University of Siegen
Chair of Information
Systems and New Media

ECIS 2007

Improving Information Systems by End User Development: A Case Study

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Track: IS Development

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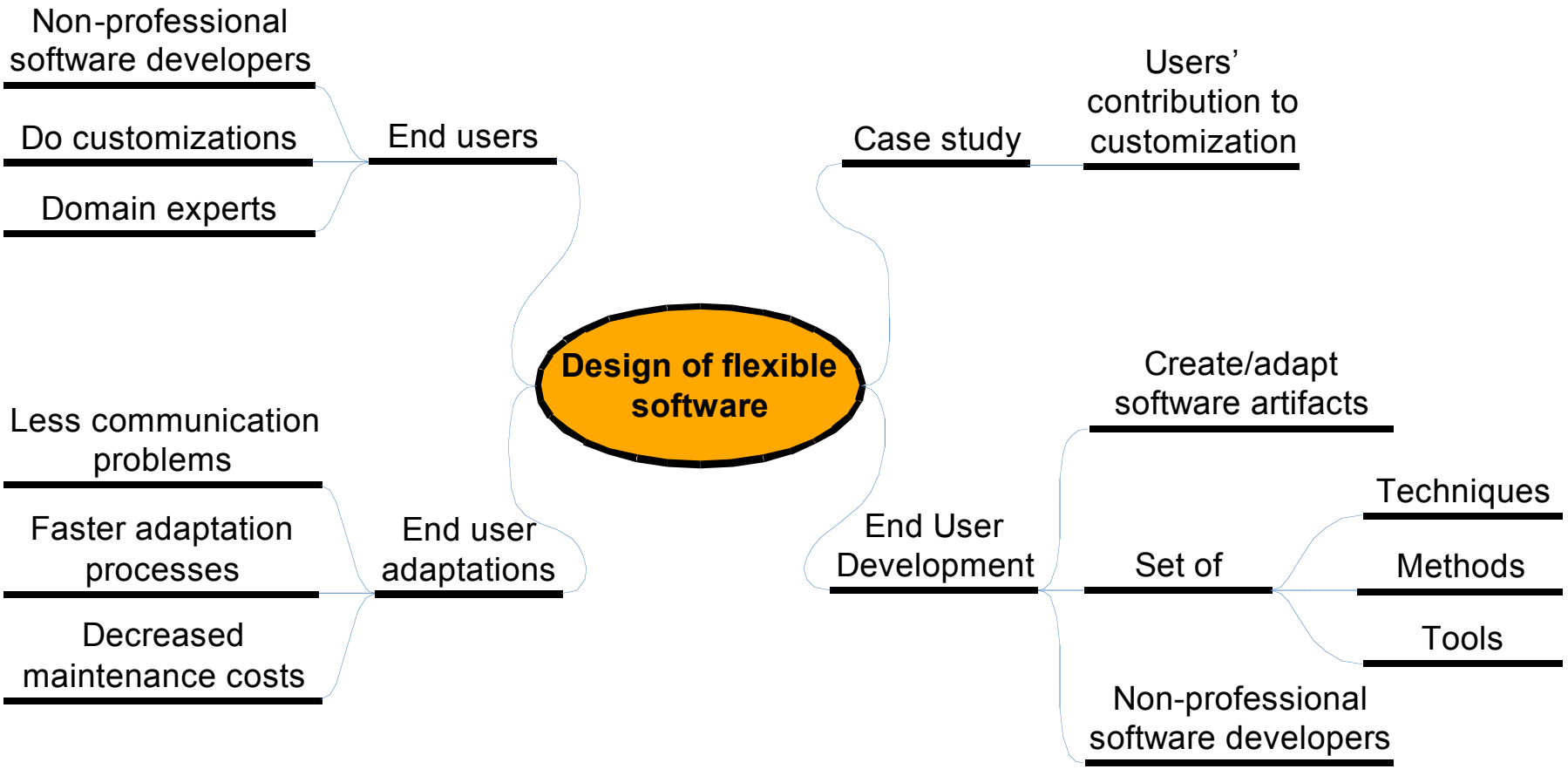
Introduction



Background

- The case study was done within the **EUDISMES[1] project**
- Project aim: Development of **innovative EUD techniques** for the business software market
- **Focus on SME**, because they have a very limited amount of human and financial resources

- Our project partners are:

THE BEST-RUN BUSINESSES RUN SAP™ SAP

BUHL

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[1] End User Development In Small and Medium-Sized Enterprise Software Systems

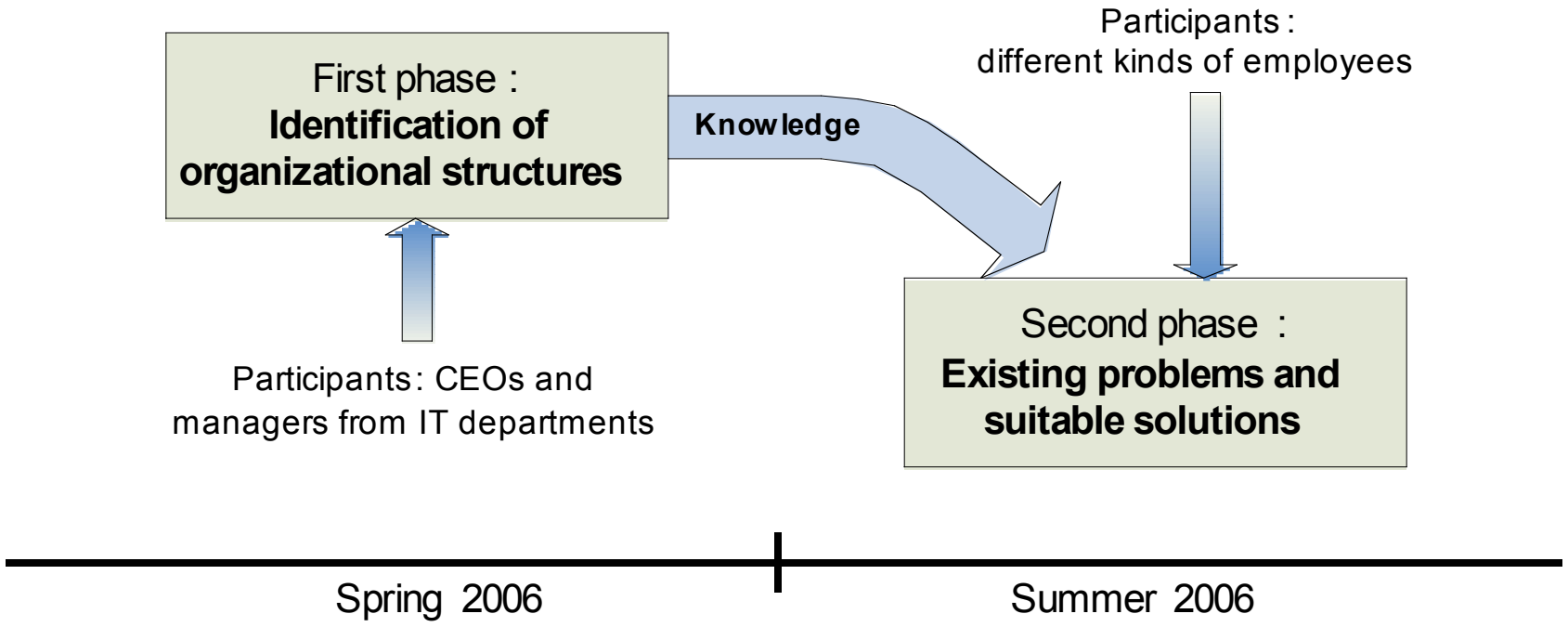
Research Questions

- What **problems** do users experience in their daily work?
  - Which systems are affected?
  - How serious are these problems?
  - Are there other users in the organization who have similar problems?

- How do users try to **solve** the **problems**?
  - How do they create solutions?
  - Which tools do they use for the solution?
  - Which people are involved in the solution process?

Research Methodology

- Qualitative Research: **Semi-structured interviews**
- Allows a very detailed and **profound insight** into the working field
- Topics could be **addressed in detail**, because users could tell stories and describe their working processes



Interview Setting

- Interviews conducted at **companies' sites**
- Participating companies
  - **2 small SME**, running industry-specific, ERP-like systems and MS Office
  - **3 lager SME**, running SAP R/3 as ERP system and MS Office

- Examples for **interview questions**:
  - Does the software meet your requirements?
  - What do you do, if you experience problems during software usage?

Interview Phase	# of Interviewees	Duration
One	7	80 to 120 min.
Two	18	45 to 90 min.

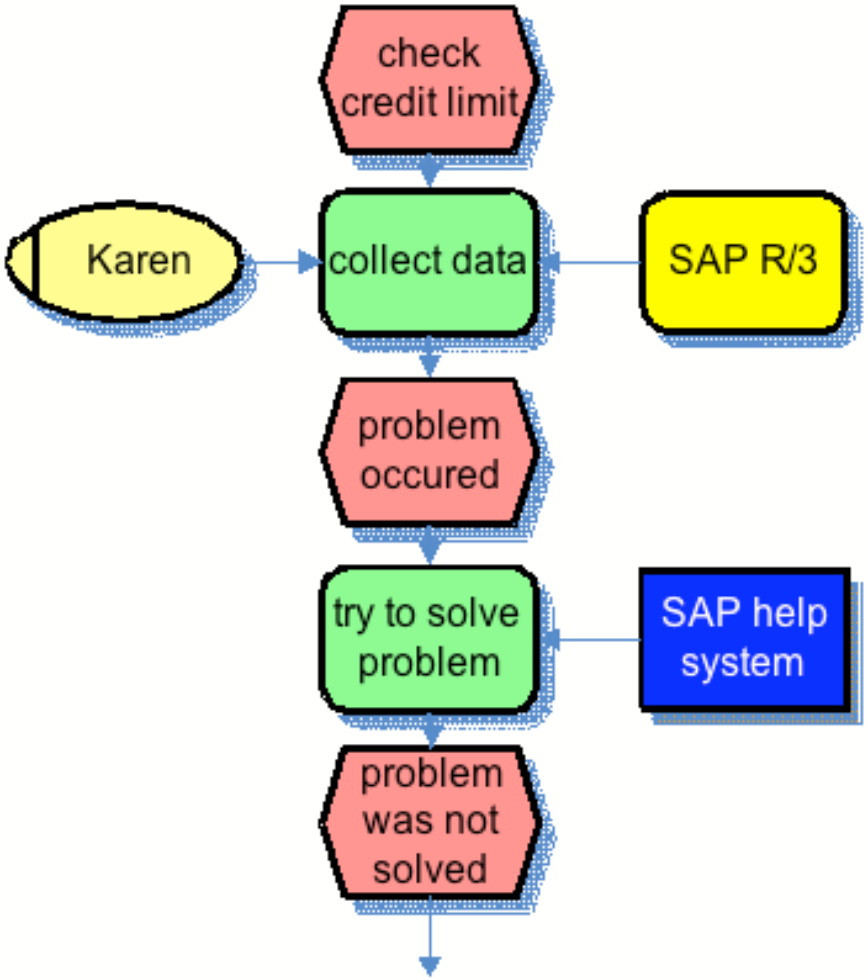
Results

Focus: Two important categories for the **design of user adaptable IS**

- Analysis of **problem types**
  - Showed a variety of end users' problems with software
  - Highlighted that there are users with similar problems
  - Allows IS designers to choose appropriate EUD techniques, to address the problems

- Analysis of **problem solving strategies**
  - Showed, how EUD works nowadays
  - Describes, how users try to solve problems together
  - Highlights, how many and what kind of people are involved in the process
  - Allows IS designers to choose useful support mechanisms

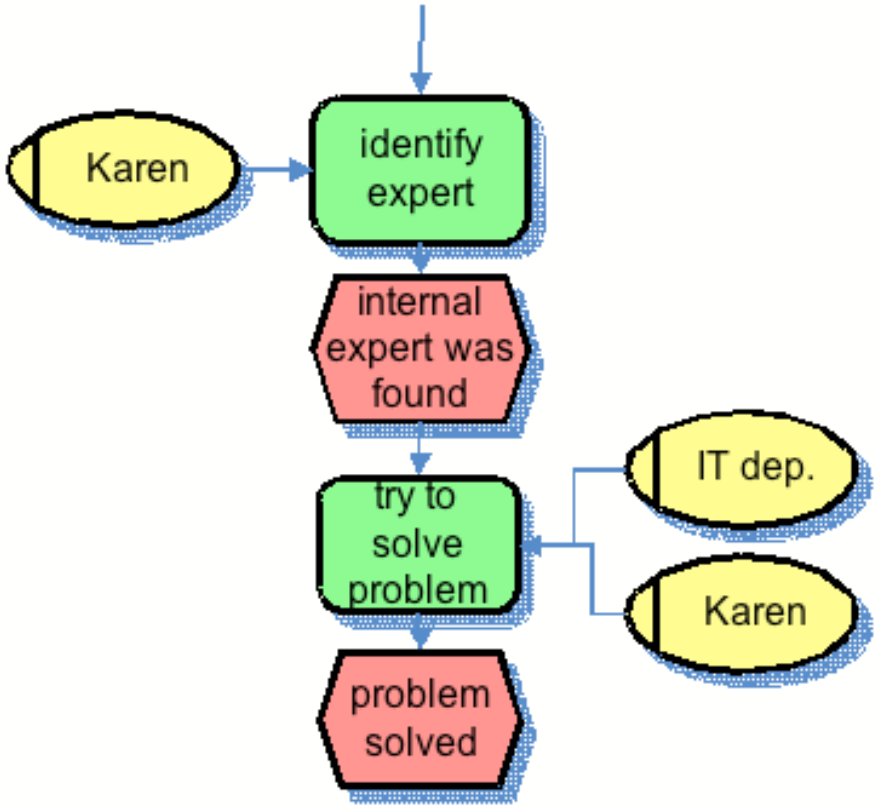
Results – Case I



- Karen (manager of accounts department)
- Create credit limit check
- Data is stored within different SAP modules
- Problem: Collection of Data is complex
- Formatting in Excel is nicer
- Solution of problem was not successful

→ Functional Problem: **Inappropriate function**

Results – Case I

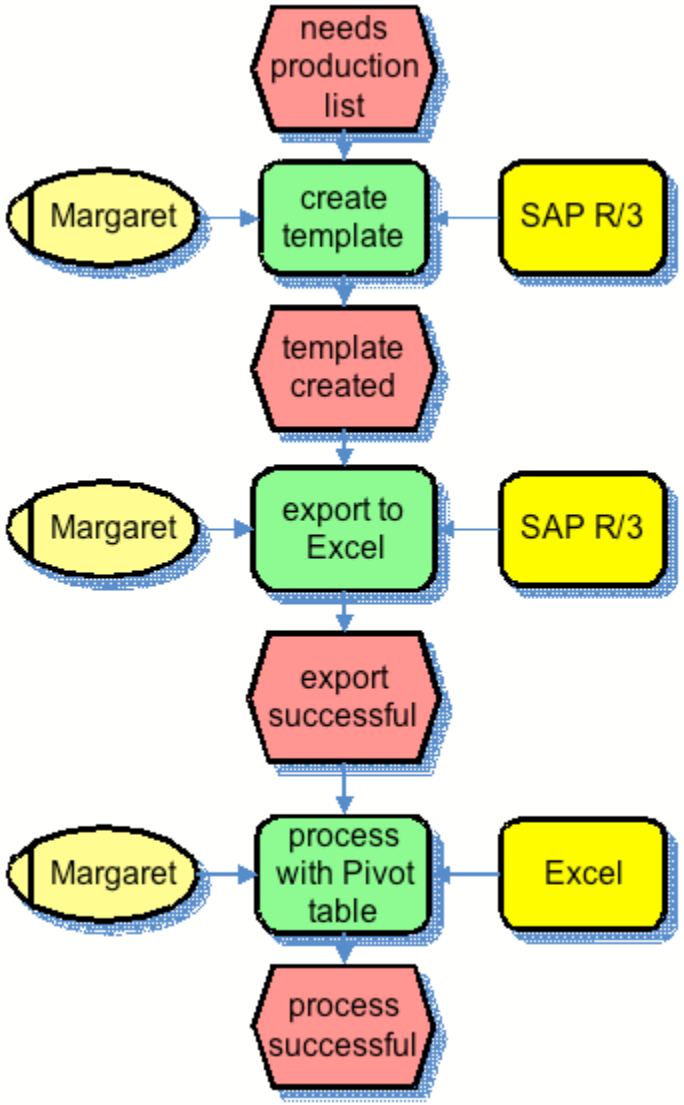


- Small problems are discussed with colleagues
- In this case, she asked IT
- Consultants are very expensive, contact is established via phone or email
- Creation of a proper solution with IT was possible

Implications

- Support of cooperative adaptations
- EUD tools could improve process

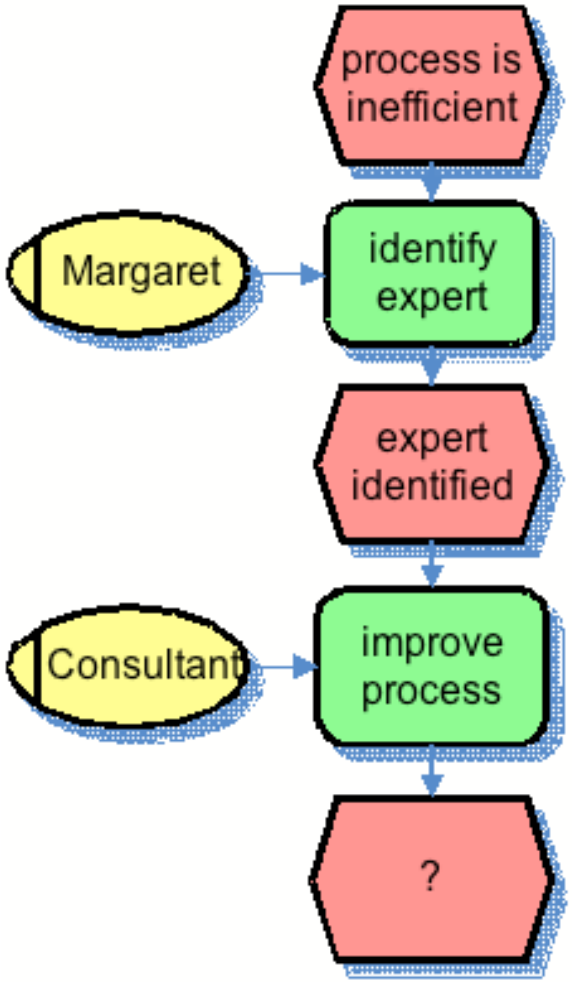
Results



- Margaret (employee of order management)
- Has to create production list twice a week
- First, create a list with all data
- List has to be exported to Excel
- List has to be processed with a Pivot table
- Problem: Process takes approximately one hour

→ Functional Problem: **Missing functionality**

Results



- Process is inefficient
- Other SAP Key Users could not help to improve it
- Neither IT
- Contacted consultant via telephone (problem is too small for a visit)

Implications

- Programs should provide EUD mechanisms
- Support of cooperative adaptations

Summary

- The design of flexible software is still an issue
- We discovered detailed information about users' problems and problem solving processes
- EUD takes already place, but could be improved by tools
- The derived implications should be considered in the design process
- The study complements existing ERP studies by illustrating activities and practices of users

Further research activities

- Results will guide our development of EUD tools
- The implications will be proved in practice in the future by an evaluation of our prototypes

Contact

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End User Development in Small and Medium Enterprise Software Systems

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