Optimization of central and decentralized IT service management in universities

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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

Various results of the evaluation by HIS-HE
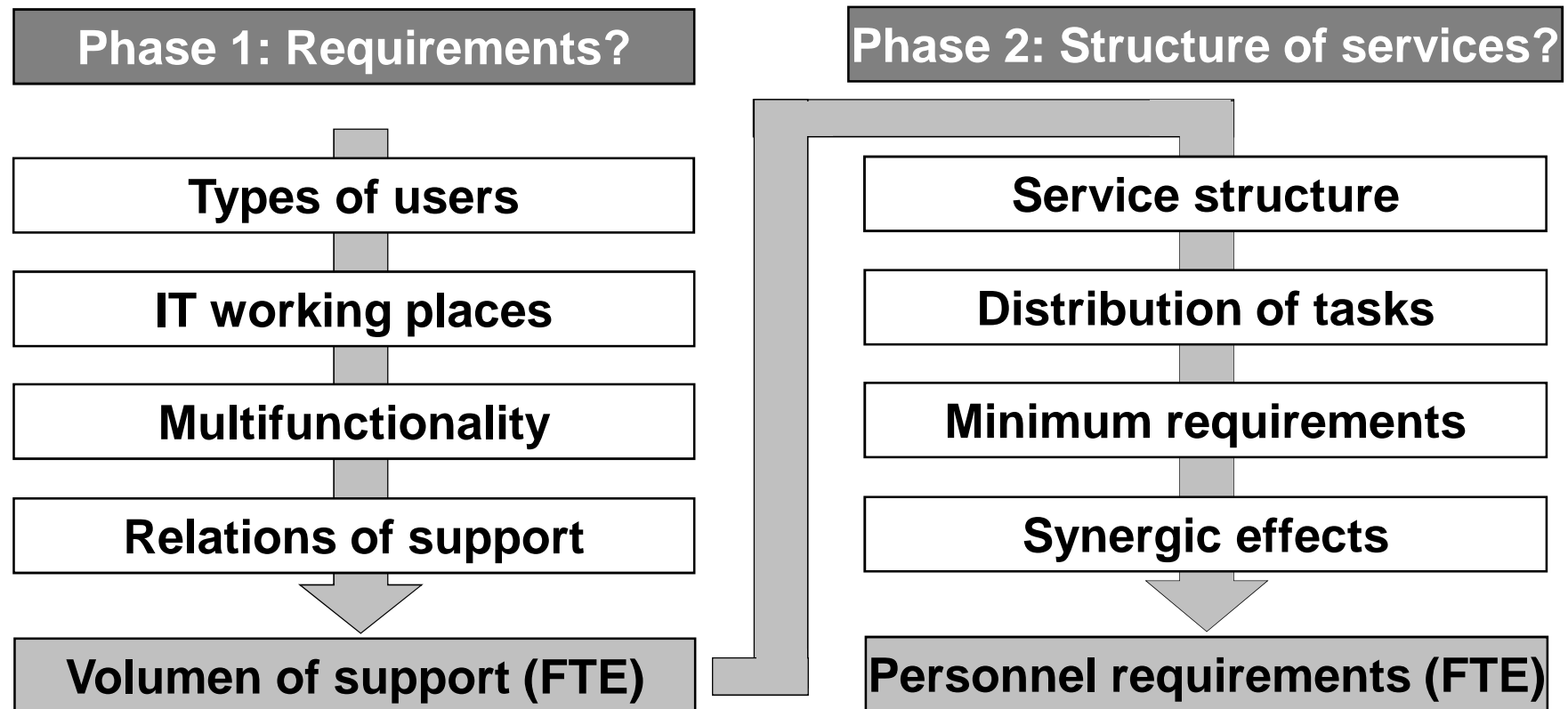
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Methods of evaluation by HIS-HE

- 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 procedure in two phases

Phase 1: Requirements?	Phase 2: Structure of services?
Types of users	Service structure
IT working places	Distribution of tasks
Multifunctionality	Minimum requirements
Relations of support	Synergic effects
Volumen of support (FTE)	**Personnel requirements (FTE)**

Einrichtung:	FB 1 exp. Wiss			FB 2 Dok.- Wiss.			FB 3 emp. Wiss./ Dok.-Wiss.			FB 4 Dok.- Wiss.			FB 5 Dok.- Wiss.			Verwaltung Verw.			Sprachzentrum emp. Wiss.			Uni.-Bib. Bib.			RZ RZ			insgesamt	
Fächergruppe:	RAP	VZÄ/100 RAP	VZÄ	RAP	VZÄ/100 RAP	VZÄ	RAP	VZÄ/100 RAP	VZÄ	RAP	VZÄ/100 RAP	VZÄ	RAP	VZÄ/100 RAP	VZÄ	RAP	VZÄ/100 RAP	VZÄ	RAP	VZÄ/100 RAP	VZÄ	RAP	VZÄ/100 RAP	VZÄ	RAP	VZÄ/100 RAP	VZÄ	RAP	VZÄ
RAP Studierende																													
davon allgemeine RAP	43	1,2	0,5	10	1,2	0,1	0	1,2	0,0	0	1,2	0,0	0	1,2	0,0		1,2	0,0		1,2	0,0	222	1,2	2,7	54	1,2	0,6	329	3,9
davon fachspezifische RAP	14	2,4	0,3	0	1,5	0,0	0	1,6	0,0	0	1,5	0,0	0	1,5	0,0		2,7	0,0	22,0	1,8	0,4	0	2,1	0,0		2,7	0,0	36	0,7
RAP Personal	213	2,4	5,1	170	1,5	2,6	181	1,6	2,9	30	1,5	0,5	31	1,5	0,5	85	2,7	2,3	41,0	1,8	0,7	179	2,1	3,8	28	2,7	0,8	958	19,0
Grundbedarf pro Einrichtung:			0,5			0,5			0,5			0,0			0,0			0,5			0,0			0,5			0,5		3,0
IT-Betreuungsbedarf:	270		**6,5**	180		**3,2**	181		**3,4**	30		**0,5**	31		**0,5**	85		**2,8**	63		**1,1**	401		**6,9**	82		**1,9**	1.323	**SOLL: 26,8**
Betreuung Wohnheimplätze																									750	0,1	0,8	750	0,8
IT-Betreuungsbedarf insgesamt:																											**2,7**		**SOLL: 27,6**

(IT-Betreuung durch)	FB 1 Pers.	VZÄ	FB 2 Pers.	VZÄ	FB 3 Pers.	VZÄ	FB 4 Pers.	VZÄ	FB 5 Pers.	VZÄ	Verw. Pers.	VZÄ	Uni.-Bib. Pers.	VZÄ	RZ Pers.	VZÄ	Σ PB (VZÄ)	Syn.-Fakt.	VZÄ MIN	Σ BV (VZÄ)
proprietäre IT-Betreuung																	**7,1**			**7,1**
davon IT-Personal		1,00															1,0	100%		1,0
davon sachkundige Nutzer		1,75				0,50					9	1,9					4,2	100%		4,2
davon stud. Hilfskräfte		1,90															1,9	100%		1,9
zentraler IT-Dienst														5,4			**5,4**	133%	0,25	**6,9**
davon IT-Fachkräfte													6,0	5,4			5,4			
davon IT-Auszubildende																	0,0			
davon stud. Hilfskräfte																	0,0			
zentraler IT-Dienst									17	14,75							**14,8**	167%	10,0	**7,9**
davon IT-Fachkräfte									14	12,90										
davon IT-Auszubildende									3	0,60										
davon stud. HK/ABM-Stellen									1	1,25										
Fremdvergabe (VZÄ)												1,25								**1,3**
IT-Betreuungsvolumen (BV) insg.:																	**27,2**	**IST:**		**23,1**
Betreuungsbedarf - abgedecktes Betreuungsvolumen (SOLL - IST):																				**-4,5**

HIS HE im DZHW Hochschulentwicklung

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 …

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

- 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

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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

Category	Weight
Implementation	25,00%
Orientation to Users	40,00%
Costs, structure, operation	35,00%

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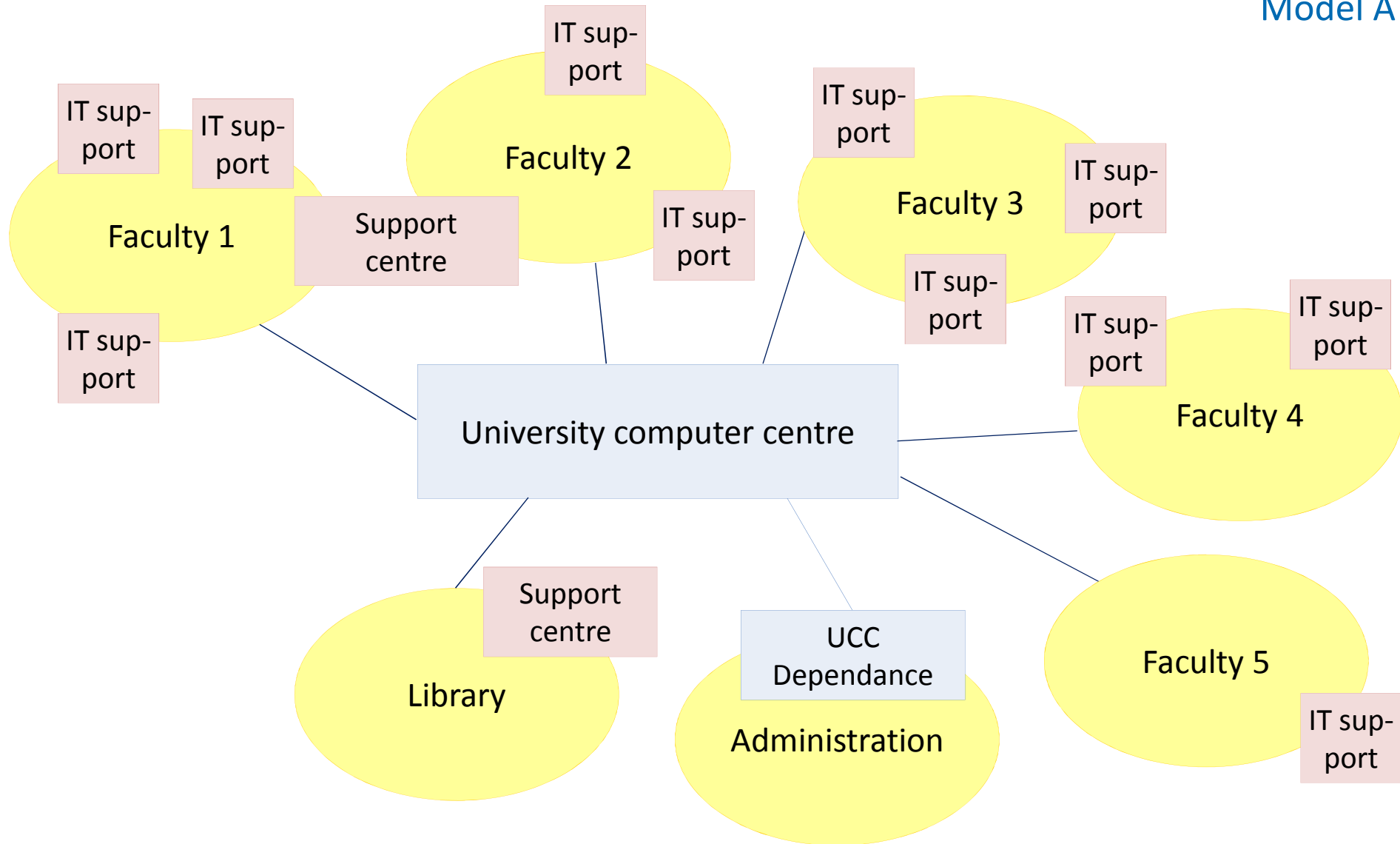
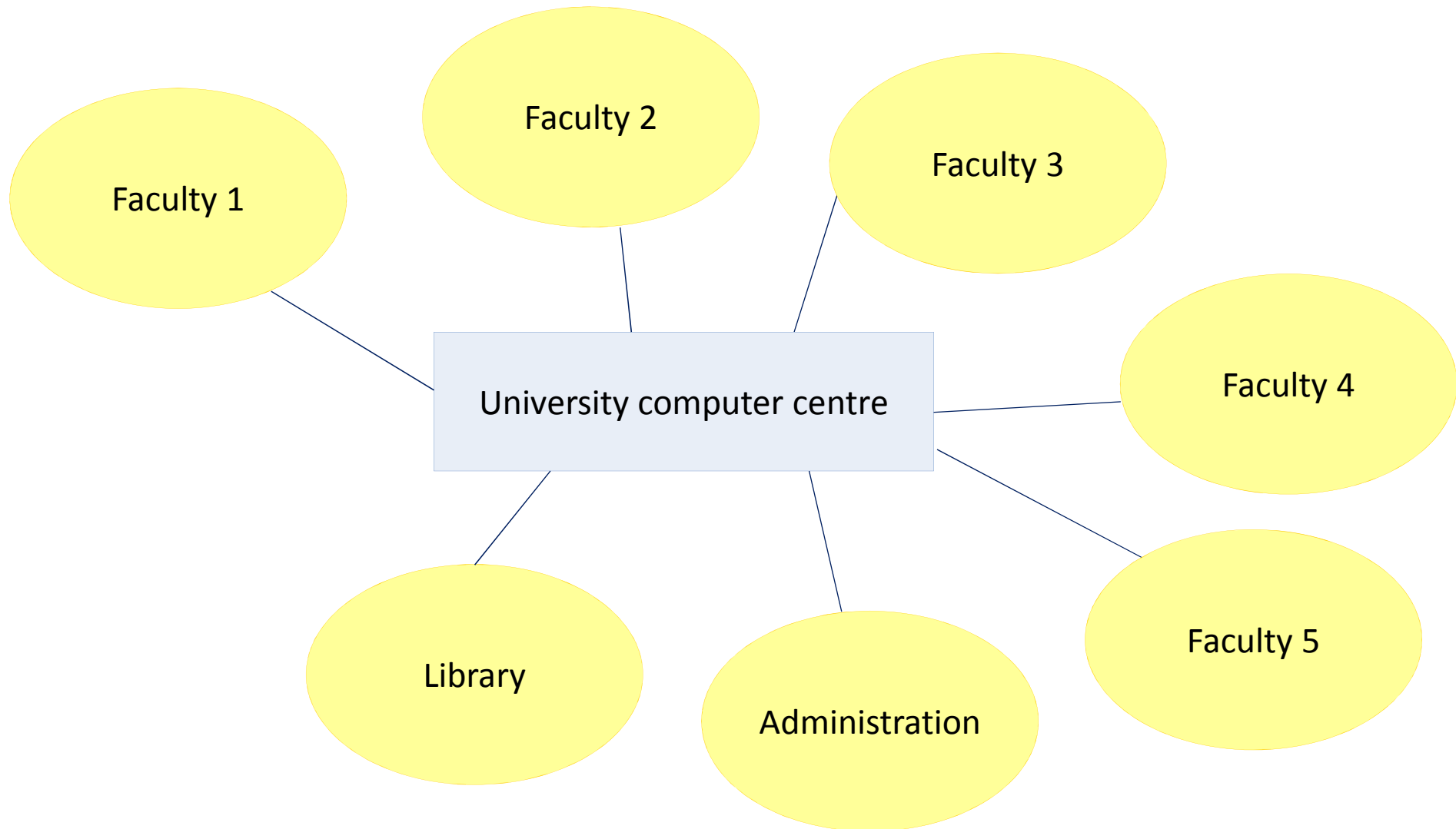Model A: Current model in optimised form
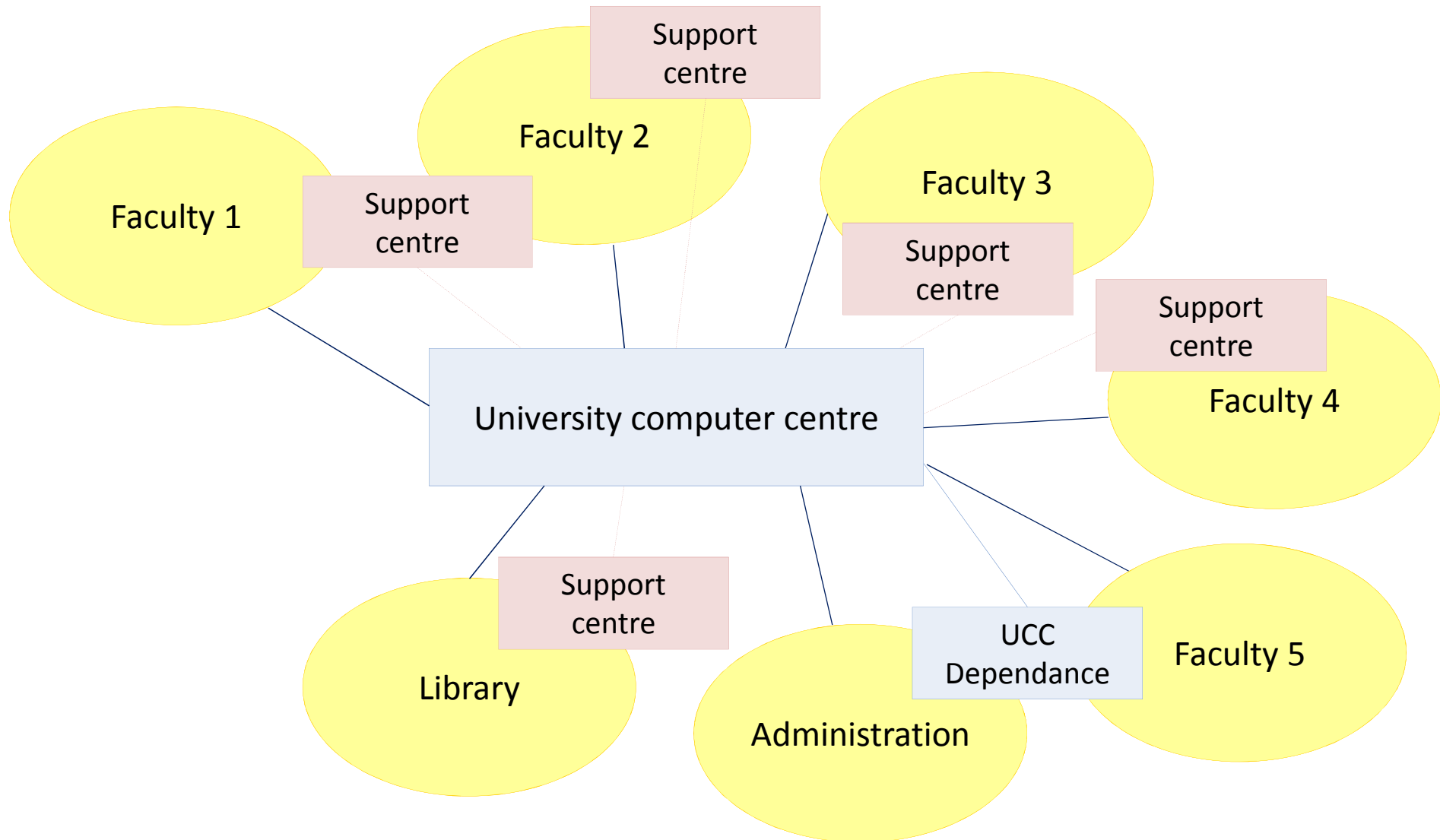
Model B: central decentralised services in decentralised responsibility
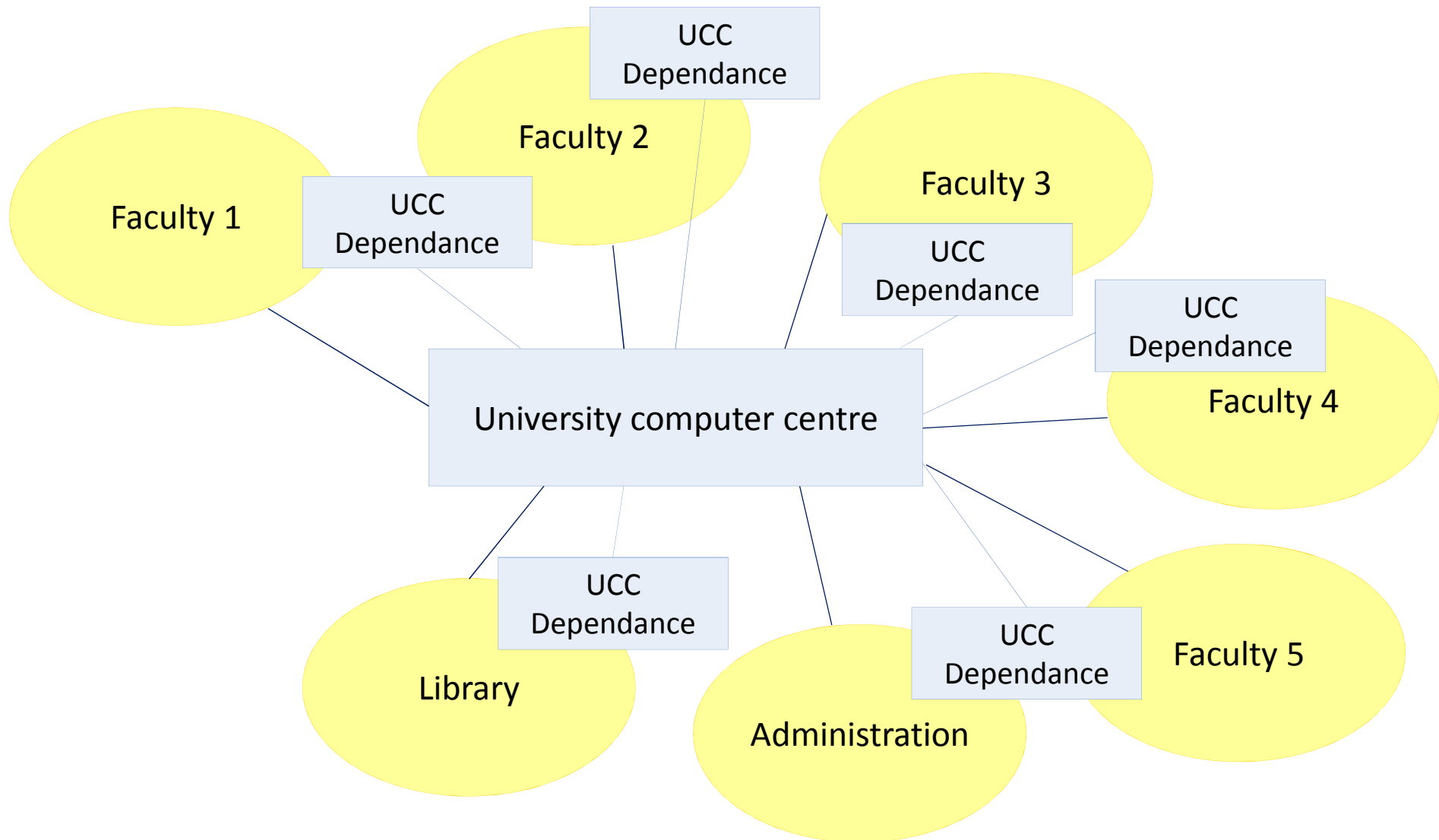
Model C: central decentralised services in central responsibility

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)
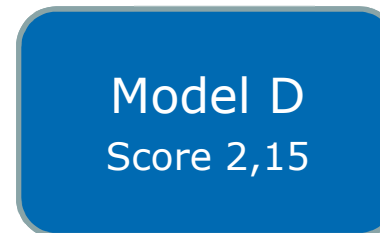
Costs, structure, operation (35%)

- Deployment
- Staff costs
- Ability to standardise
- Quality of processes and procedures
- Organisation
- Stability
- Security (double weighted)
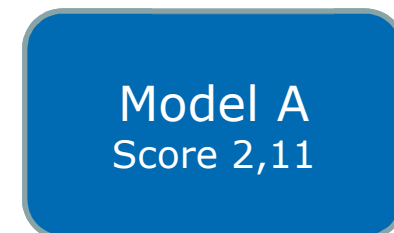
Which model is optimal?

1.

Model C
Score 2,25

Model B
Score 2,26

2.

Model D
Score 2,15

3.

Model A
Score 2,11

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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.

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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.

Speaker

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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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