Center for Organization & Information

Graduation procedure and projects
September 2007

Agenda

- Introduction - Sjaak Brinkkemper
- Procedure of a final thesis project – Johan Versendaal
- Research domains and projects
- ‘Market’
Introduction – Sjaak Brinkkemper

Research Group Organisation and Information

- Sjaak Brinkkemper
- Ronald Batenburg
- Lidwien van de Wijngaert
- Johan Versendaal
- Remko Helms
- Slinger Jansen
- Marco Spruit
- Karianne Vermaas
- Inge van de Weerd
- Henk Koning
- Jurriaan Souer
- Rogier van de Wetering
- Pascal Ravesteijn
- Ilija Heitlager
- Gilbert Silvius
- Martijn van Berkum
- Ralph Foorhuis
- Marlies van Steenbergen
- Eva Baaren
- Jurriaan van Reijsen
Research theme

*Product Software: Methodology of Development, Implementation and Entrepreneurship*

3 Research lines
I. Development Methodology
II. Implementation and Adoption
III. Entrepreneurship

Product Software Framework

Corporate Strategy
- Product Strategy
  - Product lifecycle management
  - Portfolio analysis
- Service Strategy
  - Service portfolio
  - Market strategy
  - Localization and customizations

Organization perspective
- Requirements Management
  - Release Planning
  - Marketing analysis
- Architecture/Design Development
  - Production timing
  - Testing
  - Defect handling
- Delivering
  - Beta and Launch
  - Documentation
  - Config. management

Market perspective
- Implementation Services
  - Training
  - Installation
  - Customer service

Software
Society is our lab!

MBI research master
- Participation in scientific research
- Collecting data
- Empirical validation
- Experimentation in practice
- Writing scientific paper

You are our lab workers!
- Work under the supervision of experienced researchers
- Employers will greatly appreciate scientific grounded research work!
- Lead research investigations

Procedure – Johan Versendaal
Graduation – Facts (1)

- Thesis protocol for general guidelines
- [www.cs.uu.nl/groups/OI](http://www.cs.uu.nl/groups/OI) (Education -> Graduation) for detailed guidelines
- 40 ECTS + 4 ECTS (MBI Colloquium) + 1 ECTS (Intro Business Informatics)
- Thesis proposal document
- Deliverables:
  - Thesis document
  - (Scientific) paper
  - As desired by company
- Scope and subject in sync with group’s research interests

Graduation – Facts (2)

- Internal and external projects
- 2 supervisors from UU; 1 or more from the company
- Start only after approval of thesis proposal document by all supervisors
- Thesis: practical AND scientific contribution
- Thesis evaluation criteria available
- Thesis examination:
  - Thesis document, paper
  - Thesis defence/presentation
  - Based on evaluation criteria

Source: [www.cs.uu.nl/groups/OI](http://www.cs.uu.nl/groups/OI), via Education -> Graduation
Graduation – Topics 1

RONALD
- Assessing and benchmarking organizations with Business/IT-alignment
- Success and failure in implementation and use ERP by (multi-national) organizations
- Improving e-health systems and applications
- E-business and e-collaboration in the Dutch retail sector
- Surveying the structure and dynamics of the IT industry
- Cross-national/cultural analysis of e-business and IT use in Europe

ILJA
- method engineering for startups and new ventures
- Co-evolution of software product and process.
- Software architecting and engineering in an ASP environment

REMKO
- Organizational impact of enterprise systems (e.g. PLM and KM systems)
- Intra-organizational knowledge networks
- Knowledge Management Strategy
- Knowledge Governance

SLINGER
- Web-based software delivery
- Managing software knowledge for upgrading
- Intelligent software knowledge base
- IT business incubator and entrepreneurship

PASCAL
- Implementation methodologies for Business Process Management Systems
- The Business perspective on Service Oriented Architecture

Graduation – Topics 2

JURRIAAN S (with GX)
- Development and implementation of CMS-based (content management system) web applications
- Quality of web applications
- Business improvement through web applications.

JOHAN
- Business/IT-alignment; situational maturity
- Procurement and purchasing
- Product management at product software companies

INGE
- Software Product Management (SPM) methods
- Game production methods
- Situational method engineering
- Knowledge infrastructure for product software companies

LIDWIEN
- Diffusion of innovations
- Adoption and use of new technologies
- Research (meta-)methods
- Network analysis
- Digital TV developments
- Internet and Web 3.0
- Digital infrastructure

NICO (with CAP/Gemini)
- IT & Business Governance, Compliance
- Innovation
- BPM

BENNY (with HU)
- Workflow management: design and implementation
- Workflow management and quality of labour
Graduation – Topics 3

JURRIAAN van R (with Andarr)
- Application of social network analysis in performance management
- Development of social network analysis techniques
- Development of a social network performance management method base

FRANK (with CAP/Gemini)
- Globally Distributed IT Processes
- Method Engineering

EVA
- Digital media & society: social shaping, convergence, uses and effects

MARCO
- Business Intelligence
- Language technology
- Enterprise Architecture

RALPH (with CBS)
- Business/IT-alignment

GILBERT (with HU)
- Enterprise Architecture practices

MARLIES (with Sogeti)
- Application of Method engineering for
  - Product management
  - Knowledge infrastructures
  - Product architecture
  - Entrepreneurship

Graduation – Topics (4)

- Assessing and benchmarking organizations with Business/IT-alignment
- Success and failure in implementation of IT
- Improving e-health systems and applications
- E-business and e-collaboration
- Surveying the structure and dynamics of the IT industry
- Cross-national/cultural analysis of e-business and IT use in Europe
- Co-evolution of software product and process
- Software architecting and engineering in an ASP environment
- Organizational impact of enterprise systems
- Inter-organizational knowledge networks
- Knowledge Management Strategy
- Knowledge Governance
- Web-based software delivery
- Managing software knowledge for upgrading
- Intelligent software knowledge base
- IT business incubator and entrepreneurship
- Implementation methodologies for Business Process Management Systems
- The Business perspective on Service Oriented Architecture
- Development and implementation of CMS-based (content management system) web applications

And more...
Thesis project – approach

(1)

Generic thesis execution process (derived from the problem solving process of Mitroff et al, 1974)

Thesis project – approach

(2)

<table>
<thead>
<tr>
<th>Research strategy</th>
<th>Goal</th>
<th>Approach</th>
<th>Data-type</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualitative</td>
<td>Explore. What is X? What does X mean? Interpretation and Induction.</td>
<td>Texts, photo’s, observations, interviews.</td>
<td>Qualitative and quantitative data on one</td>
<td>Qualitative methods, group, compare, cluster.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flexible, fast.</td>
<td>particular case.</td>
<td></td>
</tr>
<tr>
<td>Survey</td>
<td>Describe, how many, how often, to what degree. Explanatory and testing.</td>
<td>Standardized interviews, broad, general.</td>
<td>Responses to variables from many respondents.</td>
<td>SPSS, Uni- en multivariate analysis of a datamatrix</td>
</tr>
<tr>
<td>Experimental</td>
<td>Causal relations. Why is X. Testing and/or explanatory</td>
<td>Laboratory situation</td>
<td>Information for a limited number of variables and respondents</td>
<td>Analysis of differences</td>
</tr>
<tr>
<td>Design</td>
<td>Innovation, Improve</td>
<td>Investigate, apply, create, invent</td>
<td>Models, prototype, feedback</td>
<td>Empirical validation</td>
</tr>
</tbody>
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Sjaak Brinkkemper

I will not supervise MSc projects anymore as a 1st supervisor, but as a 2nd supervisor.

Research Interest: Product Software
- Application of Method engineering for:
  - Product management (Inge vd Weerd)
  - Knowledge infrastructures and Product software engineering methods (Remko Helms)
  - Product Architecture (Slinger Jansen)

- Entrepreneurship
  - Own product with related scientific subject
  - Software supply chains (Slinger Jansen)

Running & finished projects
- Acquisitions in the sector of product software (Renato Ignacio)

Ronald Batenburg

Research Interests
- Business/IT-alignment
- Success and failure in IT implementation
- E-health systems and applications
- E-business and e-collaboration in the Dutch retail sector
- Structure and dynamics of the IT industry
- Cross-national/cultural analysis of e-business in Europe

Running & finished projects
- IT and business governance, incl. compliance tools
- Chain digitalization in the Dutch retail sector
- IS/IT strategy and alignment roadmaps
- Open source software strategies
- Optimizing network effects of website traffic
- ERP for hospitals
- IS/IT in the pharmacy sector
- Patient and supply logistics in hospitals
- Health information through the Internet
- Chain computerization in CVA chains and emergency medicine
- Requirements for Web 2.0 in organizations
- HRM portals at the ministry of internal affairs
- Cross-national studies on IS/IT adoption, incl. developing countries
Open projects Ronald Batenburg

External
- Cap Gemini
  - IT, business and corporate governance and compliance tools (with Nico Brand)
  - Improving IS/IT strategy, maturity and alignment in the health care sector (with Jorrit Spee)
- Dialogic
  - Software solutions for the Dutch retail sector: a vendor study (with Jeroen Segers)
  - Barriers and opportunities of IS/IT adoption in Dutch SMEs (with Pim den Hertog)

Internal
- Business/IT-alignment assessment in US and NL (with Jerry Luftman)
- Technical isomorphism in design and implementation of ERP systems (with Jos Benders, Universities of Nijmegen and Tilburg)
- Cross-nation case studies of adoption, implementations and benefits of IS/IT in Europe (with Hannes Sellhofer, Empirica, Bonn)
- Business Process Management in municipalities (with Joost Reedijk)
- Innovation and IT in health care
- Maturity and alignment of HR solutions in public organizations

Frank Harmsen (Capgemini)

Research Interests
- Globally Distributed IT Processes
  - Rightshore Assessment Study / Success of Outsourcing
  - Risk mitigation in offshore projects
- Method Engineering

Running & finished projects
- Co-ordination mechanisms for offshore ISD projects
- Validation of Rightshore Assessment Study
- The IS Development Method Landscape in the Netherlands
- The Sourcing Landscape
- IT Governance models
- NAOMI
Open projects Frank Harmsen

External (all to be executed in Capgemini / client setting)

- SOS: Empirical validation
  Success of OutSourcing (SOS) is an assessment study in which the success of an outsourcing engagement is measured along 3 dimensions: cost, agility and quality. This study needs empirical validation, for instance by doing research at our clients.

- Method Landscape 2008: The World is Flat
  In 2005 we did a quantitative study into the usage of ISD and PM methods in the Netherlands. Now we want to repeat that study, with special attention to distributed development.

Deloitte Consulting’s Technology Advisory Practice

- **Performance Management Dashboards**
  - Implementation of performance management has significant impact on corporate culture. Performance dashboards are used to present information to all layers of the organisation, what are key factors in the cultural change and acceptance regarding these dashboards?

- **SOA Governance**
  - What is the best way to store web services within an organisation? Who takes ownership of these services, and how can they be easily retrieved (using for example a repository)?

- **IT Portfolio Management**
  - IT Portfolio management deals with aligning projects to the corporate strategy and does not focus on project implications on architecture. How should these two concepts be aligned to maximize project results on architectural level.

- **Strategic use of tooling in methodologies**
  - How can IT (implementation) methodologies be successfully linked to supporting tools, increasing the professionalism and performance of the methodology.

**Contact:** Tim van Ee (Deloitte) 0643002772 or tvanee@deloitte.nl
M&I/Partners: interessegebieden

- **Adviesbureau in de (semi-)publieke markt:** grote gemeenten, ministeries, zorginstellingen, waterschappen, woningbouwcorporaties, ...

- **ICT domeinen:** IT governance, implementatiebegeleidingen, ketenoplossingen, ICT economics, kwaliteitsmanagement, beveiliging, infrastructuren, breedband, ...

- **Stageonderwerpen**
  - Implementatie Elektronisch Patiënt Dossier
  - Implementatie Ketensoftware in de zorg
  - ERP implementaties bij gemeenten
  - TCO benchmarking
  - BPM en SOA implementatie

- **Contact:** dr. Bert Melief (info@mxi.nl en www.mxi.nl)

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Johan Versendaal

**Research Interests**
- Product Management and Requirements Engineering
- Procurement
- Business/IT-alignment

**Running & finished projects**
- Procurement/IT Alignment at Berenschot
- Post-merger IT integration and business/IT-alignment
- Requirements for Web 2.0 in organizations
Open projects Johan Versendaal

External
- Oce – impact of more software development
- KLM - several
- Pallas Athena – process reference models
- Berenschot - procurement

Internal
- With Jerry Luftman – Comparison business/IT-alignment assessment results in US and NL
- With Platform for Product Software – finetuning business/IT-alignment framework in logistics domain

Lidwien van de Wijngaert

Research Interests
- Diffusion of Innovations in IT and New Media
  - Media (DTV, HDTV, Cross Media)
  - Internet Applications, Mobile Application
  - Other new technologies
    ....in households or in organizations
- Research Methods
  - Literature Research through Meta analysis
  - Survey research, Qualitative research
  - Network analysis
- Eva Baaren
  - Digital media & society
  - Social shaping, convergence, uses and effects

Running & finished projects
- RFID in the warehouse
- Adoption and use of AlbumPrinter Software
- Comparison of Project Management Maturity Models
Open projects LvdW

- **External**
  - Lociga CMG: When to use Maturity Models
  - A comparative case study of three m-commerce services in Latin America and the Caribbean.
  - A vignette study on the factors that influence media choice in relation to the sending and receiving of greetings
  - Hogeschool Utrecht: HDTV standards & the emergence of new TV formats & uses
  - Hogeschool Utrecht: HDTV & changes in the making of news images

- **Internal**
  - A qualitative analysis of factors influencing household adoption of HDTV
  - Technical/financial implications of TV, Internet and Mobile phone convergence for the television chain.

Remko Helms

**Research Interests**
- Intra-organizational knowledge networks
- Knowledge Management Strategy
- Knowledge Governance
- Organizational impact of enterprise systems (e.g. PLM and KM systems)

**Running & finished projects**
- Redesigning Communities of Practice based on knowledge network analysis (Several case studies; Arcadis, Cehave, Unit4Agresso)
- Measuring the success of Communities of Practice: framework and tools (Case study; DHV)
- Validation of McElroy’s theory on New Knowledge Management (Empirical research; n=30)
- New Knowledge Projectplace – KM support for Prince2 projects (Design Research)
- Exploration of the maturity of PLM application in supply chains (Empirical research; n=16)
Open projects Remko Helms

External
- *Unit4Agresso*: Knowledge Network Analysis – Establishing organizational conditions for successful knowledge sharing at a product software company
- *DHV*: Knowledge Broker Backbone – Design and implementation of a global network of knowledge stewards
- *DHV*: Knowledge Governance - Guiding principles for implementing km elements into the DHV Organization Model and Planning & Control Cycle.
- *Andarr* (see Jurriaan van Reijsen)

Internal
- Discovering the ideal network structure for a knowledge network (simulation assignment in cooperation with Sociology department)

Slinger Jansen

Research Interests
- Software development
- Software productivity metrics
- Software product innovation
- Software supply networks
- Software licensing
- Software knowledge management
- Software feedback processing
- IT business incubator and entrepreneurship

Running & finished projects
- Customer configuration updating Benchmark
- Website for product updaters
- Business Rule Management suitability framework
- Delivery Method development at GX
- ...

Running & finished projects
- Customer configuration updating Benchmark
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Running & finished projects
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- Delivery Method development at GX
- ...

Open projects Slinger Jansen

External
- Stabiplan – Developing a software knowledge infrastructure
- Planon – Productivity metrics for an agile development team
- Many different connections

Internal
- LicenseFit – Developing a method to find a license and fee structure for product software vendors
- Pheme – Software knowledge infrastructure development
- Open Source Web Application Release Manager – Development of an open source release management tool

Inge van de Weerd

Research Interests
- Software Product Management (SPM) methods
- Game production methods
- Situational method engineering
- Knowledge infrastructure for product software companies

Running & finished projects
- Development of the Product Managers Workbench
- Implementing SPM in a product software company
- Creation of a maturity model for the SPM function
- Development of a reference method for game production
Open projects Inge van de Weerd

**External**
- Implementation of SPM processes at various companies
- Case studies at various game production companies to test and improve the ‘Reference method for game production’

**Internal**
- Realization of a knowledge infrastructure to store method knowledge
- Development of an assessment tool for an SPM assessment, using Root Cause Analysis

Rogier van de Wetering / Deloitte

**Research Interests (organization perspectives)**
- Business/IT-alignment,
- Corporate performance management,
- Healthcare IT (Picture Archiving & Communication Systems and ePR),
- Hospital workflow
- Operational excellence (finance, process effectiveness, cost efficiency) in healthcare (care & cure)

**Running & finished projects**
- *Master research*: Evaluating the impacts of a PACS on hospital workflow. A qualitative study using a Balanced Scorecard;
- *Ph.D. research (starting)*: Successfully aligning PACS into the hospital enterprise;
Pascal Ravesteyn

Research Interests
- Implementation methodologies for Business Process Management Systems
- The Business perspective on Service Oriented Architecture

Running & finished projects
- The use of SOA in e-Learning (Educator)
- Defining Enterprise Services (Deloitte)
- BPM & SOA for Product Software Development (Summit)
- Identifying Added Value of BPM (Centric)
- Defining competencies for BPMS Implementation
- Development of a BPM(S) Game

Jurriaan van Reijsen MSc.

Research Interests
- Application of Collaboration Network Analysis in Performance Management
- Development of Collaboration Network Analysis Techniques
- Development of a Collaboration Network Performance Management Method Base

Running & finished projects
- Analysis of performance in a collaborative network @ Unit4 Agresso
- Development of collaborative network analysis techniques @ Andarr
- Development of a collaborative network performance management method base @ Andarr
Jurriaan van Reijsen MSc.

Open External Projects

• Development of collaboration network analysis techniques
  Keywords: E-mail, mobile phone, live messaging
  Competences: Technological, research methods
  Location: Andarr, Utrecht

• Development of collaboration network performance management method base
  Keywords: Analysis, diagnosis, treatment
  Competences: Service development, project management
  Location: Andarr, Utrecht

• Empirical analysis of the relation between collaboration network indicators and performance
  Keywords: Empirical analysis, case studies
  Competences: Research methods, statistical analysis
  Location: Premium customers of Andarr

Ilja Heitlager (SIG)

Research Interests
- method engineering for startups and new ventures
- Co-evolution of software product and process.
- Software architecting and engineering in an ASP environment

Your interests:
- Start a software company
- Understand dynamics of young companies
- Method engineering, relationship product and process

Open projects
- Depth: case studies/action research software evolution at product software companies
- Breadth: survey at product software companies to understand evolution
Ralph Foorthuis

**Research Interests**
- Enterprise Architecture

**Running & finished projects**
- Local projects conforming to Enterprise Architecture
- Comparing EA artifacts

Open projects (Ralph Foorthuis)

**External**
- CBS (Centraal Bureau voor de Statistiek): comparing EA artifacts. (Not yet certain.)

**Internal**
- -
Nico Brand (Cap/Gemini)

**Research Interests**
- IT & Business Governance, Compliance
- Innovation
- BPM

**Running & finished projects**
- IT Governance

Gilbert Silvius

**Research Interests**
- Business IT Alignment (BIA):
  *What processes, mechanisms and strategies do companies deploy to ensure IT and business are aligned?*
  *What is theory? What is business practice? How can theory be extended to be more practical?*

**Running & finished projects**
- BIA literature review
- BIA maturity assessments in several organizations
- Research into the differences in perception of BIA of IT professionals and Business professionals
- BIA in a multi-business company
- BIA in a multinational company
Open projects
Gilbert Silvius

Internal
- A. Analyse the second wave of IT planning methodologies
  Is there something like ‘modern IT planning’? What defines it? What are the characteristics?
  Domain: Business IT Alignment (Organisation perspective)

- B. What are the specific issues with BIA in a multinational company?
  A multinational company logically faces three specific issues in BIA:
  1. The effect of localisation of products, services and processes
  2. The role of the corporate center in BIA versus the role of the country organisations
  3. The effect of national cultures.
  This study aims to specifically address this last issue. The study will be done in cooperation with an external multinational company

Marlies van Steenbergen

Research Interests
- The effectiveness and continuity of different implementations of the architecture practice in relation to organizational characteristics

Running & finished projects
- Longitudinal study into the functioning of different architectural teams in a multinational financial institution
- Maturity of the architecture practice in the Netherlands
- Measuring the effectiveness of architecture
Open projects Marlies van Steenbergen

External

- The use of the Project-start architecture (PSA)
  - What are the objectives of the PSA
  - How is the PSA used in a variety of companies (interviews, comparing PSAs)
    - Structure of the PSA
    - Processes around PSA
    - Stakeholders of PSA
  - Defining conclusions and recommendations concerning the use of the PSA

The PSA is a translation of the general architecture principles and models to project specific directives. The general architecture is tailored to the specific challenges of the project. This provides a concrete framework within which the project is to be executed. The objective of the PSA is to deliver a practical, relevant and well defined scope for the project so that the project deliverables fit into the overall structure within the organization.

The PSA is defined at the start of a project. It is a collaboration between the architects and the project team. PSA is implemented in a lot of EA-practices (30-40) in the Netherlands and abroad (ao. Sweden).

Jurriaan Souer

Research Interests

- Web Engineering
- (Web) Content Management

Running projects

- “Formal Analyses of the Jackrabbit Architecture” (Jantien Sessink – RUN)
- “Conceptual Design Modeling of WCMS” (Lutzen Luijnenburg - UU)
- “Handling user input in a clustered JCR repository” (Steven Heytel – VU)

Finished projects

- “Migrating Content Management Systems” (Thom Urlings – UU)
- “Management of WCMS projects” (Paul Honders – UU)
- “Engineering design phase of GX WebEngineering Method” (Li Xiang – UU)
- “UI Design for CMS” (Ronald Bos – UU)
- “A Design Method for WCMS Implementations” (Inge vd Weerd – UU)
Open projects Jurriaan Souer

**External**
- Integrating PaaS (Project as a Service) within CMS-productsoftware
- Quantifying the complexity of CMS Implementation
- Dynamically translating Customer Requirements into a Configured CMS product

**Internal Supervisors**
- Johan Versendaal
- Inge van de Weerd
- Sjaak Brinkkemper

Market
- Find your way informally...
Final remarks

- The Center’s website:
  www.cs.uu.nl/groups/OI
  - News
  - Education -> Graduation information
- MBI Colloquium’s website: