Using COSMIC-FFP
for sizing, estimating & planning
in an ERP environment
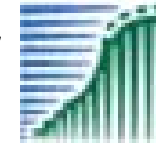
Frank Vogelezang
International Workshop on Software Measurement
Potsdam (Berlin) november 2, 2006

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Setting

- **Dutch Ministry of Agriculture, Nature and Food Quality**

- **Office for Regulations**

- **Financial regulations for 12,600 arable farms, 25,000 dairy farms, eggs and livestock**
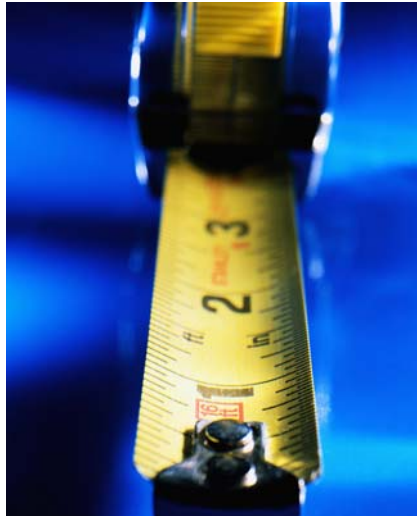
Changing environments

- **Political change**
  - > **Product support to income support**

- **Technology change**
  - > **Dedicated applications to ERP**

- **Organisational change**
  - > **Design change**

- **Production change**
  - > **Projects to industrial production**
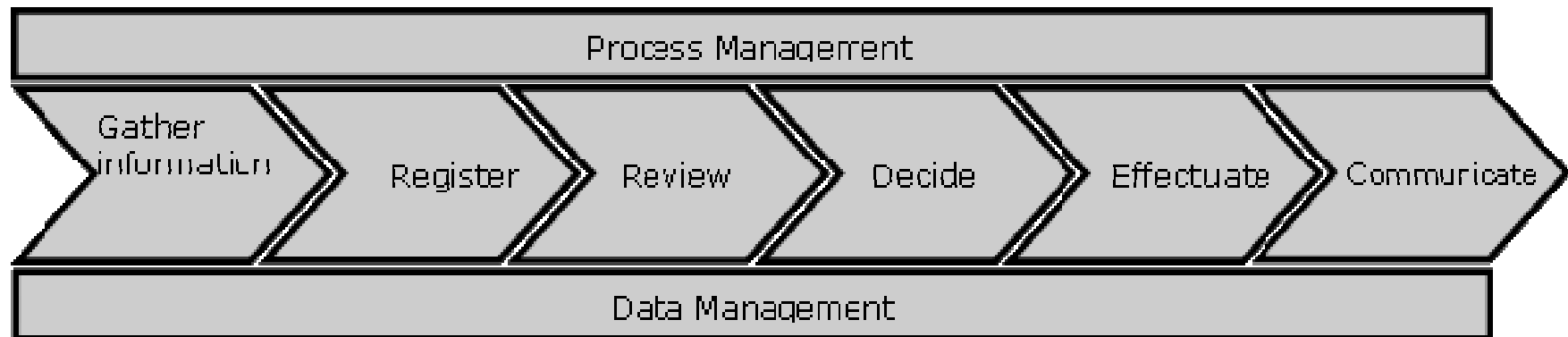
Sizing in an ERP environment

- **Regular ERP implementations are sized per module**

- **Regular software development is sized on data and functions**

- **But how to size this ERP environment**
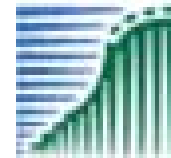
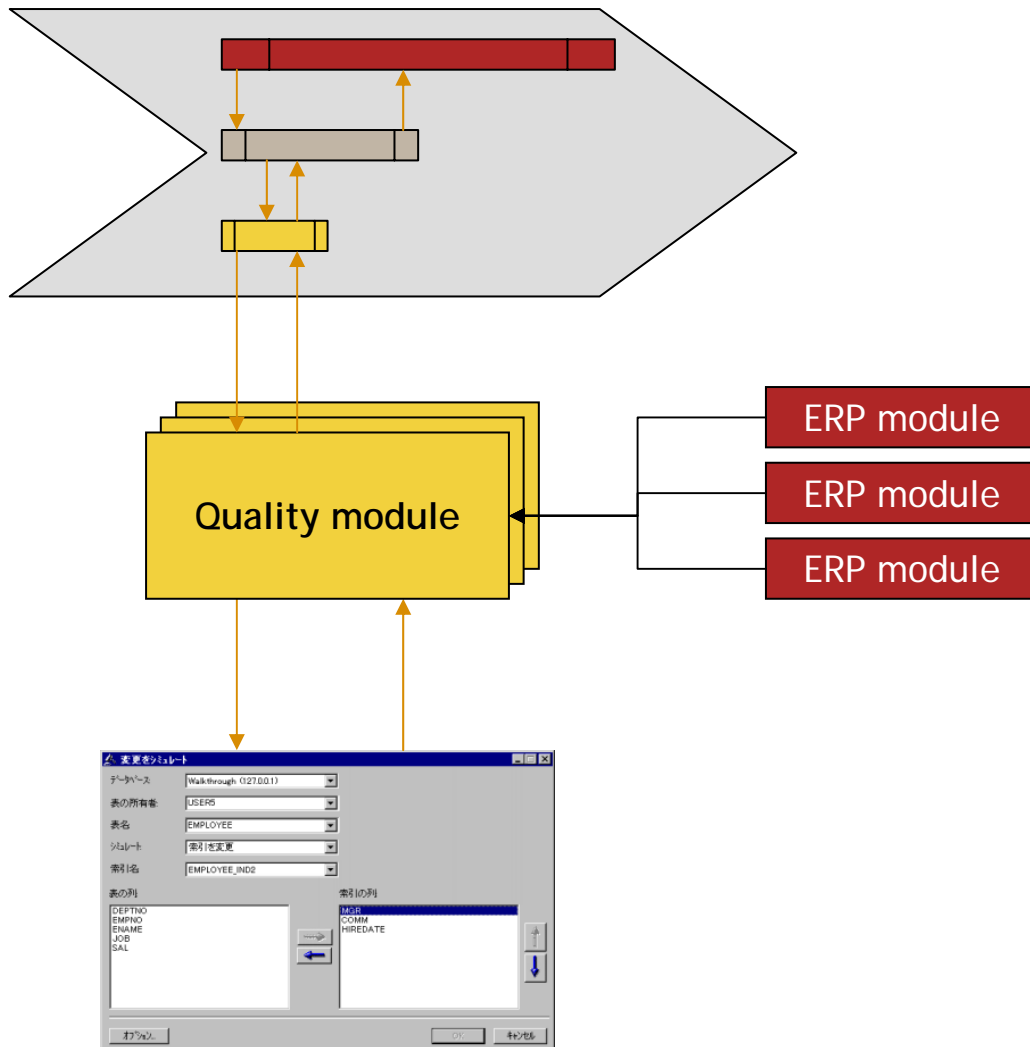# The administrative environment

- **Business Process Model**

The ERP environment

Business Process
- **Process**
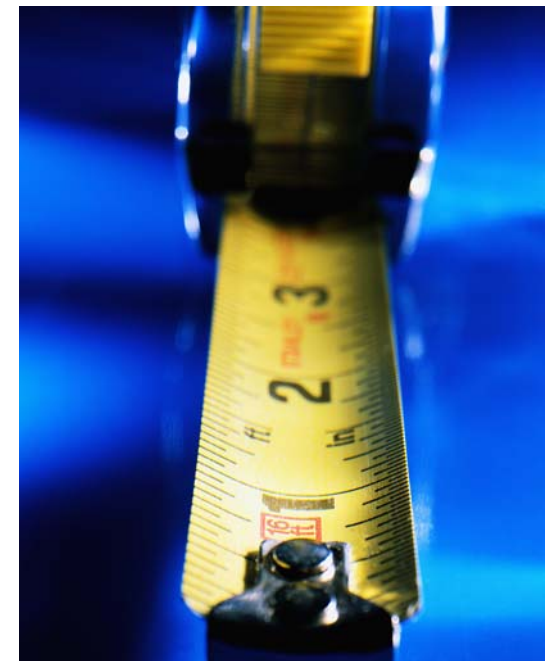- **Sub Process**
- **Activity**

Quality module couples other ERP module functions

Quality module as base for the user interface
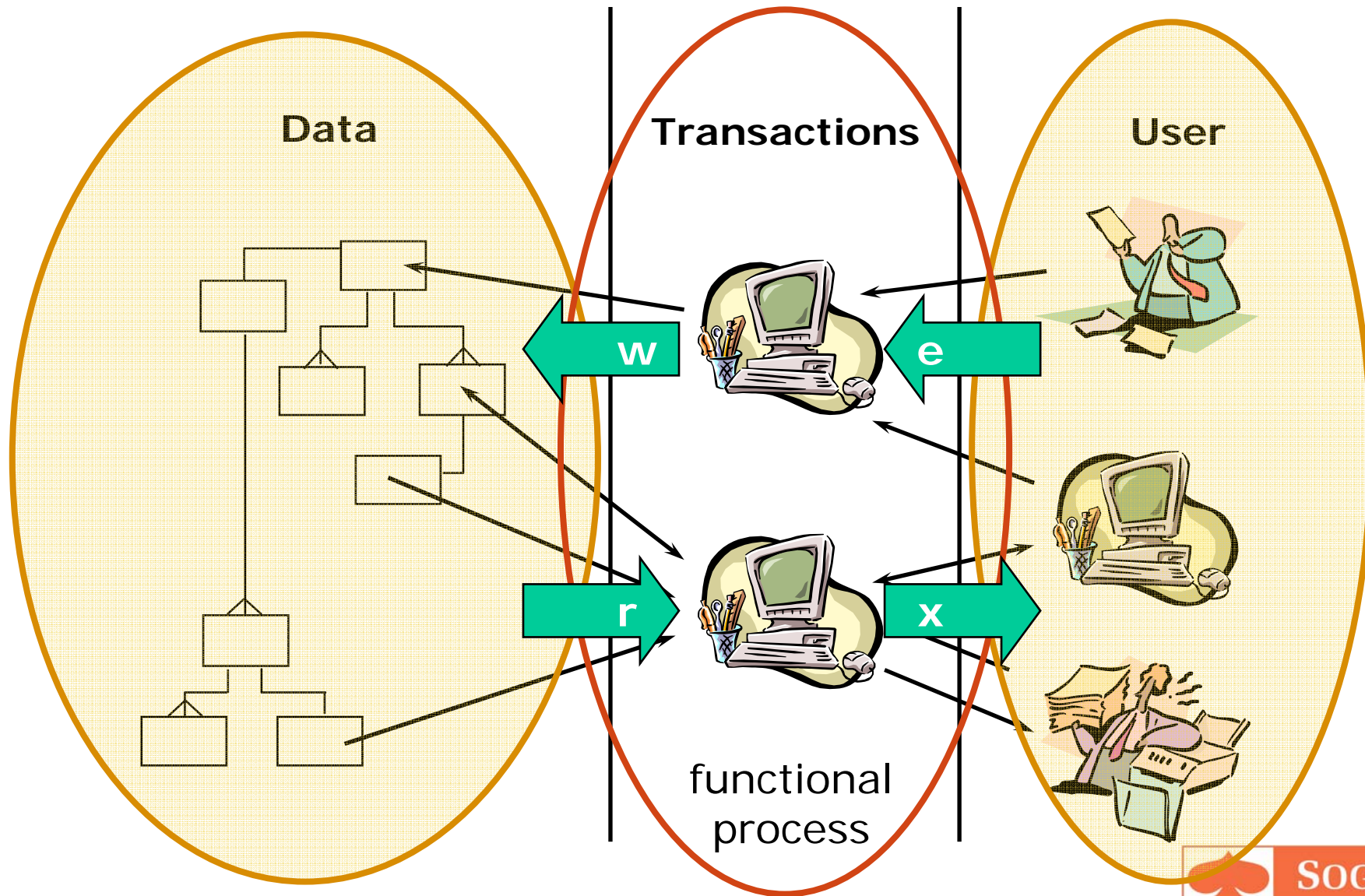
Sizing in the ERP environment

- **The design is focused on activities**
- **No (clear) connection with data**

- **FPA not applicable**

COSMIC Full Function Points

COSMIC Full Function Points

- **Refined approximate COSMIC-FFP:**
  - > **Small**   **4 Cfsu**
  - > **Medium**   **7 Cfsu**
  - > **Large**   **11 Cfsu**
  - > **Complex**   **24 Cfsu**

Software production

Software Factory

- **Productivity**
- **Predictability**

Key elements:
- **All-round system engineers**
- **Standard working method**
- **Development tooling**
- **Supporting processes**

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Estimating effort in 📊 software factory

- ## Two types of effort
  - > **Time related**   **Support effort**
  - > **Size related**   **Direct effort**

Direct effort	Support effort
Design adm. organization	Architecture
Design custom software	Project management
Set-up design	ERP set-up
Build custom software	Process improvement
System test	Quality control
Integration test	Metrics office

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Planning production

- **Time to delivery**

$$T = \frac{Size^{(0.17*PL+0.03)}}{PL}$$

- **Staffing production line(s)**

Staffing production lines

Main factors:

- **Size of process chain**
- **Amount of reuse**
- **Complexity**
- **Autonomy**

Other use of size metrics

- **Stability rate**
- **Direct cost**
- **Scope creep**
- **Change management**
- **Technology choice**

What we have learned

- **COSMIC-FFP is useful in an ERP environment if only process information is available**

- **COSMIC-FFP is useful if parameterization is dominant in the ERP implementation**

What do we want to learn

- **Calibration of refined approximate COSMIC-FFP**

- **Bridging the gap to the sizing of regular ERP implementations**

Questions?

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Discussion

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