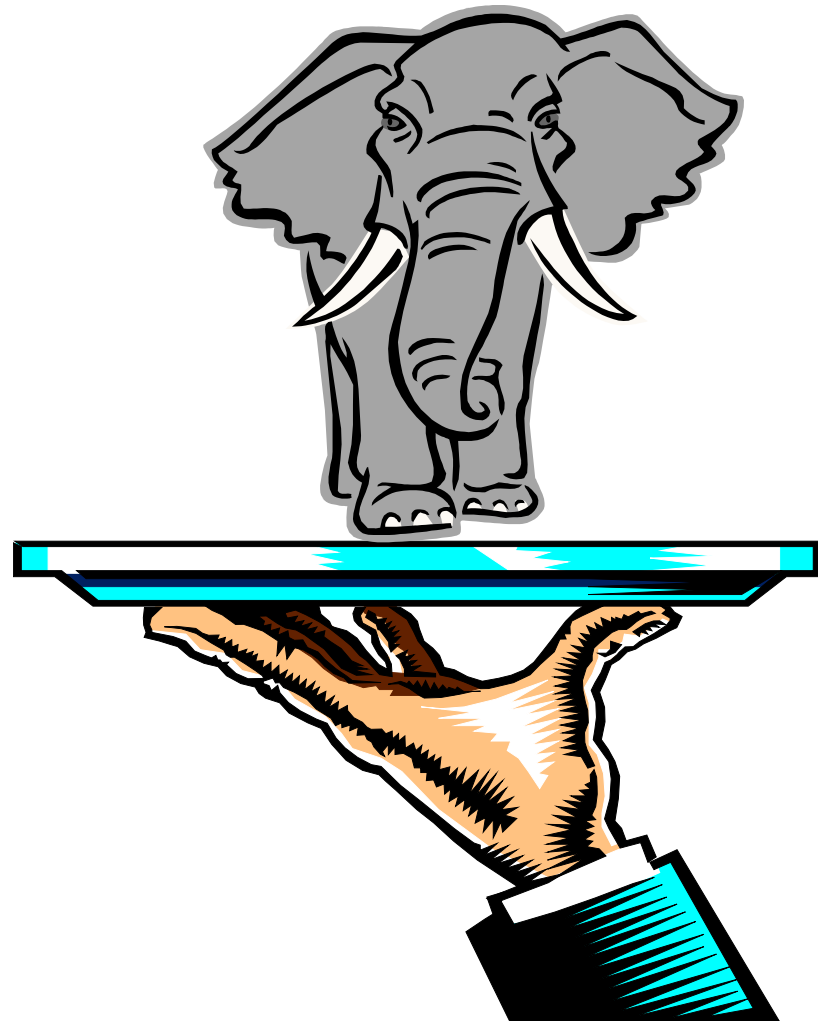


# Estimation techniques



**“Split as much as possible ...”**

**“The only way to eat an elephant, is in small pieces”**



# The most common estimation technique is the Sinatra method...



I did it my way...



# Top-down vs. Bottom-up estimation

## ■ Top-down

- To create a top-down estimate you first make an estimation of the total effort for the project.
- Next you divide this total into smaller portions and distribute these portions over the lower levels in the WBS, until all the tasks of the lowest level (task level) are estimated.

## ■ Bottom-up

- To create a bottom-up estimate you start with making an estimate for every individual activity at the lowest level of the WBS.
- Next you group your activities into categories and summarize the figures into main activities. When you have totalled all main activities (possibly on several levels) you have your total estimate.

**Remember that you estimate the effort, not the duration!**



# Sequence for estimating Bottom-up

- Determine size of core elements
- Estimate effort for activities in the project based on your WBS
- Calculate the duration based on resource availability and other constraints
- If applicable, derive estimate for activities that are calendar time dependent (Time driven cost)
- Assume skill levels (this is usually a bit tricky...)
- Derive cost estimate



# Sequence for estimating Top - down

- How much should it cost ?
- Find a comparable project – Same deliverables
- Find out how many resources
- How long will it take to deliver
- Find the activities
- Distribute the



# Combination of all usually is the best

## Bottom Up

- Get the Size right
- Estimate each Component
- Estimat common Activiyties

## Top Down

- Used by PM
- Used to align people

# Estimation methods

## Parametric estimate

- Specific measures used to estimate the effort required to complete a particular task or produce a particular work product, for example, dollars per square foot, hours per number of lines of code, dollars per gallon, or dollars per function point

## Expert judgment (Delphi)

- Used to assess input to the estimating process Subjective opinion
- Expertise is provided by any group or individual with specialised knowledge or training
- Watch out for consensus and arguments

## Analogy / comparison estimating



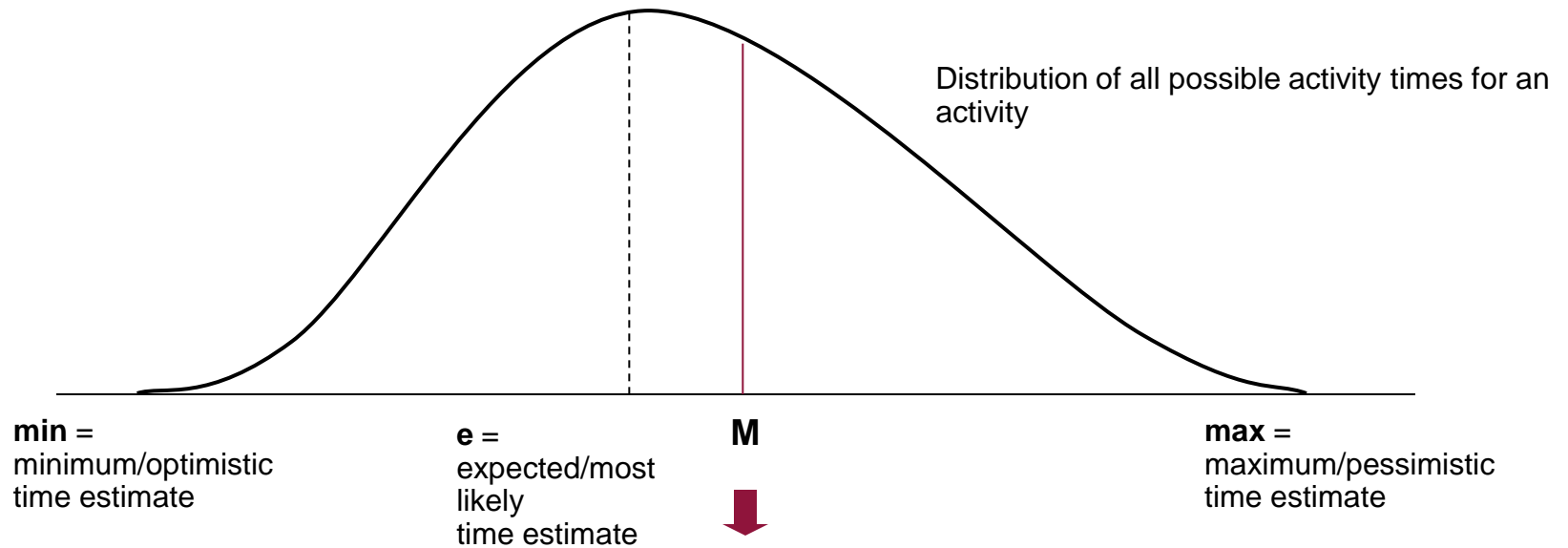
## Three point estimation

- Make three estimates: Optimistic + Pessimistic + Expected



# Example method: Successive Calculation (Three point estimation)

The expected completion times are found by using the three time estimates: Optimistic/minimum, pessimistic/maximum and most likely



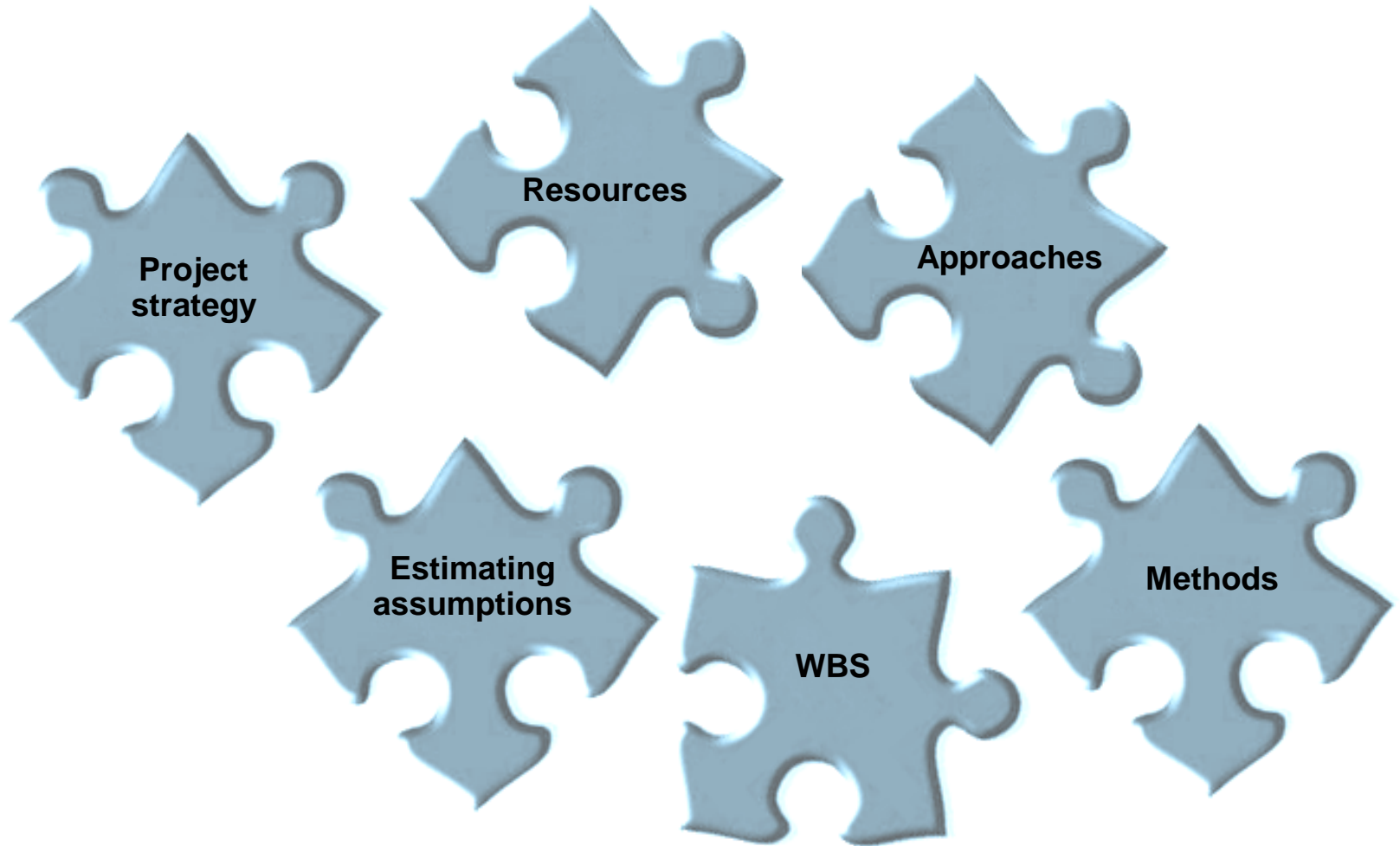
$$M = (\min + 3x \text{ exp} + \max) / 5$$



# What are the estimate Dependent on



# What are the estimation components



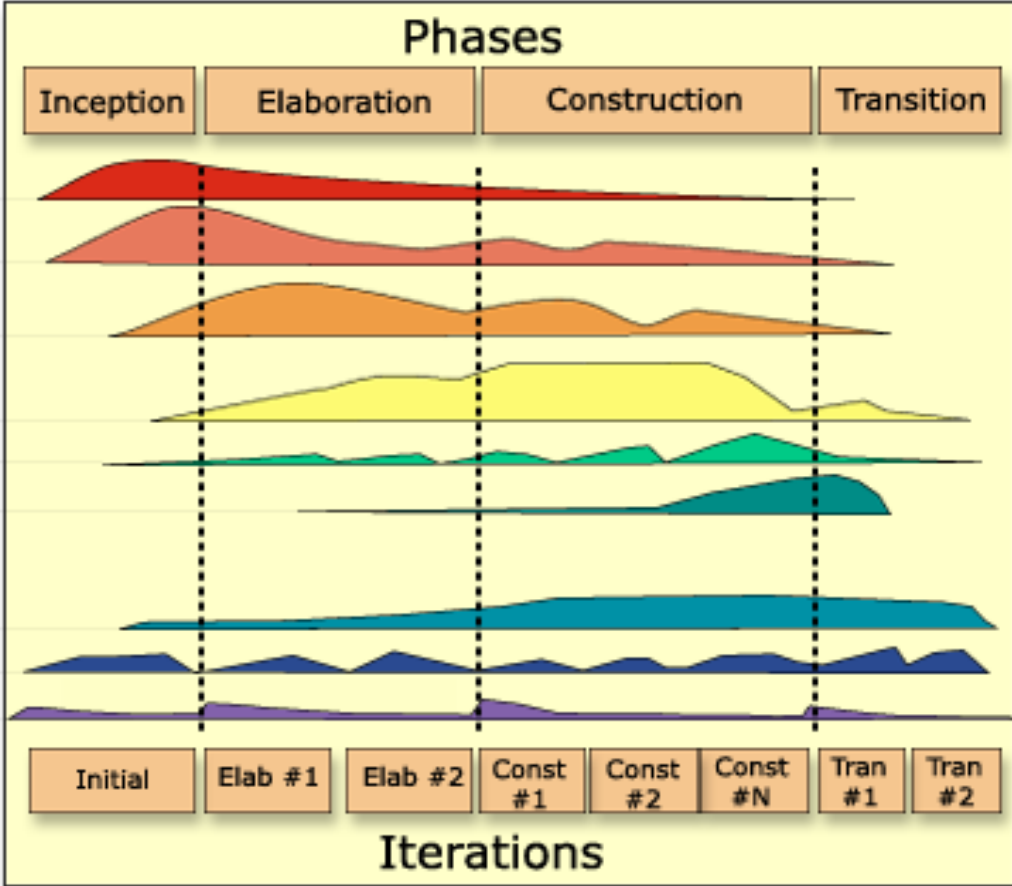


# Methodology



Methods

- Disciplines**
- Business Modeling
  - Requirements
  - Analysis & Design
  - Implementation
  - Test
  - Deployment
  - Configuration & Change Mgmt
  - Project Management
  - Environment



The task estimate can be functions of components



## Iterativ vs agile

- Extreme Scoping
- Waterfall
- Extreme programming
- Scrum

**Be sure to include all the tasks**



# Make a list of all task that you may perform Checklist (Work Breakdown Structure)

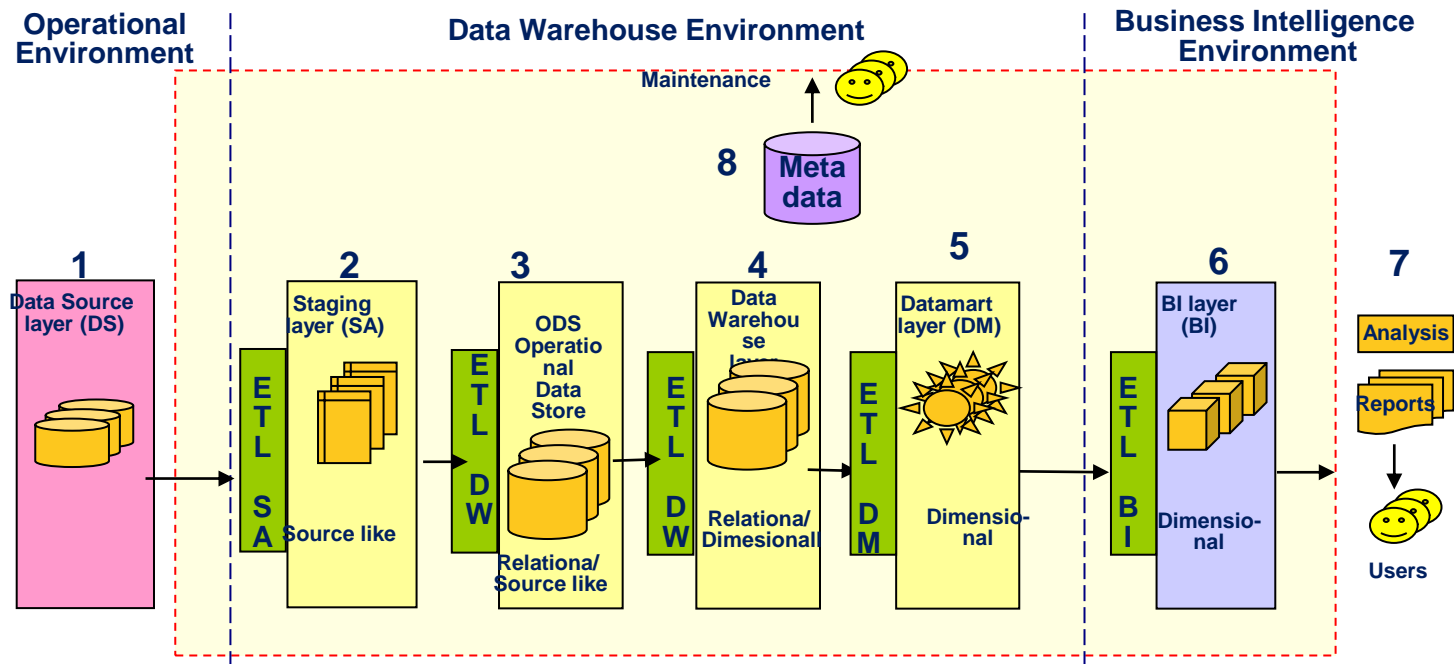
Go to phase:		Show Level(s):		Show View:		Show Effort to Odp					
Inception		All		Main Estimate							
WBS Item Name <small>(Double-click item to hide/unhide lower level)</small>	Include?	Multiplier		Effort Unit		Effort per Item		Effort Total (md)	% Previously Complete	Effort Remaining	Adjusted Effort (md)
		Default	Override	Default	Override	Default	Override				
<b>Elaboration</b>	Y							2 996			2 996
<b>Project Management</b>	Y							744		744	744
Monitor and Communicate Progress Status	Y	FixedZ		H		6,00		2		2	2
Update Project Schedule and Budget	Y	FixedZ		H		6,00		2		2	2
Manage Risks	Y	FixedZ		H		6,00		2		2	2
Manage Issues	Y	%P		H		1,60		11		11	11
Manage Scope and Requirements	Y	%P		H		1,20		8		8	8
Manage Deliverable Status, Review & Acceptance	Y	%P		H		1,20		8		8	8
Manage Client Relationship	Y	%P		H		1,00		7		7	7
Conduct QA Reviews	Y	%P		H		1,00		7		7	7
Manage Resources	Y	%P		H		1,60		11		11	11
Collect Payments and Maintain Financial Records	Y	%P		H		1,00		7		7	7
Update Project Governance Plan	Y	%P		H		1,50		10		10	10
Manage Suppliers	Y	%P		H		1,30		9		9	9
<b>Configuration and Change Management</b>	Y							15		15	15
Configuration Management Planning	Y	FixedZ		H		8,00		3		3	3
Configuration Management Set-up On-shore	Y	FixedZ		H		24,00		10		10	10
Configuration Management Set-up Off-shore	Y	FixedZ		H		6,00		2		2	2
<b>Business Modeling</b>	Y							5		5	5
Review/refine business model	Y	FixedZ		H		12,00		5		5	5
<b>Requirements</b>	Y							36		36	36
Refine the System Definition	Y	TOT		H		0,10		28		28	28
Manage Changing Requirements	Y	TOT		H		0,03		9		9	9

The task estimate can be functions of components



# Parametric estimate

- Find components that are repeatable



**Bottom Up estimate each Component**



# Function list Excel Sheet

•All flows

- Staging
- ODS
- DWH
- DM

•All DB Layers

- Source
- Staging
- ODS
- DWH
- DM

- BI-Layer (Universe/OLAP)
- Reports

Toolsets		Background / Risks		Function List		Sizing Data		Productivity Qs		Estimate		Analysis		Resource Levelling		Scratchpad		
Layer	Subject Area Name	Data Flow Name	Number of Occurrences	Source		Destination		Degree of Fit of Source to Destination Mapping	Number of BI Points (per Occurrence)					Total BI Points				
				# of Tables	# of Attributes	# of Tables	# of Attributes		Calculated Schema Pts	Override	Calculated Flow Pts	Corrected Flow Pts	Override					
Source																		
Staging																		
ODS																		
Data Warehouse																		
Data Mart																		
Source																		
Reports																		

The diagram illustrates the data flow process across different layers and environments. It is divided into three main environments: Operational Environment, Data Warehouse Environment, and Business Intelligence Environment. The flow starts with 'Data Source (DB)' in the Operational Environment, moving to 'Staging (DB)', 'ODS (Operational Data Store)', 'Relational Data Warehouse', and 'Dimensional' in the Data Warehouse Environment. It then moves to 'BI Layer (BI)' and 'Reports' in the Business Intelligence Environment. Annotations include '8 Metadata' and '5' at various stages, and '5%' at the top right. Yellow arrows point from the diagram components to the corresponding rows in the table above.

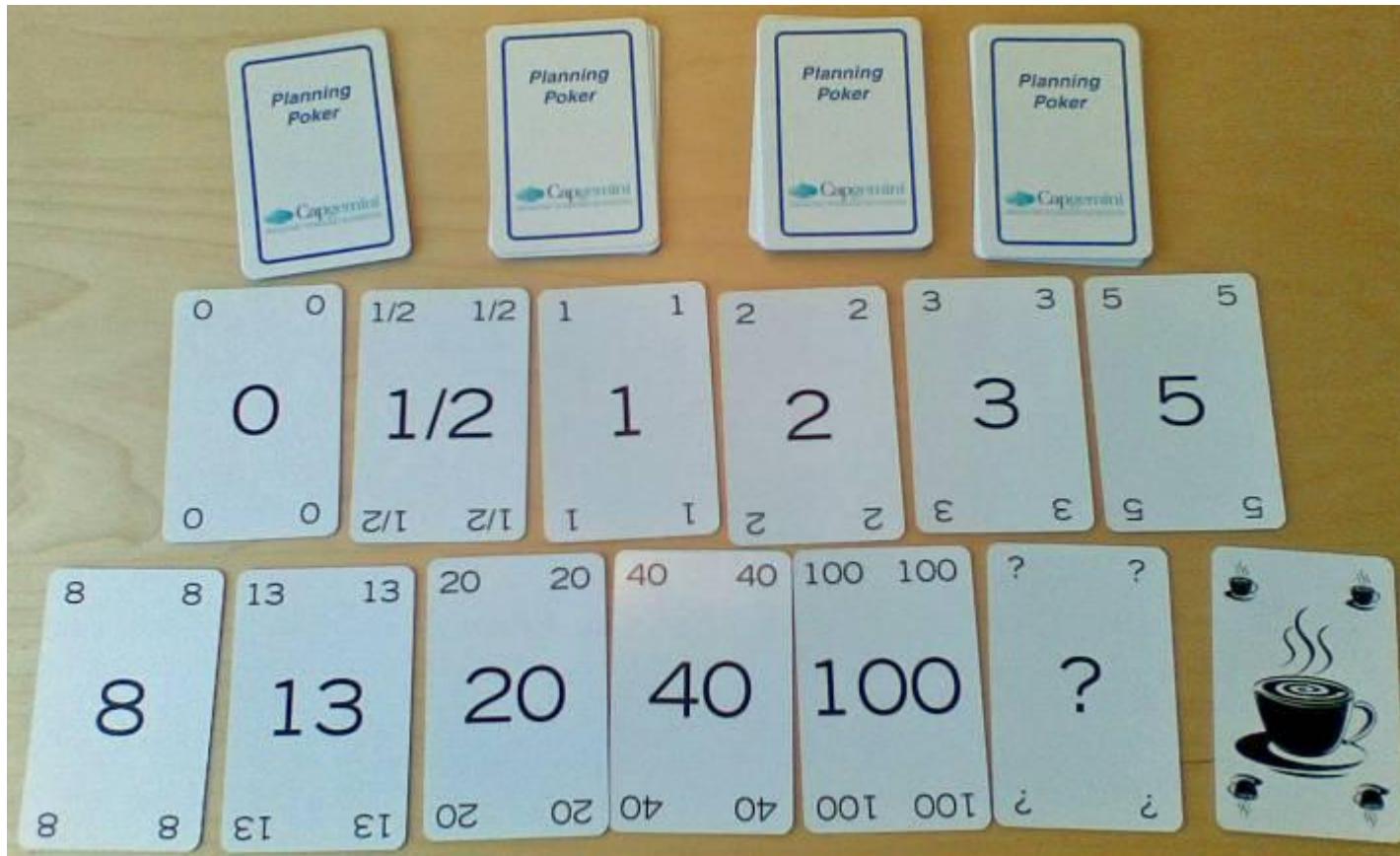


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# Example of estimate

Discipline	Percentage of Total Project Effort			
	Total	Inc	Elab	Con
		5,3%	31,3%	63,4%
Project Management	10,7%	2,4%	3,1%	5,2%
Configuration and Change Management	1,6%	0,8%	0,8%	0,0%
Business Modelling	0,0%	0,0%	0,0%	0,0%
Requirements	3,4%	0,0%	0,4%	2,9%
Analysis and Design	15,9%	0,0%	8,6%	7,3%
Implementation	30,1%	0,0%	7,3%	22,9%
Test	22,4%	1,2%	6,3%	14,9%
Deployment	2,9%	0,4%	1,0%	1,5%
Environment	1,1%	0,0%	0,0%	1,1%
Resource Levelling Effort	0,0%	0,0%	0,0%	0,0%
Miscellaneous Task	11,9%	0,5%	3,8%	7,6%

# Planning Poker



**Excellent for Estimating Business Value**

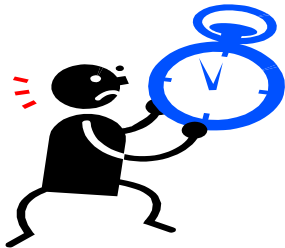


# The basic rules

- Each participant gets a deck of estimation cards
- The moderator presents one user story at a time to the team
- The Product Owner (or equivalent role) answers any questions the team might have about the story
- Each participant privately selects a card representing his or her estimate of the “size” for the user story. Usually size represents a value taking into account time, risk, complexity and any other relevant factors
- When everybody is ready with an estimate, all cards are presented simultaneously
- If there is consensus on a particular number then the size is recorded and the team moves to the next story
- In the (very likely) event that the estimates differ, the high and low estimators defend their estimates to the rest of the team (no one else)
- (The group briefly debates the arguments)
- A new round of estimation is made
- Continue until consensus has been reached and the moderator records the estimate
- Repeat for all stories

# Nuggets of wisdom

- Those who actually could do the work are the ones that vote
- Managers don't vote



- When there is a tie in the voting between two sizes which are consecutive, just pick the larger size and move on
- Stop implementation discussions before they go too deep



# Example: Prioritizing Work

Items	Value	Cost	Value / Cost	Priority
Item A	3	3	1	3
Item B	5	1	5	1
Item C	13	8	1,6	2
Item D	13	20	0,6	4
Item E	8	100	0,1	6
Item F	2	8	0,25	5

**First priority is the quick win's!**



# Nuggets of wisdom

- **Use an “I need a break” card**
  - Too often teams will be working hard playing planning poker and not realize some people on the team need a break. Having the “I need a break” card allows someone to draw everyone’s attention to this.
- **Use a timer of some sort to limit discussion.**
  - This is self-explanatory. I usually like to limit discussions to no more than one minute.
- **If consensus cannot be reached by the end of the third round of voting pick the largest size and move on**
  - After two rounds of discussion further discussion usually does not yield great results for the time invested. By choosing the largest size the team has a chance to improve upon it, but they will not be in any danger of not having enough time. Not having enough time is a major problem the team is trying to avoid, so this particular short cut should not cause major issues.
- **Have the person creating the user stories meet with QA and Development leads prior to playing planning poker**
  - To make sure the user stories have answers to the most obvious questions the team will ask. This allows the team to focus on the size, not spend time gathering information.

# Bottom up vs Planning poker

## Bottom up

- Initial estimate
- Fixed scope

## Planing poker

- In project
- The team has done some work
- Being able to compare the objects

# The estimation puzzle





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