# RFP Management

## Ask the right questions and choose wisely !

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# Request for Proposal (RFP)

- **An invitation for suppliers, through a bidding process, to submit a proposal on a specific product or service (source: wikipedia)**
- **Information provided:**
  - **Corporate information**
  - **Schedule of bidding process**
  - **Project Summary**
  - **Detailed overview of the project**
  - **Decision criteria**

# Demand issues

- Provide the right information
- Ask the right questions
- Build a good decision model
- Evaluate the proposals
- Choose wisely

# Request for Proposal (RFP)

- **Information requested:**
  - > **Company info**
  - > **Proposed solution**
    - Plan
    - Timeline
    - Solution details
    - Technical requirements
    - Price
    - List of deliverables
  - > **Proposed project team**
  - > **Vendor References**

# Supplier issues

**Can we:**

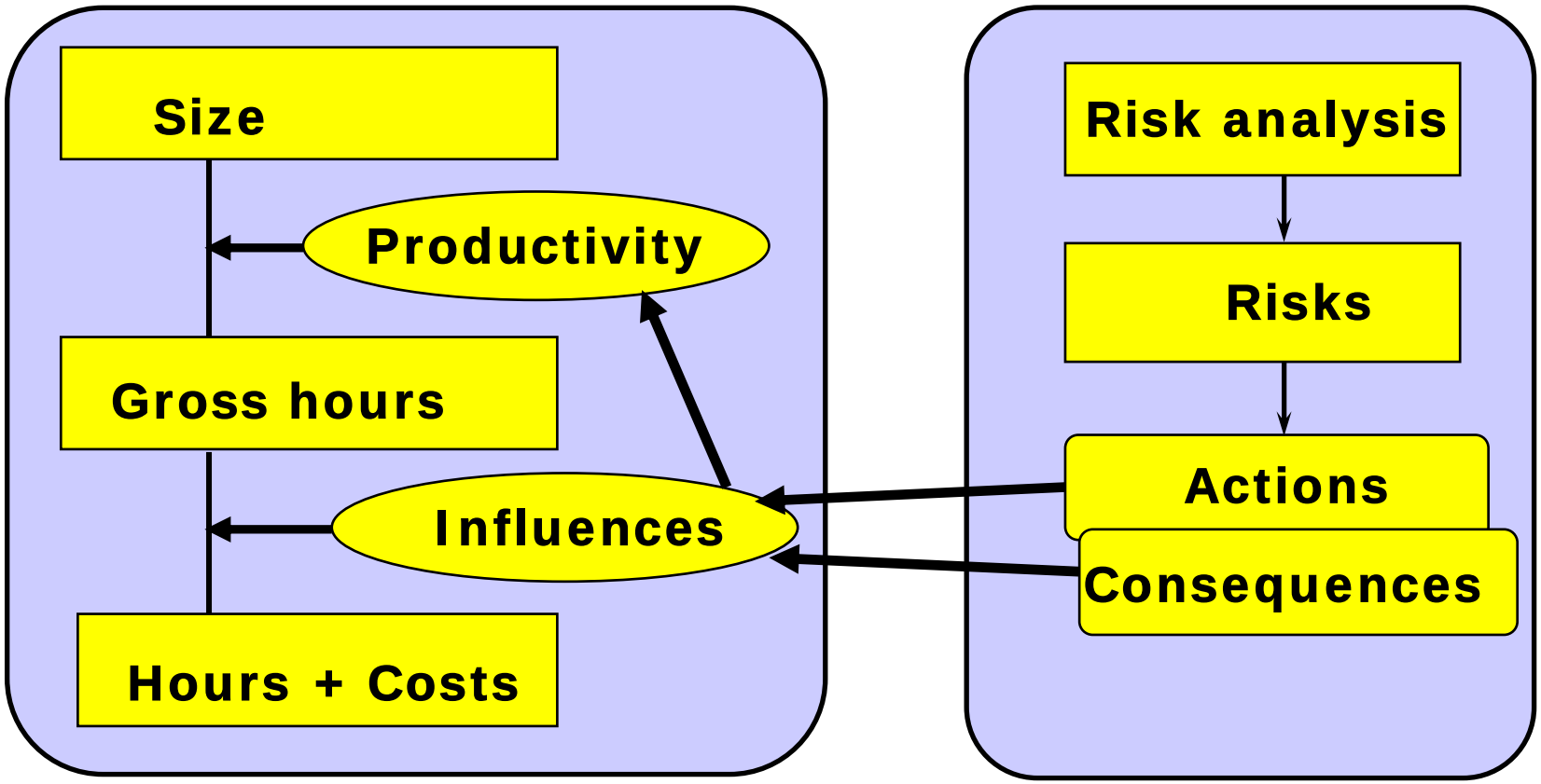
- **Deliver the required functionality ?**
- **Meet the technical and quality requirements ?**
- **Within the time limits required ?**
- **Answer all RFP questions ?**
- **Estimate the project costs accurately ?**
- **Score the best on the clients decision model ?**
- **Support our claims with proof ?**

# RFP – Typical Metric Questions

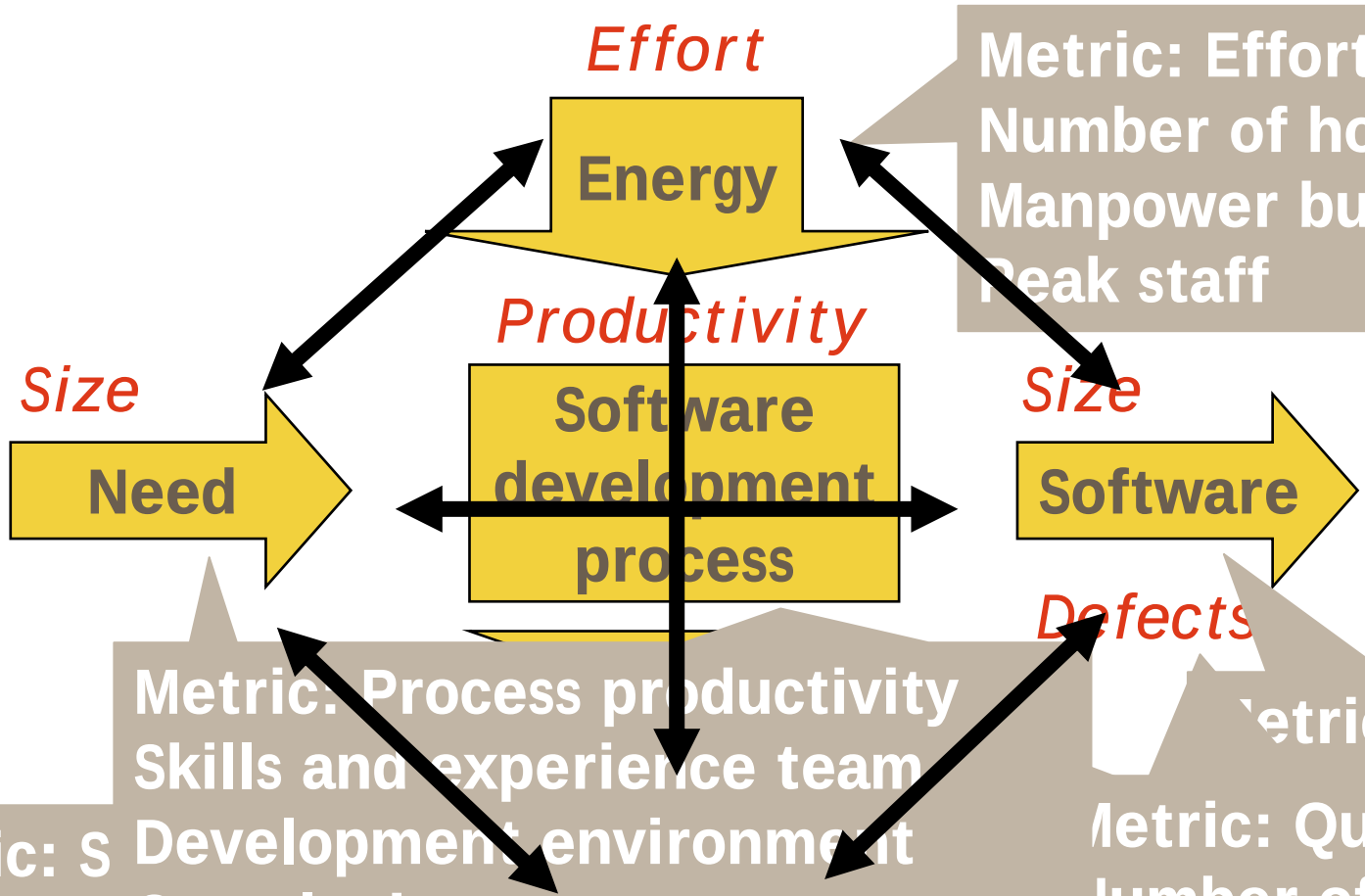
- What is your productivity for Java projects?
- How long do you need to build a .Net application of 500 FP?
- What is your price per function point for a 500 FP Oracle system?

- Are these the right questions ??

# Project Estimation Model (Sogeti)



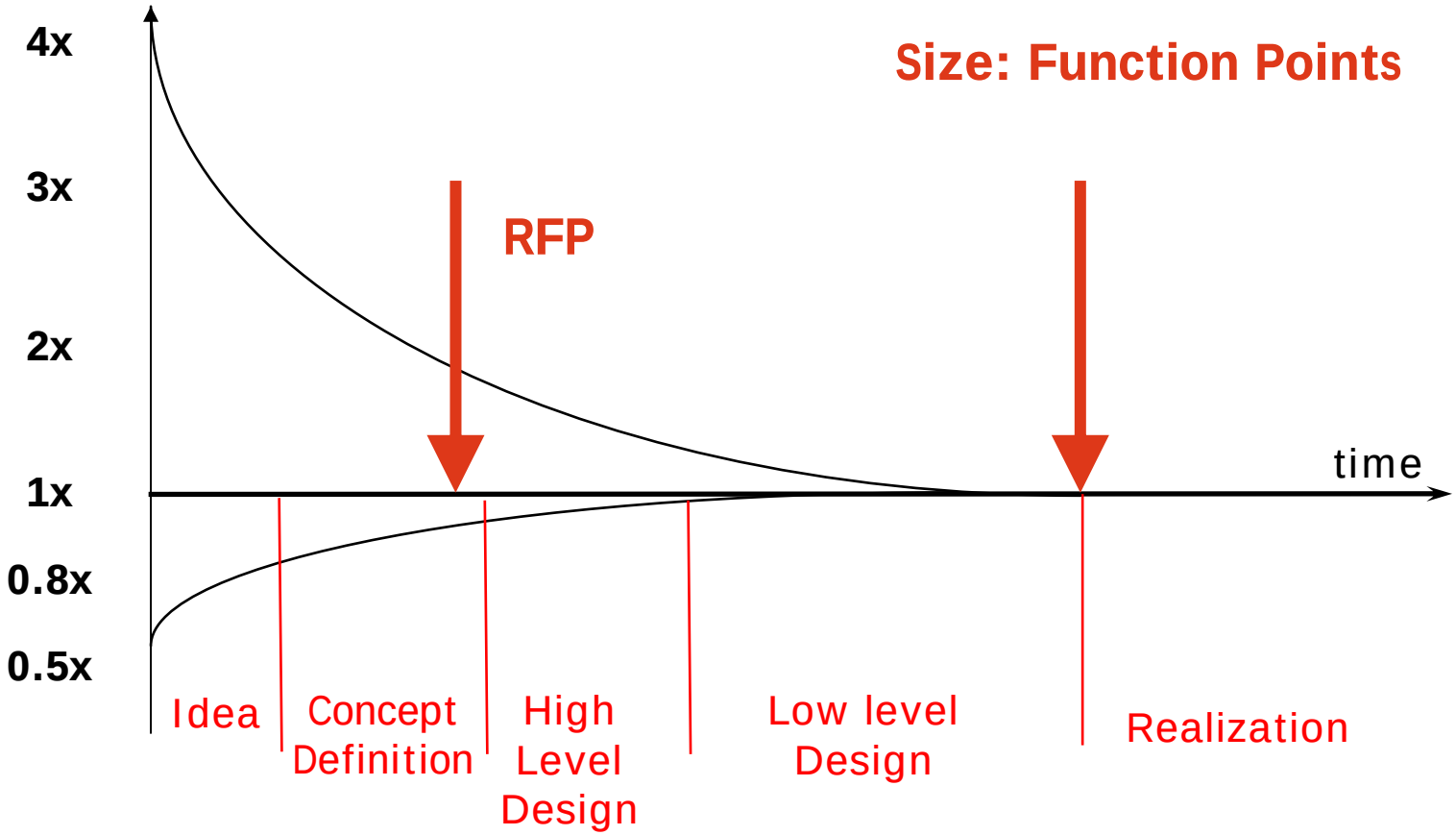
# QSM metrics



# Supplier: Estimate the project

- **Requirements: often early / high level**
- **Estimate:**
  - > **Size**
  - > **Duration**
  - > **Effort**
  - > **Quality**

# Cone of uncertainty




Why What How



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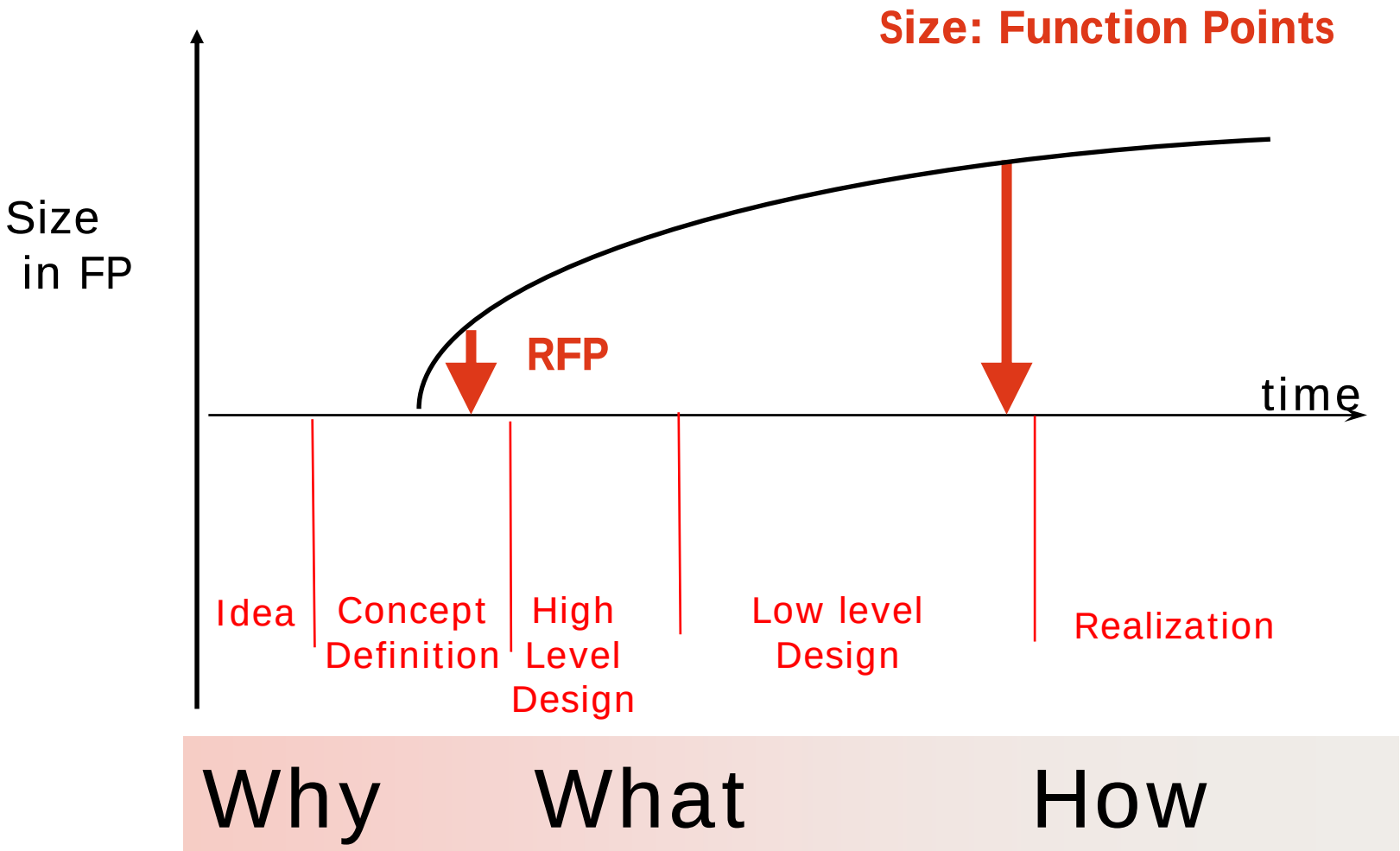
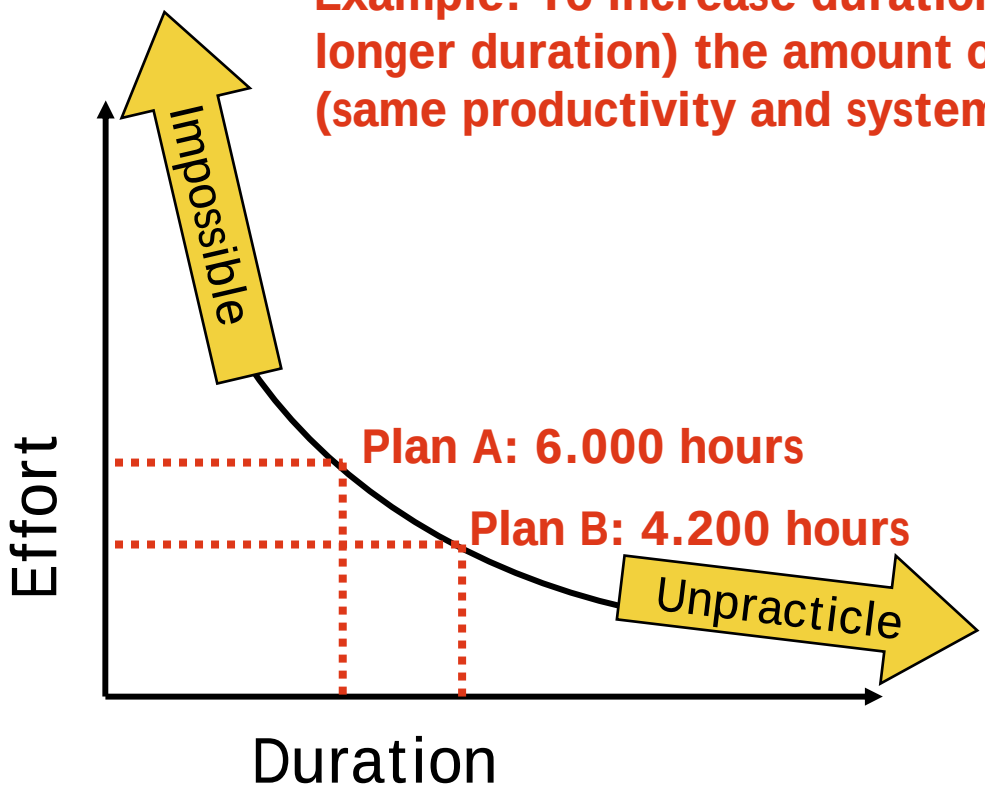
# Metric: size??


Size: Function Points
Size
in FP
RFP
time
Idea
Concept
Definition
High
Level
Design
Low level
Design
Realization
Why
What
How

# Metric: Duration

$$\text{Effort} = \frac{\text{Constant}}{\text{Duration}^4}$$

**Example: To increase duration from 10 to 12 months (20 % longer duration) the amount of effort decreases by 51 %. (same productivity and system size)**



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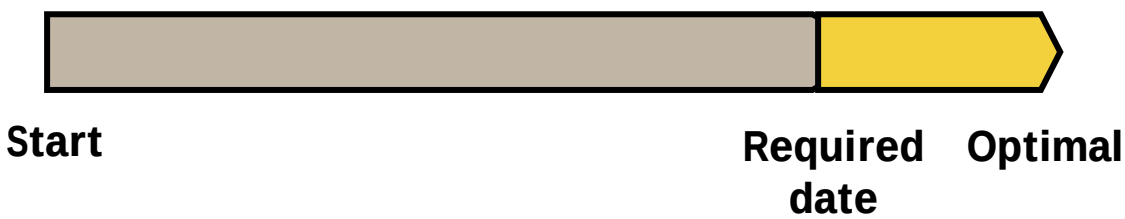
# Duration: how it should be done

- **Determine the optimal duration**
  - > **Time**
  - > **Cost**
  - > **Quality**
- **Difference between optimal duration and required duration?**
  - > **How to extrapolate ??**



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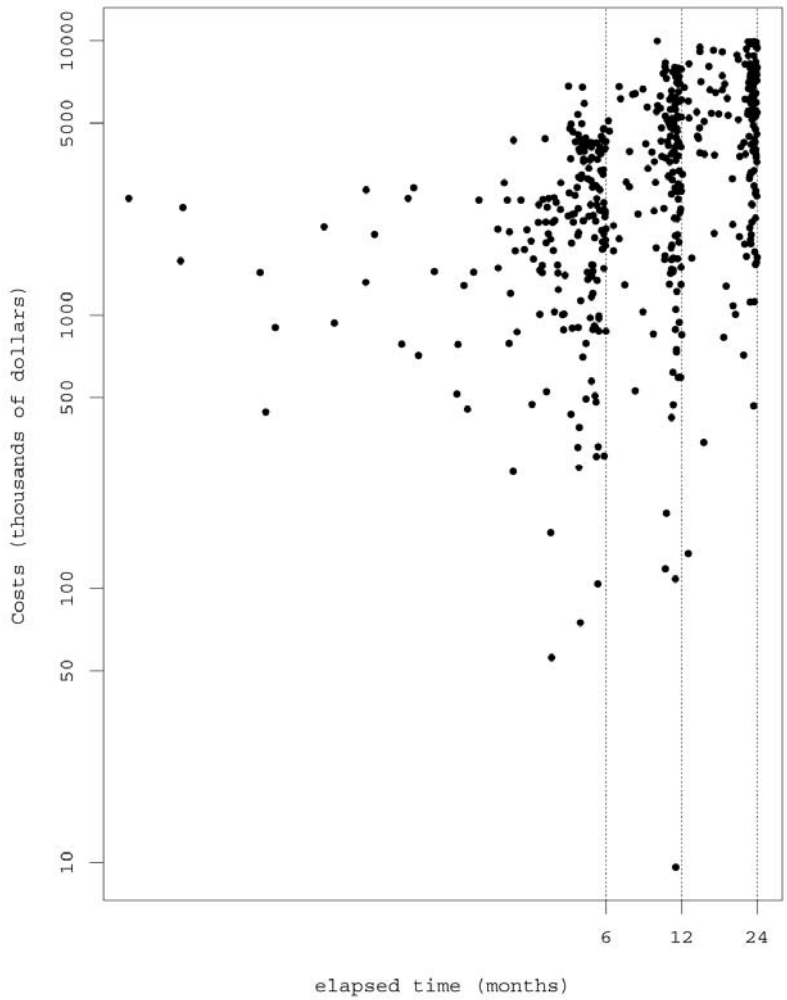
# Duration in real life




Source: Quantifying the effects of IT-Governance Rules
Chris Verhoef
(www.cs.vu.nl/~x/gov/gov.pdf)

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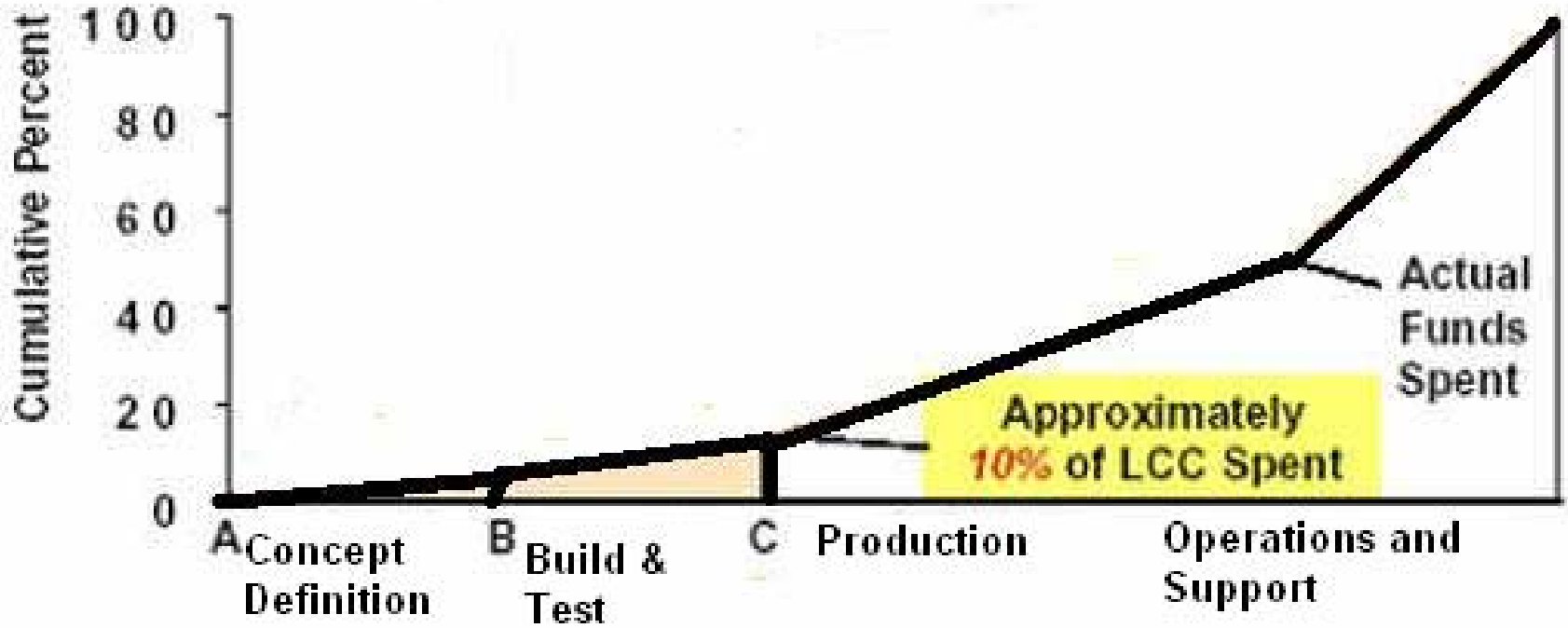
# Metric: Effort

## Team buildup ratio

| Team Buildup (index) | Peak Staff (# pers.) | Duration (months) | Cost (eur) | Average. Nr. of defects per day |
|---|---|---|---|---|
| 1 | 6 | 13,6 | 416.000 | 0,2 |
| 2 | 9 | 12,3 | 623.000 | 0,3 |
| 3 | 14 | 11,3 | 875.000 | 0,5 |
| 4 | 24 | 10,2 | 1.300.000 | 0,8 |
| 5 | 33 | 9,5 | 1.700.000 | 1,1 |
| 6 | 66 | 8,3 | 3.000.000 | 2,5 |

Size and productivity remaining the same

# IT system lifecycle costs



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# Metric: Quality

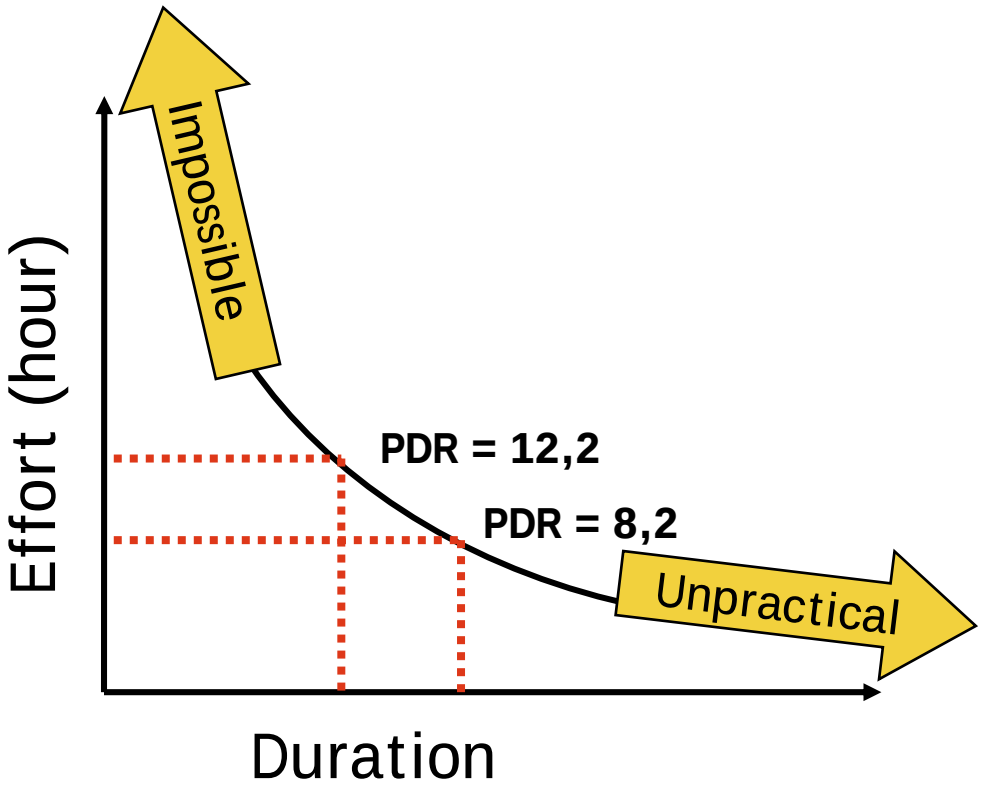
- Number of defects User Acceptance Test
- Number of defects first month after delivery
- Maintainability (M.I.)
  - > % Documentation
  - > Halstead volume
  - > McCabe cyclomatic complexity
  - > Size (LOC) per module

# Metric: quality

| Duration (months) | Peak Staff (# pers.) | Cost (eur) | Defects in UAT | Defects 1st month | M.I. |
|---|---|---|---|---|---|
| 13,6 | 6 | 416.000 | 12 | 4 | 69 |
| 12,3 | 9 | 623.000 | 16 | 8 | 55 |
| 11,3 | 14 | 875.000 | 25 | 13 | 43 |
| 10,2 | 24 | 1.300.000 | 43 | 22 | 35 |
| 9,5 | 33 | 1.700.000 | 72 | 36 | 23 |
| 8,3 | 66 | 3.000.000 | 119 | 60 | 14 |

**Size and productivity remaining the same**

# Metric questions... answer Q1




**Q1: What is your productivity for Java projects?**

- **Which duration?**
- **Which size?**
- **Which technical complexity?**
- **Other influences??**



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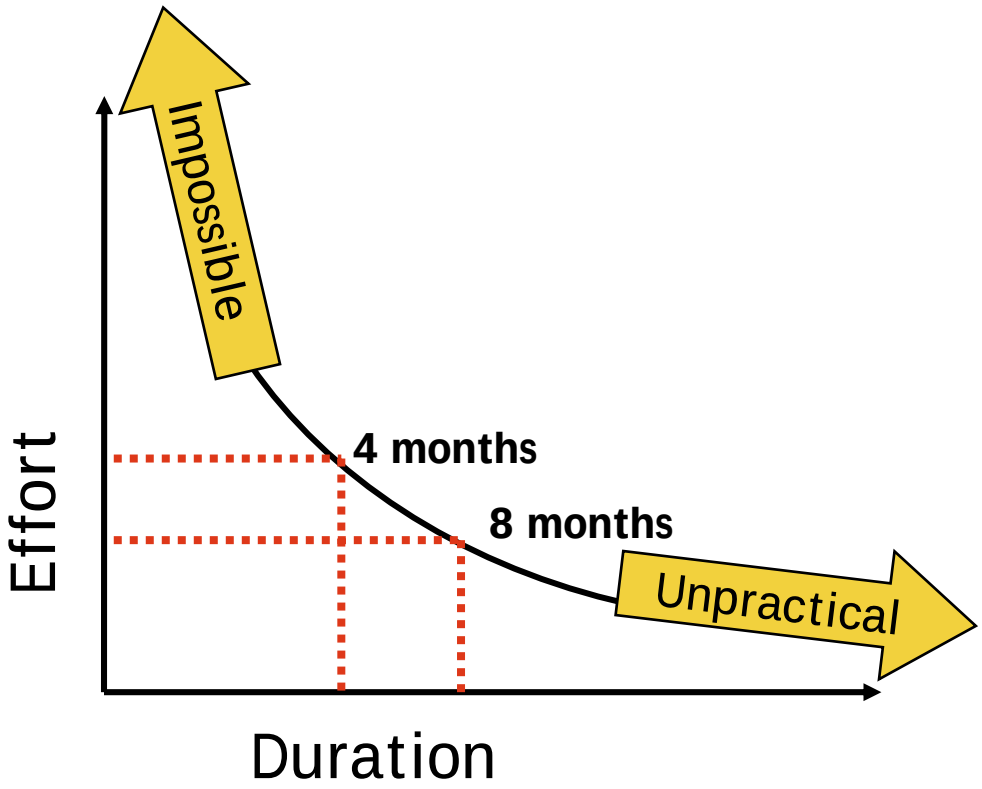
# Metric questions… answer Q2




**Q2: How long do you need to build a .Net application of 500 FP?**

**Which max. cost / effort?**

**Which quality?**

**Which technical complexity?**

**Other influences??**



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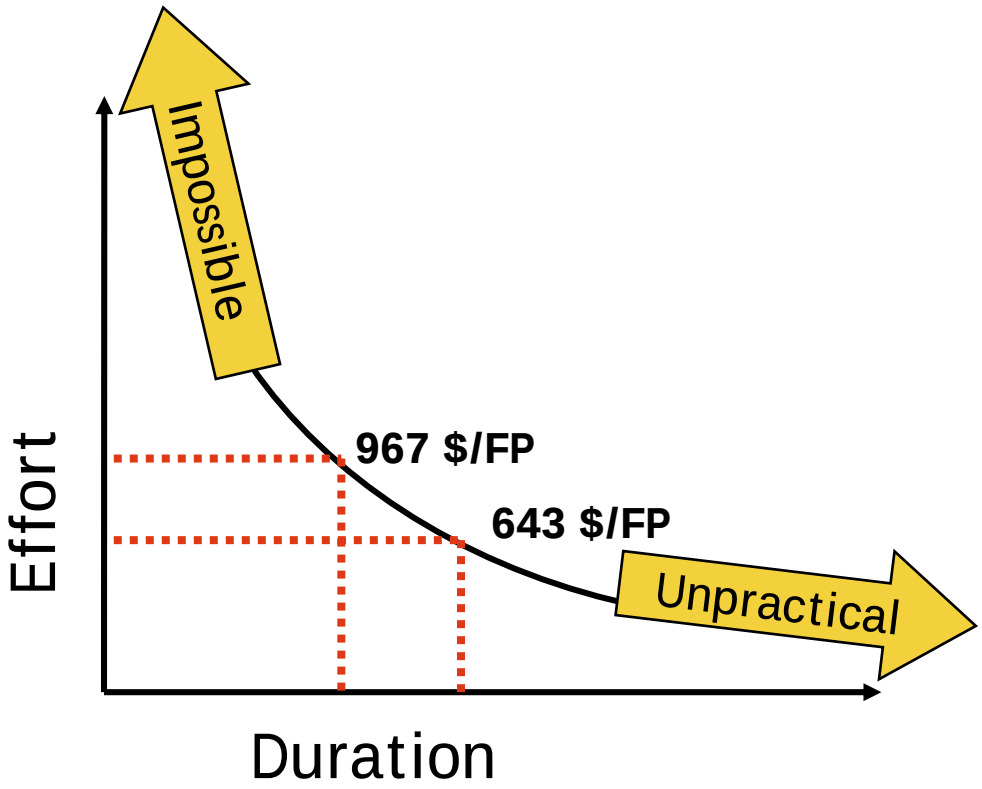
# Metric questions... answer Q3




**Q3: What is your price per function point for a 500 FP Oracle system**

- **Which duration?**
- **Which quality?**
- **Which technical complexity?**
- **Other influences??**



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# Which questions should be asked?

**Q1** What is your productivity for a java project of 500 FP
and a maximum development time of 28 weeks?

**Q2** How long do you need to build a 500 FP .Net application
when price per FP may not exceed 500 €/FP?

**Q3** What is your price per function point for a 500 FP Oracle system
and a maximum development time of 24 weeks?

→ Size + Duration + Costs / PDR

# Other Questions (with Q1, Q2 and Q3)

- **What is the maximum number of defects per function point that will be found in the user acceptance test?**
- **What is the maximum number of defects per function point that will be found the first month after delivery?**
- **What will be the minimum Maintainability Index of the code delivered?**

# Client: Evaluating bids

- Understand the size of the project
- Understand the technical complexity
- Estimate range with possible cost estimates: minimal, probable and maximum scenario
  - > Commercial tools
  - > ISBSG database

# Assess Reality

| | MIN | PROB | MAX |
|---|---|---|---|
| **Size** in FP | 370 | 400 | 520 |
| **PDR** in hours/FP | 6.4 | 7.5 | 9.4 |
| **Effort** in hours | 2400 | 3000 | 4900 |
| **Duration** in months | 4.0 | 5.0 | 5.8 |
| **Cost** x € 1.000,= | 220 | 275 | 450 |
| **Cost** in euro/FP | 589 | 688 | 865 |



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# Selecting the right partner

## Is the suppliers bid realistic?

| | **Price** €/FP | **Duration** mnth |
|---|---|---|
| **Realistic scenario** | **589 - 865** | **4.0 – 5.8** |

## Bids IT department / suppliers

| | **Price** €/FP | **Duration** mnth |
|---|---|---|
| **Proposal 1** | **850** | **4** |
| **Proposal 2** | **610** | **5** |
| **Proposal 3** | **540** | **3** |



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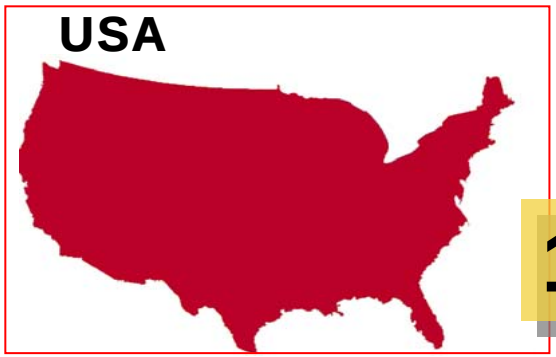
# Conclusions

- **Ask the right questions:**
  - > **Size, Cost, Duration and Quality are highly inter dependable**
- **Evaluate bids**
  - > **Assess reality of proposals**
- **Choose wisely**
  - > **Don’t go automatically for the cheapest supplier!**

# Sogeti worldwide




**13 COUNTRIES**

**15.000 EMPLOYEES**

**APPLICATION SERVICES**

**INFRASTRUCTURE SERVICES**

**HIGH TECH CONSULTING**

Sweden

UK

Denmark

Ireland

Netherlands

Belgium

Luxembourg

Germany

Switzerland

France

Spain

India

# Estimating wizard (input)

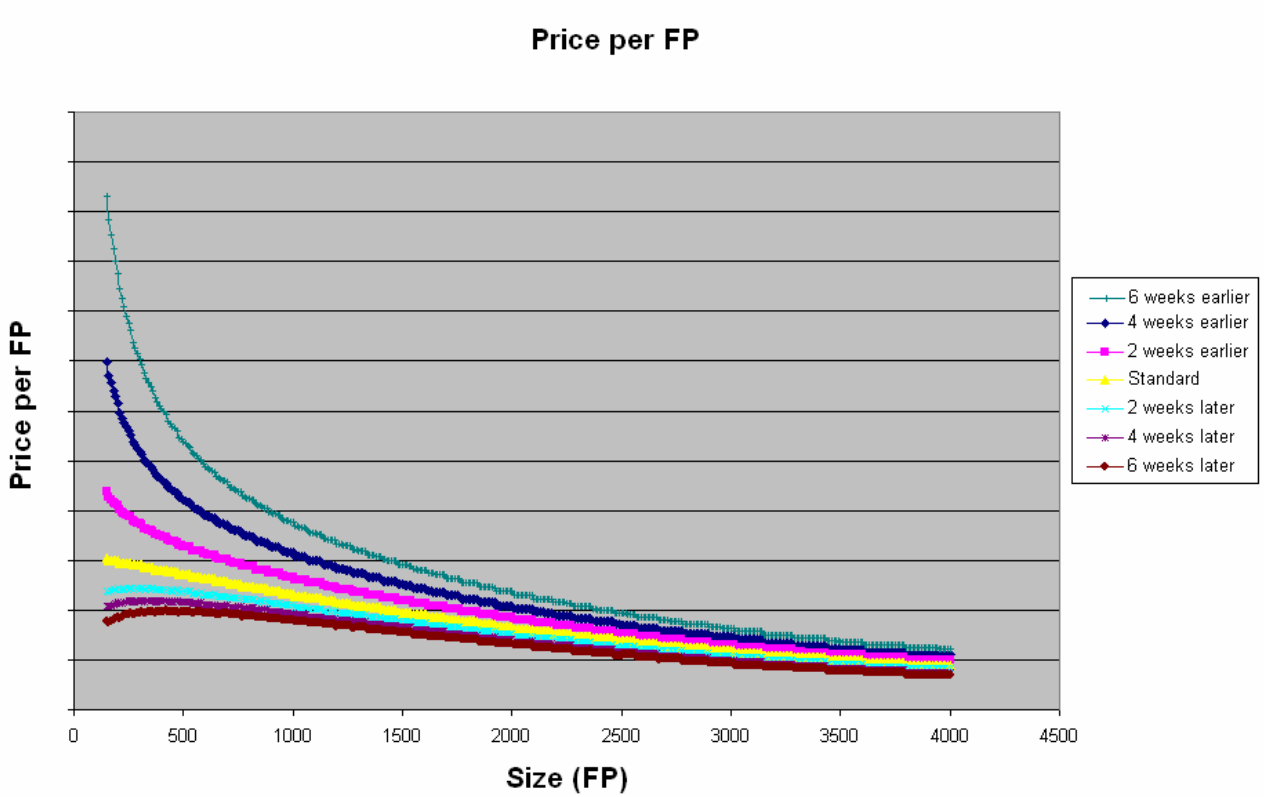
## Input

| | | | |
|---|---|---|---|
| Development tools | Java | | |
| Distribution of work | **Onshore** | **Offshore** | |
| Construction | 0% | 100% | |
| System test | 0% | 100% | |
| System test strategy | TMap Medium | | |
| Delivery test | Yes | | |
| Complexity | Medium | | |
| Size | 500 | COSMIC | |
| Start date | 01-03-07 | | |

# Estimating Wizard (Result)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Duration in weeks | 13 | 15 | 17 | **19** | 21 | 23 | 25 |
| Delivery for acceptance | 31-12-07 | 14-01-08 | 28-01-08 | **11-02-08** | 25-02-08 | 10-03-08 | 24-03-08 |
| Total effort | 8450 | 7110 | 6050 | **5395** | 4995 | 4755 | 4535 |
| Effort per FP | 14,6 | 11,2 | 9,2 | **8,3** | 7,8 | 7,1 | 6,5 |
| Totaal cost | € 550.000 | € 430.000 | € 350.000 | **€ 300.000** | € 270.000 | € 240.000 | € 220.000 |
| Cost per FP | € 1.000 | € 850 | € 730 | **€ 630** | € 580 | € 540 | € 520 |
| **Select an option** | ○ | ○ | ○ | ◉ | ○ | ○ | ○ |

**Data randomly altered**



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# Thank you for your attention


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