Optimization of central and decentralized IT service management in universities

EUNIS 2014
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Dr. Harald Gilch
Objectives and reasons for evaluation
Various results of the evaluation by HIS-HE
Models of IT-service organization
Final remarks
Optimization of central and decentralised IT services

- Analysis of the current situation of IT services regarding
  - distribution of tasks
  - staffing and resources
  - central and decentralised services provided
- Recommendations of optimising distribution and fulfilment of tasks
- Development of several alternative organisation models of IT services
- Evaluation of the models and recommendation for that model that fits best the specific requirements
- Implementation of optimised IT services
Objectives and reasons for evaluation

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Final remarks
Methods of evaluation by HIS-HE

- Questionnaire to collect IT infrastructure and support of faculties and departments as well as central facilities
- Online survey for IT-service-staff
- On-site-inspections, interviews
- User fora – administration, faculties, students
- Modelling and calculation of personnel requirement
- Development of alternative organisation models and their valuations through scoring procedures
Calculation of personnel requirements

Calculation procedure in two phases

Phase 1: Requirements?
- Types of users
- IT working places
- Multifunctionality
- Relations of support
- Volumen of support (FTE)

Phase 2: Structure of services?
- Service structure
- Distribution of tasks
- Minimum requirements
- Synergic effects
- Personnel requirements (FTE)
### Calculation of personnel requirements

#### Personnel Requirements Calculation Table

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<th>Einrichtung:</th>
<th>FB 1</th>
<th>FB 2</th>
<th>FB 3</th>
<th>FB 4</th>
<th>FB 5</th>
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<th>Sprachzentrum</th>
<th>Uni.-Bib.</th>
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<th>insgesamt</th>
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<td>VZA</td>
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</table>

#### Calculation Details

- **Proprietary IT Support**
  - von IT-Personal: 1,00
  - von sachkundigen Nutzern: 1,75
  - von stud. Hilfskräften: 1,90
- **Central IT Service**
  - von IT-Fachkräften: 17
  - von IT-Ausbildenden: 14
  - von stud. HK/ABM-Stellen: 3
  - von stud. HK/ABM-Stellen: 1
- **Vergabe**
  - Fremdvergabe (VZA): 1,25

#### Summary

- **Betreuungsbedarf**: 1,323
- **SOLL**: 26,8
- **IST**: 23,1
- **Betreuungsbedarf - abgedecktes Betreuungsvolumen (SOLL - IST)**: -4,5
Results of evaluation

Inventory – IT service structure and services

- IT services highly decentralised (analogue university structure)
  - **Central IT services:**
    university computer centre
  - **decentralised IT centres:**
    computer centre for biology and pharmacy, central administration, economics, law, psychology, library
  - **decentralised IT support:**
    many isolated IT-service staff in departments, institutes, seminars...
Results of evaluation

Inventory – IT service structure and services

**University computer centre (UCC):**
Networks, e-mail, strategic acquisition, central server/server hosting, central storage, cluster computing, identity management, single sign on, central helpdesk, IT-development, w-lan, computer laboratories, central print services/print of posters, “everything from the socket to the patch panel”

**decentralised IT services:**
user support, operational acquisition, decentralised server, registration of users, account services, fileserver, specific applications, printer, communication technology in all versions, computer laboratories, development of standard and specialist applications, quite high degree of professionalization
Inventory – situation in the decentralised IT services

- Many proprietary, partly redundant systems
  - Remote and software deployment
  - Exams and course management
  - Databases of staff, evaluation data and publications
  - Budget planning, inventory

- Printer and copiers diversity:
  different models of buying, leasing, renting from different providers

- Endless number of servers:
  big, small, in server rooms or even in broom closets

- Little to no communication with one another, even in the same house

- Great variety:
  professional teams to lonesome fighters
General HIS-HE recommendations

- Examine **IT budget allocation**, cash flows and accounting of IT services

- More **standardisation and centralisation of IT basic services**

- **Implement IT service management**

- Thereby proceed gently and communicate well
Objectives and reasons for evaluation

Various results of the evaluation by HIS-HE

Models of IT-service organization

Final remarks
IT organisation and IT service models

- Comparison of 4 alternative organisation and service models
  - Model A: current model in optimised form
  - Model B: central decentralised supply in decentralised responsibility
  - Model C: central decentralised supply in central responsibility
  - Model D: maximum centralisation

- Evaluation of the models with criteria in three categories

<table>
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<th>Category</th>
<th>Weight</th>
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<td>Implementation</td>
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<tr>
<td>Orientation to Users</td>
<td>40,00%</td>
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<tr>
<td>Costs, structure, operation</td>
<td>35,00%</td>
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</table>
Model A: Current model in optimised form
Model B: central decentralised services in decentralised responsibility
Model C: central decentralised services in central responsibility
Model D: Maximum centralisation
Categories and criteria for scoring

**Implementation (25%)**
- Costs of realisation
- Organisational complexity of reorganisation
- Perspective of feasibility (temporal)
- Degree of cultural change
- Difficulty of implementation

**Orientation to users (40%)**
- Short reaction time, fast support
- Knowledge and satisfaction of specific needs
- High flexibility of support
- Temporal availability of support
- Face-to-face contact between user and supporter
- Support for students
- Stable, good technique (double weighted)

**Costs, structure, operation (35%)**
- Deployment
- Staff costs
- Ability to standardise
- Quality of processes and procedures
- Organisation
- Stability
- Security (double weighted)
Finding the optimal service model

Which model is optimal?

1. Model C
   Score 2.25

2. Model B
   Score 2.26

3. Model D
   Score 2.15

4. Model A
   Score 2.11

Dr. Harald Gilch: Optimization of central and decentralized IT service – EUNIS 2014
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Final remarks
Reactions of participants

Throughout positive echo to the evaluation of IT services:

- Great willingness to contribute to interviews and workshops.
- Participants conceive the investigation mainly as chance to bring in improvement suggestions.
- Good response not least thanks to the service staff of the faculties.
Support centres will be established under the responsibility of the university computer centre

**Minimum size and support relation** (3 FTE, 600 WP)

**Expansion** of the group “Client Support” in the **UCC**

**Coordination** of IT basic services through an interfaculty board of coordination
Approach

**Inform**, inform, inform, ...

**Discuss**, discuss, discuss, ...

Develop vision, strategy, measures

Not only achieve **successes**, but also report them.
Risks

Conversion of unpaid in paid work

Synergies are perhaps not sufficient for financing

Stopping on half way =>
inhomogeneous service system
Success factors

Make affected people to participants

Take concerns seriously

Not spare money but improve quality

Let efficiency gains flow in science and scientific IT applications
Thank you for your attention – there is now time for questions & discussion

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HIS-Higher Education Development of the DZHW
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HIS-Higher Education Management

- HIS was founded in 1969 by the Volkswagen Foundation as a non-profit organization
- Since 1975 HIS is jointly owned by the Federal Republic (1/3) and the Federal States (2/3) of Germany
- HIS is situated in Hanover, Lower Saxony
- Staff: In 2013 HIS had around 400 employees

August 2013: HIS was divided into:
- HIS eG: the former department HIS-IT
- DZHW: the former HIS-Institute for Research in Higher Education
- HIS-HE in the DZHW: the former department Higher Education Development
What we do

- The Higher Education Information System supports German institutions of higher education (universities and universities of applied sciences) and their administrations as well as higher education policy-makers in their efforts to fulfill their tasks effectively.

- The focus of our work is on activities:
  - HIS-IT: **Software house** for higher education administration
  - DZHW: **Research on higher education and science studies** through empirical studies and other forms of expertise
  - HIS-HE in the DZHW: **Higher education development** with the central topics of higher education organization, management, infrastructure, construction and building.
Dr. Harald Gilch
Head of project center Higher Education Management
Since 1999 at HIS/HIS-HE

Responsibilities:
Reorganization and Strategic Planning for Universities, Faculties and University Administrations
IT-Services / IT-Management
Benchmarking and Process Analysis
International projects

Studies:
Physics with Focus on Biophysics at the Free University of Berlin (Germany) and the University of Bremen (Germany)

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