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Making New Missions Possible

Obstacles for and Measures to Promote Research and
Third Mission at German Universities of Applied Sciences

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Facets of and Indicators for Research and Third Mission at Universities of Applied Science

Facetten von und Indikatoren für Forschung und Third Mission an Hochschulen für Angewandte Wissenschaften

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However: This paper does not deal with the Facets and Indicators but
With **obstacles** for and **ways to promote research** and **Third Mission.**

- The Role of the UAS in the German Higher Education System
- Research Questions
- Method
- Results
 - Inhibiting Factors
 - Promotional Factors
- Discussion

The Role of the UAS in the German Higher Education System

UAS in Germany (as before): Focus on Teaching

- Introduced in late 60s/early 70s to achieve „massification“ of HE
 - mainly in engineering, business studies, social work
 - 2/3 of students were thought to go to UAS
- Entrance with restricted university entry certificate (12 years of school instead of 13 years)
- Professors required to have at least four years of work experience outside academia, no doctoral degree required!
- Teaching load of Professors: 18-19 hours/week
- Hardly any academic staff besides professors
- 7-Semester „Diploma“-Degree, incl. practical semester
- UAS can not award doctoral degrees

Changing Frame Conditions

-> Changing Missions

- From 1985 on: Federal (framework) law and State laws include (applied) research as missions for UAS
- 2003 Introduction of a Federal funding programme: „Research at UAS“
 - funding research in Cooperation with Enterprises
 - Still the largest donor of third party funds (41%)
- Bologna Process
 - 7-Semester Diploma ->7 Semester Bachelor-Degrees
 - UAS were also allowed to award (University-equivalent) Master-Degrees, qualifying for doctoral thesis
 - >Students have to learn how to do research during Master Degree!
- Academisation of Society
 - More students
 - More fields becoming academic (e.g. nursing)
 - More Scientific fields becoming applied (e.g. Business Psychology)
 - A larger share of the population earns a doctoral degree

(research related) Third Mission: Achievements of UAS with/for Society

- Knowledge and Technology Transfer
 - Via Publications, personal communication
 - Via Students
 - Research and Development with/for Enterprises
 - Research and Development with/for Government, NPO/NGOs
 - Network activities (e.g. quality circle)
 - Utilisation (e.g. of Patents)
 - Science Communication
 - ...
- > Important for applied disciplines (e.g. Engineering, Business,...)
- > UAS basically well suited for these activities, but...

50% of Institutions, 7% of Third Party Funds

	Universities	UAS	Other
Institutions	112 (26.5%)	212 (50.1%)	99 (23.4%)
Professors	24 113 (53.6%)	18 049 (40.1%)	2851 (6.3%)
Students	1 701 800 (64.7)	846 517 (32.3%)	71 313 (2.7%)
3rd party funds (in Mio. €)	6 268 (92.7%)	454 (6.7%)	37 (0.6%)

Source: German Statistical Office, Wintersemester 2013/14

...of course only ONE indicator for R&D and research-related Third Mission

- Why are there still so little (measurable) research and research related Third Mission activities taking place at UAS? What are the *inhibiting* factors?
- What can be done to foster more research and research related Third Mission activities? What are *promoting* factors?

Method

4 Studies

- **Interview Study** (guideline-based but still rather explorative)
 - 12 members of UAS government (mainly rectors/presidents) plus 20 Professors from 10 selected UAS
- **Rectors** survey (199 of 212 UAS were addressed)
 - 84 rectors took part, 78 answered the questions for this topic
- Survey among **research managers** (about 800 in total)
 - 59 research managers from UAS answered
- **Professors** survey
 - 409 Professors took part, 349 answered questions regarding research, 242 answered questions regarding Third Mission
 - 3 different ways of recruitment (another survey, newsletter, recommendation by rector)

Content of the studies

- Interviews:
 - Questions about how research and Third Mission are promoted at the UAS
 - no specific questions regarding inhibitive factors...
 - ...but a lot of material regarding these questions
 - Inhibiting and promotional aspects could be extracted
- Rectors survey
 - List of 8 inhibiting and 17 promotional factors for research and Third Mission
 - 4-point-scale: very inhibiting/beneficial, inhibiting/beneficial, less inhibiting/beneficial, not inhibiting/beneficial at all
- Research Managers
 - Separate lists for research and Third Mission (4 lists in total)
- Professors
 - Separate lists, *from own point of view*, questions regarding Third Mission for only part of the professors
 - Additional scale point: „does not apply to me“

Results – Inhibiting Factors

Inhibitive Factors (internal)

Personal Aspects

low interest in research and development/Third Mission; lack of competence and qualification; prof. employed only part-time; prof. just recently employed at the UAS

Missing Time Budget

lack of time because of high teaching obligation; reduction of teaching obligation is not granted; reduction of teaching obligation is granted in general but cannot be realized; missing flexibility to attend meetings (e.g. with possible project partners); lack of time because of obligations in the academic administration

Missing Financial Budget, Facilities and Equipment

missing basic budget for research; not enough required rooms and laboratories; required devices and materials not available at the institution

Missing Junior Staff

missing junior scientific staff for: the conduction of research, preparing publications, research-administration, the administration in general, assisting in teaching

Problems to Recruit Junior Staff

because of lacking opportunities to earn a doctoral degree; because of too low salary; because of too short run-times of the employment contracts; because of attractive job-alternatives outside academia

Problems with Administration/ Management

missing support from the university management for projects; lack of support for funding-application from the administration; lack of administrative support for the administration of projects with funding organisations; lack of administrative support for the administration of projects with firms and partner organisations; lack of support for the acquisition of projects; legal/tax restrictions for the acquisition realisation of projects

Inhibitive Factors (external)

Factor	Description
Missing Facilitation/ Sponsorship	lack of research tradition and culture at UAS, missing (public) support programmes (UAS specific, subject specific), lack of competitiveness regarding the acquisition of third party funds; too low success rate for funding applications (federal government, German Research Foundation), too little possibilities of funding from firms; lack of possibilities for cooperation with: firms/NGO's, national and international Universities
Problems with Providers of Funding	too much effort to apply for: national/EU funds; too much effort to administer national/EU projects/projects with firms; too long forerun for (co-)funded projects

Evaluation of inhibitive factors

Group		Rectors	Research Managers		Professors	
Field(s)		Research/ Third Mission	Research	Third Mission	Research	Third Mission
Maximum Number of Answers (n)		78	59	53	349	242*
Factors		Percentage (%) of answers „inhibiting“ / „very inhibiting“**				
internal	Personal Aspects	59.7	94.5	90.6	8.1	13.9
	Missing Time Budget	96.2	96.6	88.7	93.1	88.8
	Missing Financial Budget, Facilities and Equipment	64.9	63.6	57.7	51.8	42.6
	Missing Junior Staff	88.5	96.5	80.8	94.5	83.5
	Problems to Recruit Junior Staff	48.1	65.5	68.8	59.3	48.7
	Problems with Administration/ Management	46.1	59.3	69.2	46.9	39.4
external	Missing Facilitation/ Sponsorship	80.5	88.1	84.6	74.1	72.0
	Problems with Providers of Funding	76.6	81.4	78.4	75.6	62.9

Results – Promotional Factors

Promotional Factors

Factors	
“Soft” Factors	Research/Third Mission Integrated in Mission Statement / Strategy Plan
	“Culture of Enablement” (making things possible) Established
	Management Expecting Professors to Engage in Research and Third Mission
Structural Factors	Central Services to Facilitate Research/Third Mission
	Central Research Institutes (internal / associated)
	Strategic Cooperation with Universities, Research Institutes, Enterprises
	Better Possibilities to Award Doctoral Degrees (e.g. in Cooperation with Univ.)
Internal Allocation of Resources	Reduction of Teaching Obligation
	Provision of Rooms, Laboratories and Equipment
	Money from Management to Finance Research and Third Mission Activities
	UAS paying awards for the acquisition of third party funds
	Including Performance in research/Third Mission in Performance Related Salary
External Funding	External Research Promotion...
	...by the EU or other international organisations
	...by the federal government
	...by the state government
	...by private sponsoring (e.g. funded professorships)
	...by private or public or private purchasers (industry and NPOs)

Evaluation of Promotional Factors I

Group	Rectors	Research Managers	
Field(s)	Research/Third Mission	Research	Third Mission
Maximum number of answers (n)	76	57	50
Factors	Percentage of answers „beneficial“ / „very beneficial“		
Research/Third Mission Integrated in Mission Statement/Strategy Plan	82.9	96.4	95.8
“Culture of Enablement” Established	94.7	96.5	96.0
Management Expecting Professors to Engage in Research and Third Mission	88.0	81.5	77.1
Central Services to Facilitate Research/Third Mission	93.3	98.2	92.2
Central Research Institutes (internal/associated)	94.7	92.2	89.1
Strategic Cooperation with Universities, Research Institutes, Enterprises	94.6	91.1	94.1
Better Possibilities to Award Doctoral Degrees	90.7	92.7	not asked
Reduction of Teaching Obligation	98.7	96.5	86.3
Provision of Rooms, Laboratories and Equipment	94.7	92.9	82.0
Money from Management to Finance Research and Third Mission Activities	96.1	96.5	87.8
UAS paying awards for the acquisition of third party funds	78.7	74.5	71.4
Including Performance in research/Third Mission in Performance Related Salary	83.8	90.2	84.8

Evaluation of Promotional Factors II

Group	Rectors	Research Managers		
Field(s)	Research/Third Mission	Research	Third Mission	
Maximum number of answers (n)	76	57	50	
Factors	Percentage of answers „beneficial“ / „very beneficial“			
Money from Management to Finance Research and Third Mission Activities	96.1	96.5	87.8	
External Research Promotion...	not asked			
...by the EU / other international organisations				89.2
...by the federal government				94.7
...by the state government				96.1
...by private sponsoring (e.g. funded professorships)				78.4
...by private or public or private purchasers (industry and NPOs)				89.0

Conclusions Inhibiting Factors

- With the exception of **Problems with Administration/Management** all eight identified **factors** are seen as **inhibitive/very inhibitive** by the majority (>50%) of respondents
- **Missing Time Budget** and **Missing Junior Staff** are perceived as the most inhibitive Factors
- External Factors **Missing Facilitation/Sponsorship** and **Problems with Providers of Funding** also seen as quite inhibitive
- Contradictory results for **Personal Aspects** of the Professors
 - Professors say they do not apply
 - Research Managers think they are highly important

Conclusion Promotional Factors

- **All identified factors** judged as **beneficial/very beneficial** by the vast majority of respondents
- If any differentiation is possible, the **reduction of teaching load** and the establishment of a **culture of enablement** are seen as the most crucial factors.
- The **provision of money** from the **federal and state government** as well as the **university management** is also seen as highly beneficial
- **Awarding professors financially for good performance** is seen as the least (but still quite) beneficial factor

The alpha and omega is the provision of resources and less the concrete monetary incentives; intrinsic motivation is essential [UAS Rector]

- Providing time and staff for the professors who want to engage in research and Third Mission is seen as the most important thing to do
- The possibilities for the UAS (Professors) to receive (external) funding need to be improved
- However, a whole „concert“ of measures can and needs to be taken to make new missions possible.
- But...
 - Despite of the „face validity“ of the findings: Are the results the explication of „expert knowledge“ or of „common sense“?
 - How could the results be validated, e.g. by quasi-experimental designs?

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Thank you!

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