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**Description and Measurement of Competition
in Higher Education Markets - the Example of Australia**

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Abbreviations

ACT	Australian Capital Territory
Aus.	Australia
CAE	College of Advanced Education
DEST	Department of Education, Science and Training (Commonwealth of Australia)
Inst.	Institute
MULT	Multi-State
NSW	New South Wales
NT	Northern Territory
QLD	Queensland
TAS	Tasmania
Tech.	Technology
U. / Univ.	University
UNS	Unified National System
VIC	Victoria
WA	Western Australia

1. Introduction

Modern Public Management in general and especially higher education management has undergone a major paradigm change as new principles of “New Public Management (NPM)” have reached the institutions concerned. The new orientation is directed towards output measurement and documentation, quality control and quality management, simulated or real competition between institutions in the public sector and new methods of organisation and human resources management.¹ At the same time the political and especially financial framework for the work and development of higher education institutions² has changed slowly but dramatically: Whereas from 1960 to 1980 the importance and the public budget for tertiary education was growing on average, in the last twenty-year-period from 1980 to 2000 attention and budgets were on the move backwards. In Australia the change towards the “Unified National System (UNS)” from 1989 onwards took place with the merger of Universities and Colleges of Advanced Education (CAE) as well as major changes in the public funding scheme towards an indicator-based system.

Figure 1-1: Reorganisation and Size of Australian Higher Education Institutions between 1987, 1994 and 2000

	1987		1994		2000	
	Institution	EFTSU	Institution	EFTSU	Institution	EFTSU
NSW	University of Sydney	16140	University of Sydney	26231	University of Sydney	30824
	- Sydney CAE	4829				
	- Cumberland Coll. Of Health Sci.	1829				
	- Sydney College of the Arts	851				
	NSW Conservatorium of Music	430				
	University of New South Wales (NSW)	14518	University of NSW	21777	University of NSW	25866
	Aust. Defence Force Academy	857	Aust. Defence Force A.	1177	Aus. Defence Force A..	1286
	Macquarie University	7647	Macquarie University	11623	Macquarie University ³	15883
	University of New England	5685	University of New Eng.	8211	University of New Eng.	8539
	- Armidale CAE	1178				
	Orange Agricultural College	378				
	University of Newcastle	4610	University of Newcastle	11853	University of Newcastle	14703
	- Newcastle CAE	2234				
	University of Wollongong	4554	University of Wollongong	9095	University of Wollongong	10639
	NSW Institute of Technology	7057	University of Tech., Syd.	15492	University of Tech., Syd.	18200
	Kuring-gai CAE	2324				
	Nepean CAE	2376	Univ. of Western Sydney	16625	Univ. of Western Sydney	24693
	Macarthur Inst. of Higher Ed.	2014				
	Hawkesbury Agricultural Coll.	1369				
	Mitchell CAE	2955	Charles Stuart University	10543	Charles Stuart University	18425
	Riverina-Murray Inst. of HE	3599				
	Northern Rivers CAE	1460	Southern Cross Univ.	4733	Southern Cross Univ.	6168
	Nat. Institute of Dramatic Art	120	Nat. Institute of D. Art	126	Nat. Institute of D. Art	163
VIC	The Univ. of Melbourne	13853	The Univ. of Melbourne	25041	The Univ. of Melbourne	28956
	- Melbourne CAE	3955				
	- Hawthorn Inst. of Tech.	1034				
	- Victorian College of the Arts	583				
	Monash University	11812	Monash University	28681	Monash University	33545

1 This is highlighted for example by: Meek, Lynn V./Wood, Fiona (1997): Higher Education Governance and Management - An Australian Study, Canberra, Page 128.

2 The term higher education institutions is used here as common term as the different countries have different terms for these institutions such as „Universities“ and „Fachhochschulen“.

3 Including the Australian Film, Television and Radio School with 96 Students in 2000 (as also in 1987 and 1994).

	1987		1994		2000	
	Institution	EFTSU	Institution	EFTSU	Institution	EFTSU
	- Chisholm Inst. of Technology	5196				
	- Gippsland Inst. of Adv. Education	1818				
	- Victorian College of Pharmacy	385				
	La Trobe University	7879	La Trobe University	16918	La Trobe University	16855
	- Bendigo CAE	1756				
	- Lincoln Inst. of Health Science	1927				
	Deakin University	3781	Deakin University	17190	Deakin University	17710
	- Victoria College	5698				
	- Warrnambool Inst. of Adv. Education	1171				
	RMIT University	8313	RMIT University	18619	RMIT University	25162
	- Phillip Institute of Technology	3977				
	Footscray Institute of Technology	3581	Victoria Univ. of Tech.	10306	Victoria Univ. of Tech.	13463
	Swinburne Limited	4362	Swinburne Univ. of Tech.	6859	Swinburne Univ. of Tech.	9691
	Ballarat CAE	2001	University of Ballarat	3387	University of Ballarat	3968
					Avondale College	597
					Marcus Oldham College	65
QLD	The U. of Queensland	14180	The U. of Queensland	20601	The U. of Queensland	25371
	- Queensland Agricultural College	1165				
	Griffith University	3665	Griffith University	14048	Griffith University	20148
	- Gold Coast CAE	90				
	- Queensland Conservatorium of Music	315				
	James Cook University	2495	James Cook University	6707	James Cook University	8576
	Queensland Institute of Tech.	6977	Queensland U. of Tech.	19492	Queensland U. of Tech.	23390
	- Brisbane CAE	7228				
	Capricorn Inst. of Adv. Education	2024	Central Queensland U.	5477	Central Queensland U.	11188
	Darling Downs Inst. of Adv. Education	3864	U. of Southern Queensl.	7776	U. of Southern Queensl.	9488
					U. of the Sunshine Coast	2052
WA	The University of WA	8222	The University of WA	10990	The University of WA	12282
	Murdoch University	2884	Murdoch University	6098	Murdoch University	8950
	Curtin University of Tech.	8562	Curtin University of Tech.	14857	Curtin University of Tech.	19969
	WA CAE	7021	Edith Cowan University	11513	Edith Cowan University	14084
					U. of Notre Dame Aus.	220
SA	The Univ. of Adelaide	7034	The Univ. of Adelaide	11242	The Univ. of Adelaide	11293
	- Roseworthy Agricultural College	533				
	The Flinders Univ. of SA	4359	The Flinders Univ. of SA	7923	The Flinders Univ. of SA	8895
	SA CAE	7772	U. of Southern Australia	16500	U. of Southern Australia	19679
	- SA Institute of Technology	4903				
TAS	University of Tasmania	4282	University of Tasmania	9669	University of Tasmania	10011
	- Tasmanian State Inst. of Technology	2008				
	Aus. Maritime College	245	Aus. Maritime College	392	Aus. Maritime College	789
NT			Northern Territory Univ.	2699	Northern Territory Univ.	2903
					Batchelor Institute of Indigenous Tertiary Education	477
ACT	The Aus. National Univ.	5336	The Aus. National Univ.	8736	The Aus. National Univ.	8205
	University of Canberra	4163	University of Canberra	6695	University of Canberra	6901
MULT	Catholic Coll. Of Education (NSW)	1638	Australian Catholic Univ.	6302	Australian Catholic Univ.	7518
	- Inst. of Catholic Education (VIC)	1383				
	- McAuley College (QLD)	445				
	- Signadou College (ACT)	201				
Sum		285090		452204		557790

Source: For 1987 and 1994: Marginson, Simon/Considine, Mark (2000): *The Enterprise University - Power, Governance and Reinvention in Australia*, Cambridge, Page 32-33; for 2000: DEST (2001): *Characteristics and Performance Indicators of Australian Higher Education Institutions 2000*, Canberra, Page 40.⁴

4 In cases of different institutional names the definition of the newest source (DEST 2001) is used coherently.

This shows the following abbreviated consequence of the Australian Higher Education Reform in the last ten years⁵:

- Between 1987 and 1994 the number of Higher Education Institutions decreased mainly due to mergers from 68 to 37 whereas the overall number of students or Equivalent of Full Time Student Units (EFTSU) has increased from 284,725 to 451,686 - this has meant a threefold rise in the average size of the institutions in EFTSU from 4,187 to 12,208 per institution.
- Between 1994 and 2000 the number of Institutions did change only by one from 37 to 38 (though some minor institutions occurred anew) but the overall enrolment indicator of EFTSU has increased from 451,686 to 555,479 - therefore the average size has increased 19.71% from 12,208 to 14,618 EFTSU.

As a result we can compare the role of Australian higher education institutions to that of a marathon runner at the end of a 42.2 kilometre race: At the end of the long-term resource budget, it is like being told you need to run another marathon. The investment gaps in the infrastructure can be seen in most of the institutions. Therefore the challenge for higher education management is evident for the coming future⁶ - and the question remains how to tackle that challenge.

From an international perspective there are areas and countries which have mastered more change (e.g. Australia) and areas which have just started (e.g. Germany). In Germany, for example, there are different political regimes and sets of change within one country⁷ - and even in one and the same political regime we have higher education institutions which are more competitive, more internationally oriented and more likely to acquire new sources of revenues than others. In particular in Germany and similar surrounding higher education political regimes we can expect a greater extent of differences whereas in the past there was much more equality. Therefore the international comparison to for example Australia hold some interesting lectures for this development process.

The overall research study wants to analyse the international and institutional differences as far as different stages of development are concerned.⁸ The research focus concentrates on the two sides of development: The personal recognition and mindsets intertwined with different states of change in higher education institutions and the objective data one can find to measure and explain these different states of change and success. Therefore an interview questionnaire is used for higher education executive personnel and literature research is fielded to support the research hypothesis.

The aim of the research study is to contribute to the documentation and understanding of different statuses in a pathway of change towards a new market or competition model in higher education management in order to help the institutions mastering this change. Even if change will be different for every university and every college, there should be some similarities which can be summarised in a development or

5 The minor institutions below 1.000 EFTSU in 2000 (six of them) are not taken into calculation for all stages of the comparison (1987, 1994 and 2000). Therefore the EFTSU sums in the figure and the text differ.

6 Australian Commonwealth Department of Education, Science and Training (DEST) is talking about such a challenge: DEST (2002): Meeting the Challenge, The Governance and Management of Universities, Canberra.

7 In Germany the 16 „Länder“ are responsible for financing and regulating tertiary higher education.

8 Excluding solely cultural and other external differences which can not contribute to the development of practical explanation and management models for higher education management.

management model to facilitate change. This should comply to the basic trilogy of science: to describe, to explain and to improve. This first paper about the study aims at outlining the basic thoughts and reflects the first design and results for the research carried out in Australia.

All the participants of the expert interviews contributed to the results and should be thanked for their uncomplicated manner in which they supported the project with their contributions, reflections and ideas.⁹ The following chapter will provide the basic development model as a theoretical frame for the detailed research hypothesis outlined in chapter three. The fourth part will show the transfer to interview and data collection instruments and part five will describe the technical ways of realising the study in Australia. The sixth part will end with the expected and preliminary results and further ways of research.

2. Competition Model

2.1. Basic Assumption: Increasing Competition

As basis for the research hypothesis and the whole study there is a general model depicting the change as a thrive towards a more competitive or market model in higher education.¹⁰ In searching for a sign for improving competition we can look in two directions a) and b): One can find the changing terms of production and work in higher education in the recognition of individuals, especially higher education executive persons who have to deal with the new set of rules.

And on the other hand one can try to find hard facts to prove these changes: The data expression of these trends has to be tracked. Again both directions can be followed by two means of research: The primary data search in an experiment, interview, questionnaire etc. and on the other hand the search for subjective or objective data in the existing literature.¹¹

Figure 2-1: Fields and Means of Research Methods

		Means of Research	
		Primary Field Experimental Research	Secondary Literature Research
Field of Research	a) Personal Recognition (subjective)	i. Personal Interview Research	iii. Literature Statement Research
	b) Data Expression (objective)	ii. Data Research	iv. Literature Data Collection

9 A special recognition is contributed to the support of Professor Frank Stilwell from The University of Sydney, School of Economics and Political Science, who attributed special support in time and thoughts towards the interview concept in Australia.

10 As described generally in 1983 (Keller, George (1983): *Academic Strategy, The Management Revolution in American Higher Education*, Baltimore/London) and for Australia by Marginson in 1991 (Marginson, Simon (1991): *Development of Educational Markets in Australia*, PSRC Discussion Paper No 16, June 1991, Sydney) and outlined later (Marginson, Simon (1997): *Education Market*, Oxford); but not to be temporary as a “fad” (Birnbaum, Robert (2000): *Management Fads in Higher Education - Where They Come From, What They Do, Why They Fail*, San Francisco).

11 The Internet takes herein a new bimodular role: It is sometimes a source for data and respectively referenced; and on the other hand we can watch special effects as a primary

2.2. Deducted Assumptions: Implications of Improving Competition

Intertwined with this improving state of competition we find four areas of strategic value for the higher education institution development as shown in the following figure:

- the adoption and use of more flexibility in shaping the profile (2)
- the concentration on core competencies and the improved management of human resources (HR) and intellectual property rights (IPR) (3)
- the outsourcing of less important tasks and improved use of consultant services (4) and
- the rising importance of uncertainty and risk and the management of these areas (5).

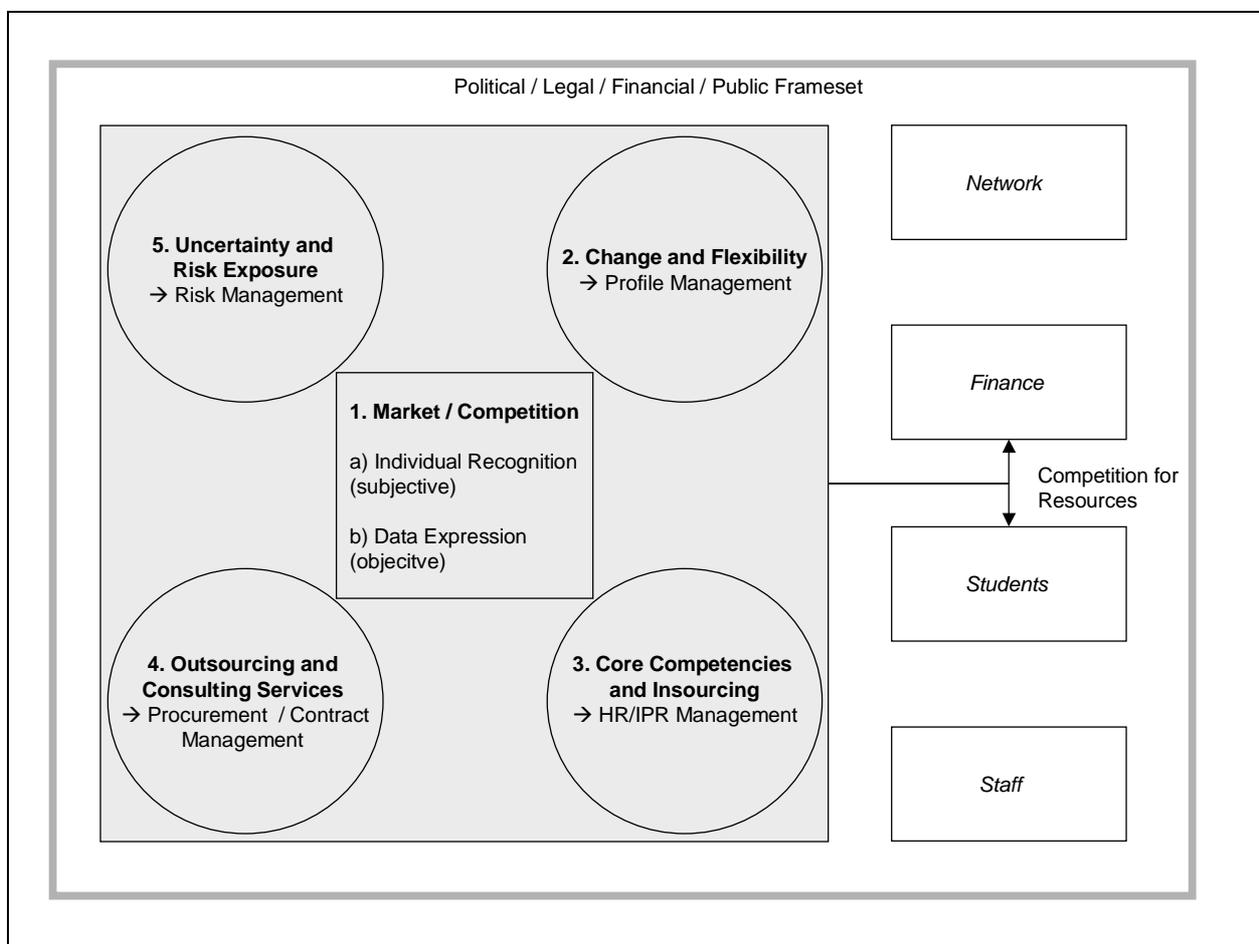
2.3. Competition for Resources and External Frameset

Outside the individual higher education institution (internal management model highlighted in the figure above) the improving competition takes place to the extent of resources institutions can attract in terms of

- Staff
- Students
- Finance and
- Network Contacts.

And last but not least there is the surrounding external frameset which consists due to the political decisions and regulations regarding higher education, the financial regimes (public finance schemes), the expectations and rules different groups of society harbour in higher education and other external facts which have an impact on higher education management. All the listed factors inside the institutions as well as outside are mutually intertwined which means there is an influence in both directions.

Figure 2-2: Basic Competition Model for the Development of Higher Education



For example the improving competition triggered by external changes like decreasing public financing for the higher education institutions is leading to an improved management and care for the high quality academic staff. This will vice versa lead to improved competition especially for those wanted by more than one institution, for their staff and will ultimately lead to more competition between the institutions. Therefore we can claim that these interactions are positive vicious circles which have built-in mechanisms to improve competition as long as important external changes like a major rise in overall public budgets for higher education does not occur.

3. Research Hypothesis

3.1. Hypothesis in Competition

The research hypothesis for the change in higher education management is structured by the five areas of change described in chapter 2. Each hypothesis in the five areas can be subdivided into the four research areas defined in figure 2-1. Within this paper the positions (i) and (ii) for the personal and data interview are going to be outlines in chapter 4. The subsequent numbers of the hypothesis will be used as numbers for the questions further on.¹²

3.1.1. “Generally Increasing Competition Hypothesis”

The competition of higher education institutions for staff, students, finance and network contacts has increased in the last 5 years and will continue to increase in the next 5 years.

3.1.2. “Growing Differences Through Competition Hypothesis”

It is expected that the differences between higher education institutions will grow strongly and have new dimensions for example in reputation, student attraction and business contacts.

3.1.3. “Increasing Global Competition Hypothesis”

The competition between higher education institutions exceeds more and more the “national” higher education market; in 5 to 10 years for a higher education institution the international ranking and reputation should be more important than the “national” ranking.

3.1.4. “Globally Growing Differences Hypothesis”

It is expected that the differences between higher education institutions will grow strongly and have new dimensions for example in reputation, student attraction and business contacts; this will be related to the grade in advancement the whole country has reached - therefore all indicated criteria will be related to this general advancement level.

3.2. Hypothesis in Flexibility

The following hypotheses are designed for the change area concerning flexibility and profile management:

3.2.1. “Increasing Change Hypothesis”

The scale, intensity and time schedule of changes in higher education institutions has increased in the last 5 years and will increase further in the next 5 years.

¹² For the first hypothesis 3.1.1. the subsequent questions will be numbered [1.1.] and so on.

3.2.2. “New Importance of Profile and Marketing Management Hypothesis”

The flexibility to respond to “customer” needs has improved sharply over the last 5 years and will even more improve in the next 5 years.

3.2.3. “Market Exit Hypothesis”

Due to the new competition oriented set of rules for higher education institutions there will be cases of market exit in the form of the closure or merger of higher education institutions.

3.3. Hypothesis in Core Competencies

Regarding the area of core competencies and the management of human resources / intellectual property rights there are the following hypotheses to be proven or not.

3.3.1. “Generally Increasing Attention for Academic Staff Hypothesis”

In an increasingly competitive environment, the attention turns to the academic staff in the form of better service conditions, flexible incentive and pay schedules and more efficient methods of accessing new staff members.

3.3.2. “New Importance of IPR Use Hypothesis”

The higher education institutions will put increasing emphasis and resources on the use of IPR in the forms of paid consulting, paid executive education, spin-outs and patenting/licencing.

3.4. Hypothesis in Outsourcing

3.4.1. “Increasing Degree of Procurement and Outsourcing Hypothesis”

The scale of externally bought goods and especially services (administration and office services) has increased in the last 5 years and/or will increase in the next 5 years in higher education institutions.

3.4.2. “Growing Demand for Consulting Services Hypothesis”

The new environment will force higher education institutions to buy external consulting services in specific organisation and management topics to keep hold on competitors; this trend has been demonstrated shown already in the last 5 years and will increase in the next 5 years.

3.5. Hypothesis in Risk Management

3.5.1. “Increasing Risk Awareness Hypothesis”

The general awareness for risk and uncertainties in higher education management is increasing among all sorts of institution members, mostly with the executive and administrative officers of higher education institutions.

3.5.2. “Demand for Risk Measurement Methods Hypothesis”

There will be an increasing demand for risk measurement models due to the rising scale of uncertainty and the urge to manage this risk exposure position of higher education institutions.¹³

¹³ This can be backed with the recognition of increasing risks and corresponding risk models in other markets with liberalisation / rising competition, e.g. the energy market (Council of Australian Governments (2002a): Towards a Truly National and Efficient Energy Market, Energy Market Review November 2002, Canberra).

4.2. Data Research

On behalf of the second way of evaluating the research hypothesis there are some options to collect corresponding data as shown below. This may be a role model for further research on this point and is not completed within this paper.

Figure 4-1: Institutional Data Options

Number ¹⁴	Variable
7.1.	Age of Institution
7.2.	Research Size of Institution (Academic Staff) a) Full Time b) Part Time
7.3.	Education Size of Institution (Number of Students) a) Full Time b) Part Time
7.4.	Number of non-academic staff
7.5.	Budget Size 2002 in AUD
7.6.	Revenue from Student Fees a) Altogether b) International Students
7.7.	Revenue from Student Fees a) Altogether b) International Students
7.8.	Revenue from companies / external research projects / IPR / professional education
7.9.	Number of spin-outs
8.1.	Risk Organisation
8.2.	Service Organisation

4.3. Questionnaire Application

Both forms for field research are used in a form of interview situation with the persons in higher education institutions indicated below (chapter 5). The persons should first answer the questions without any references. Second the personal recognition interview is restricted to a defined short interval of time of about 20 minutes. All data is first collected in Microsoft Excel and then converted to SPSS for the international analysis.

¹⁴ The numbers 1 to 5 refer to the data collection inside the personal recognition questionnaire from part 4.1..

4.4. Documentation

The documentation for the field research is structured as follows: All personal interviews are documented by paper (written down by the interviewer), some are depending on the availability of recovering devices also recorded on digital voice prints for possible verification.

4.5. Supplementary Literature Research

As shown in figure 2-1 the primary research method is supported by the secondary literature research which was conducted also during the same time in July and August 2003 in Australia. Due to the restricted time the depth of this research may not be as it could be, but nevertheless there are some major results to support and reflect the primary results in the light of other scholars and studies shown in chapter six.

5. Research Participants

5.1. Countries

The countries selected for field research in order to get a broad view on the different stations in a “path of change” are Australia and in comparison Germany, Switzerland and Austria.¹⁵ As indicated in the research hypothesis the results should vary in dependence to the degree of change already mustered in one country.

5.2. Institutions

The following list shows all the planned institutions to be asked for taking part in the research. This however, will not result in an equal number of participants as some will not be willing to cooperate or there will not be time or other reasons. The institutions are selected in the different countries as follows for Australia: Three to four representative and different higher education institutions in the two “hot spots” Sydney metropolitan area and Melbourne metropolitan area.¹⁶

Figure 5-1: List of Requested Institutions for the Research

Country	Institution	Abbreviation	Homepage
Australia	The University of Sydney	USYD	www.usyd.edu.au
	University of New South Wales	UNSW	www.unsw.edu.au
	University of Technology Sydney	UTS	www.uts.edu.au
	University of Western Sydney	UWS	www.uws.edu.au
	The University of Melbourne	UMEL	www.unimelb.edu.au
	Monash University	MONASH U	www.monash.edu.au
	Royal Melbourne Institute of Technology University	RMIT U	www.rmit.edu.au

15 The results for the German speaking countries as well as the international comparison are following in different publications.

16 Taken e.g. from the World Education Encyclopaedia (2002).

5.3. Types of Persons

The personal recognition interview is designed to be used with three types of persons inside the higher education institutions which reflect the distinctive organisation and conditions of these complex institutions:

- (a) *Executive Officers* as Vice-Chancellors or other members of the Executive Board, generally as high placed as possible and/or directly related to the topics of
- Strategy / Development / Profile Management and/or
 - Risk Management.
- (b) *Administration Officers* as Chancellors or other members of the administration, generally as high placed as possible and/or directly related to the topics of
- Strategy / Development / Profile Management and/or
 - Risk Management.
- (c) *Academic Members* of the higher education institution, possibly a head of faculty or department. In most cases subjects of economic or education sciences were selected. This implies a specific background and spin to the results but provides on the other hand a deeper insight in the ongoing changes as these science subjects are also engaged in the discussions in higher education management.

Figure 5-2: Schedule Regarding Places, Institutions and Persons

Place	Date	Institution (Acronym)	Person (Organisational Area) ¹⁷
Melbourne	Monday, 4 th of August 2003	UMEL	c) Academic
	Wednesday, 6 th of August 2003	MONASH U	a) Executive b) Administration c) Academic
	Thursday, 7 th of August 2003	UMEL RMIT U	b) Administration b) Administration
Sydney	Monday, 11 th of August 2003	UWS	a) Executive
	Tuesday, 12 th of August 2003	UNSW USYD	b) Administration c) Academic b) Administration
	Wednesday, 13 th of August 2003	USYD	c) Academic

Therefore of 21 addressed potential interview persons (21 Mails to the seven institutions and each of the three organisational areas as indicated above) 11 interview contacts were made, a very good answering level of 52.4 %. This is even more compelling as 3 contacts had to be a negative result as the University of Technology Sydney (UTS) has according to an information via E-Mail an internal “no-information without official approval” regulation for research interviews and therefore had no chance to take part. Without UTS the answering level would be 61.1 %. The following figure shows the distribution in the

¹⁷ Due to the privacy policy the names and exact positions of the interviewed experts are subject to confidentiality.

three organisation areas. Besides only two executive officers¹⁸ the distribution complies with the expectation to give an overview of the higher education institutions internal situation and views.

Figure 5-3: Organisational Areas of Interview Participants in Australia

Organisation Area	Number	Percentage
a) Executive	2	18.18 %
b) Administration	5	45.45 %
c) Academic	4	36.36 %
Sum	11	100.00 %

For the analysis of context influences personal variables are collected with the personal interviews. The figure adds the hypothesis intertwined with context factors as research interest.

Figure 5-4: Extended Set of Personal Variables

Number ¹⁹	Variable	Explanation	(Implicit) Research Hypothesis
6.1.	First Name	-	-
6.2.	Surname	-	-
6.3.	Titles	All education / academic titles	Number and level of titles might influence the recognition of topics
6.4.	Position	Held positions within the higher education institution	The level of position might influence the recognition of topics
6.5.	Institution	Identification & link to data collection	-
6.6.	Organisational Area	Whether attributable to the executive, administrative or academic part of the higher education institution	The “perspective” on the research topics might be influenced by the organisational area a person belongs
6.7.	Gender	Female or male	Gender might influence the recognition of topics

18 This had to be expected as these members of the executive board of the higher education institutions have generally little time.

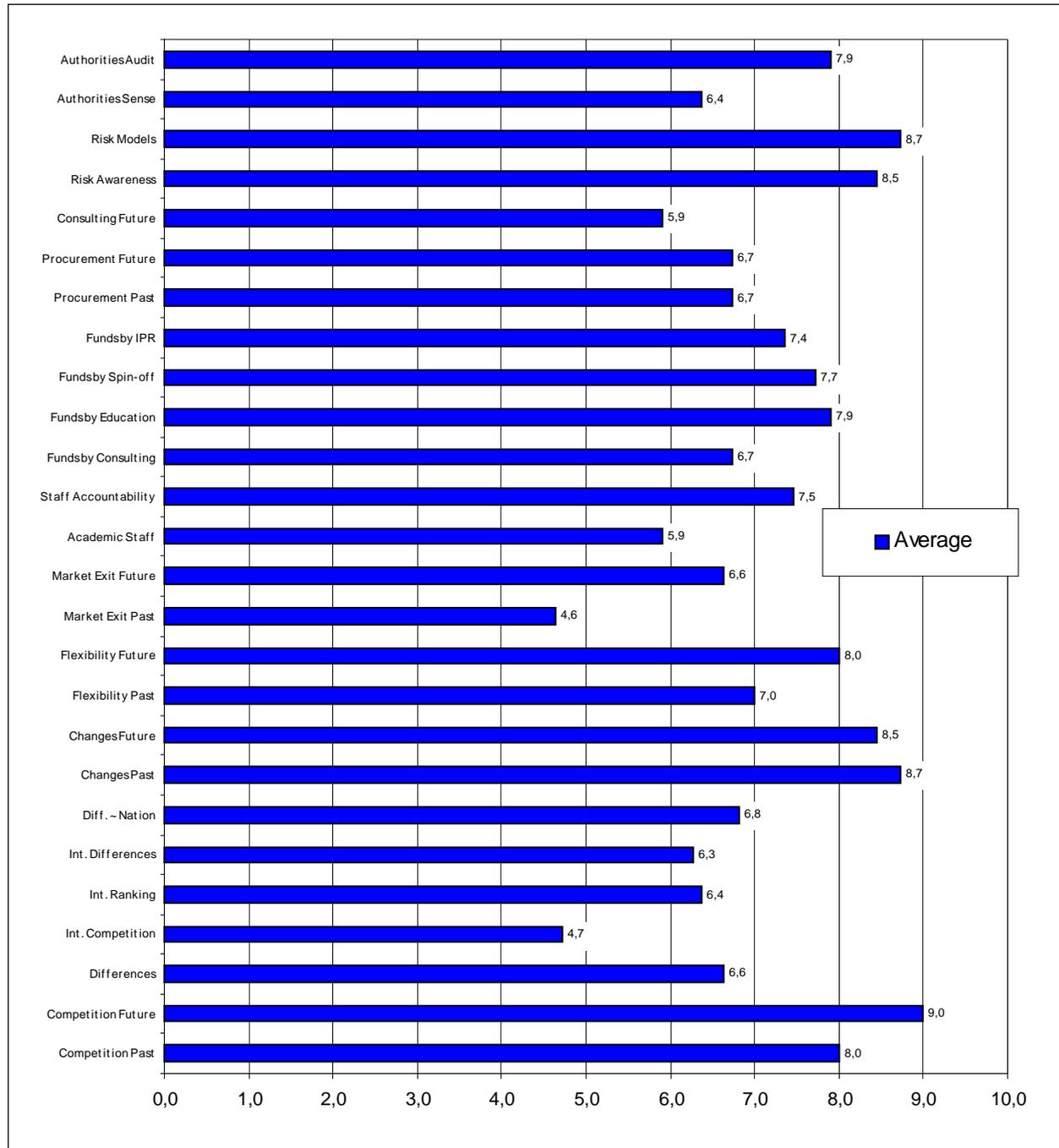
19 The numbers 1 to 5 refer to the data collection inside the personal recognition questionnaire from part 4.1..

6. Preliminary Results

6.1. Average Agreement Levels on Closed Questions

For the closed questions there are already some preliminary results from the 11 expert interviews conducted in Australia. The following figure shows the results on the thesis and the derived 26 questions.

Figure 6-1: Average Results on Closed Questions (N=11)



In order to make the overall picture easier to see the average results can be separated in three groups:

- From an average recognition of 8.0 to 10.0 points representing a very high level of agreement;
- From an average recognition of 6.0 to 7.9 points representing a high level of agreement;
- From an average recognition of 4.0 to 5.9 points which represents a middle level of agreement.

As there were no average results below 4.0 a fourth category is not needed. This also shows that the interviewed persons tended to state high scores - and there is no definite answer if this was due to the scale or due to the high agreement level with the thesis in general.

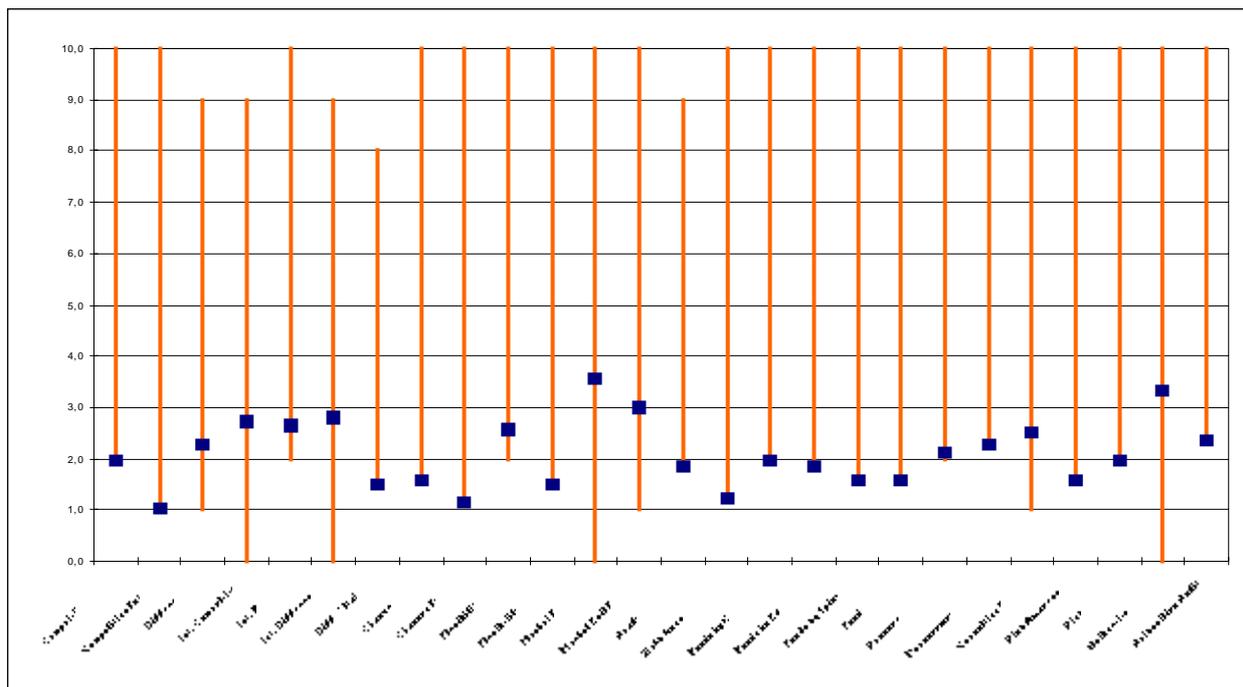
Figure 6-2: Agreement Level Categories

I.	Very High Level of Agreement	Av.
1.1.B.	“The competition of higher education institutions for staff, students, finance and network contacts will increase in the next 5 years .”	9.0
2.1.A.	“The scale, intensity and time schedule of changes in higher education institutions has increased in the last 5 years .”	8.7
5.2.A.	“There will be an increasing demand for risk measurement models and methods to use in higher education institutions.”	8.7
2.1.B.	“The scale, intensity and time schedule of changes in higher education institutions will increase in the next 5 years .”	8.5
5.1.A.	“There is an increasing general awareness for risk and uncertainties in higher education management.”	8.5
1.1.A.	“The competition of higher education institutions for staff, students, finance and network contacts has increased in the last 5 years .”	8.0
2.2.B.	“The flexibility and motivation to respond to “customer” needs will increase in the next 5 years .”	8.0
II.	High Level of Agreement	
3.2.B.	“The higher education institutions will put increasing emphasis and resources on the use of paid education for professionals in order to get additional funding.”	7.9
5.3.B.	“The financial supporters e.g. the public authorities will demand some sort of risk audit for higher education institutions in the next 5 years.”	7.9
3.2.C.	“The higher education institutions will put increasing emphasis and resources on the use of spin-offs in order to get additional funding.”	7.7
3.1.B.	“This attention towards academic staff as “core competencies holders” is emphasised by new output measurement and incentive models as expression of a new accountability for academic staff.”	7.5
3.2.D.	“The higher education institutions will put increasing emphasis and resources on the use of IPR patenting / licencing in order to get additional funding.”	7.4
2.2.A.	“The flexibility and motivation to respond to “customer” needs has increased in the last 5 years .”	7.0
1.4.B.	“These differences are related to the advancement level the own country has reached in developing a national higher education market and competition.”	6.8
3.2.A.	“The higher education institutions will put increasing emphasis and resources on the use of paid consulting in order to get additional funding.”	6.7
4.1.A.	“The scale of externally bought goods and especially services (administration and office services) has increased in the last 5 years .”	6.7
4.1.B.	“The scale of externally bought goods and especially services (administration and office services) will increase in the next 5 years .”	6.7
1.2.A.	“The differences between higher education institutions will grow strongly and have new dimensions for example in reputation, student attraction and business contacts.”	6.6
2.3.B.	“There will be cases of market exit in the form of the closure or merger of higher education institutions in the future .”	6.6
1.3.B.	“In 5 to 10 years for a higher education institution the international ranking and reputation should be more important than the “national” ranking.”	6.4
5.3.A.	“The financial supporters e.g. the public authorities will develop a sense and understanding for risk exposure of higher education institutions.”	6.4
1.4.A.	“The international differences between higher education institutions will grow and have new dimensions for example in reputation, student attraction and business contacts.”	6.3
III.	Middle Level of Agreement	
3.1.A.	“The attention in the higher education institution has turned towards the academic staff in the form of service atmosphere, flexible incentive and pay schedules and more efficient methods of accessing new staff members.”	5.9
4.2.A.	“Higher education institutions will buy more consulting services in specific management topics in the future.”	5.9
1.3.A.	“The international competition between higher education institutions exceeds more and more the “national” higher education market.”	4.7
2.3.A.	“There have been cases of market exit in the form of the closure or merger of higher education institutions up to now.”	4.6

The three most agreed upon statements concern the increasing competition in the future, the high scale of changes in the past and the strong need for risk measurement models within the universities in the future. This may represent a strong line of causality as the change in the past was mainly imposed from government regulations as most experts stated. These changes have set the *framework for increasing competition* between the higher education institutions e.g. for the government funding which is now based on output indicators in education and research. And third with an increasing uncertainty and pressure to act more entrepreneurial in order to achieve new ways of funding the universities *view on risk is changing basically*: Risk is now considered as one important management indicator which has to be measured and controlled in order to install a sustainable development and leadership for the universities.

As this had to be expected for the different kind of interview persons and expert views the range of answers is very wide for all questions as shown below. There is no item with a range lower than 6 points meaning more than the 0 to 10 scale. Therefore also the standard deviation are very high ranging from 1,0 to 3,6. The highest standard deviation is found with the question about market exits in the past (3,6) and the expectation towards evolving government risk awareness for the higher education institutions (3,3).

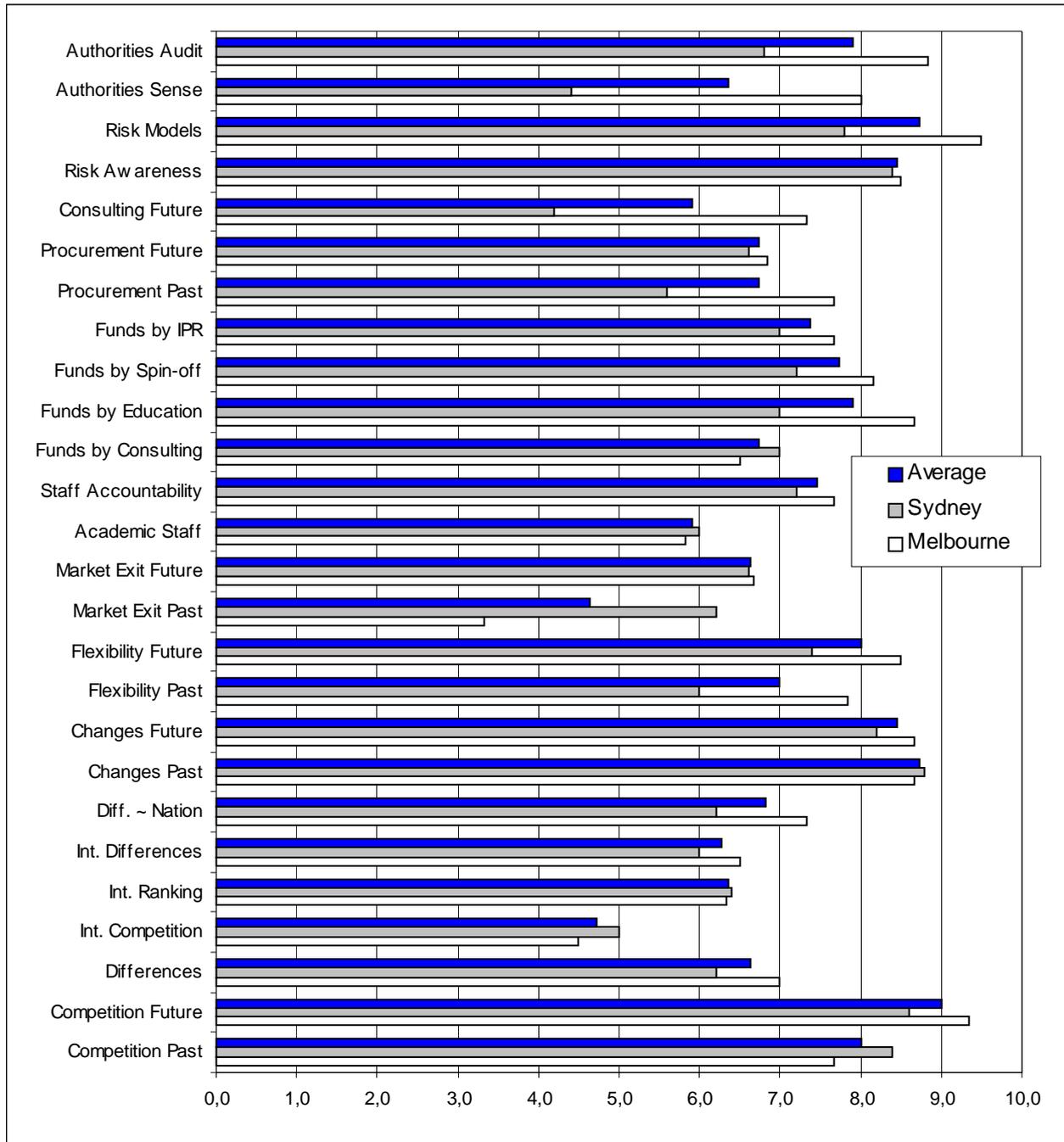
Figure 6-3: Ranges and Standard Deviation (Blue Dots) for Agreement Levels



Further there are at some points significant differences between the two areas Sydney and Melbourne, which also belong to the different states of New South Wales (NSW) and Victoria (VIC). This is also a result of partly differing legislation as part of the relevant regulation comes from the states and part from the national commonwealth governing body.

For example in Victoria (universities in Melbourne) there has been a regulation about a mandatory annual risk report for the universities to the state government (included in the annual general report). Nevertheless these differences also in the answers of the interview partners are worthy of a closer look as the figure below shows.

Figure 6-4: Average Agreement Level for Australia, Sydney and Melbourne Area (NSW and VIC)



For an interpretation the largest differences are discussed (larger than a difference of 1,0 average points):

- The only case the Sydney universities have exceeding agreement level is the sentence about the market exits of higher education institutions in the past; this points maybe to a larger institutional process of change (“shake out”) than in the Melbourne area.
- The Melbourne universities have distinctive higher levels of agreement concerning
 - their acknowledgement that international differences relate to the national level of competition;
 - their agreement level towards increasing flexibility in the past and future within their institution;
 - the support of an increasing emphasis on paid continuing education in order to receive funds;
 - their use of outsourcing in the past;
 - the use of external management consulting services in the future;

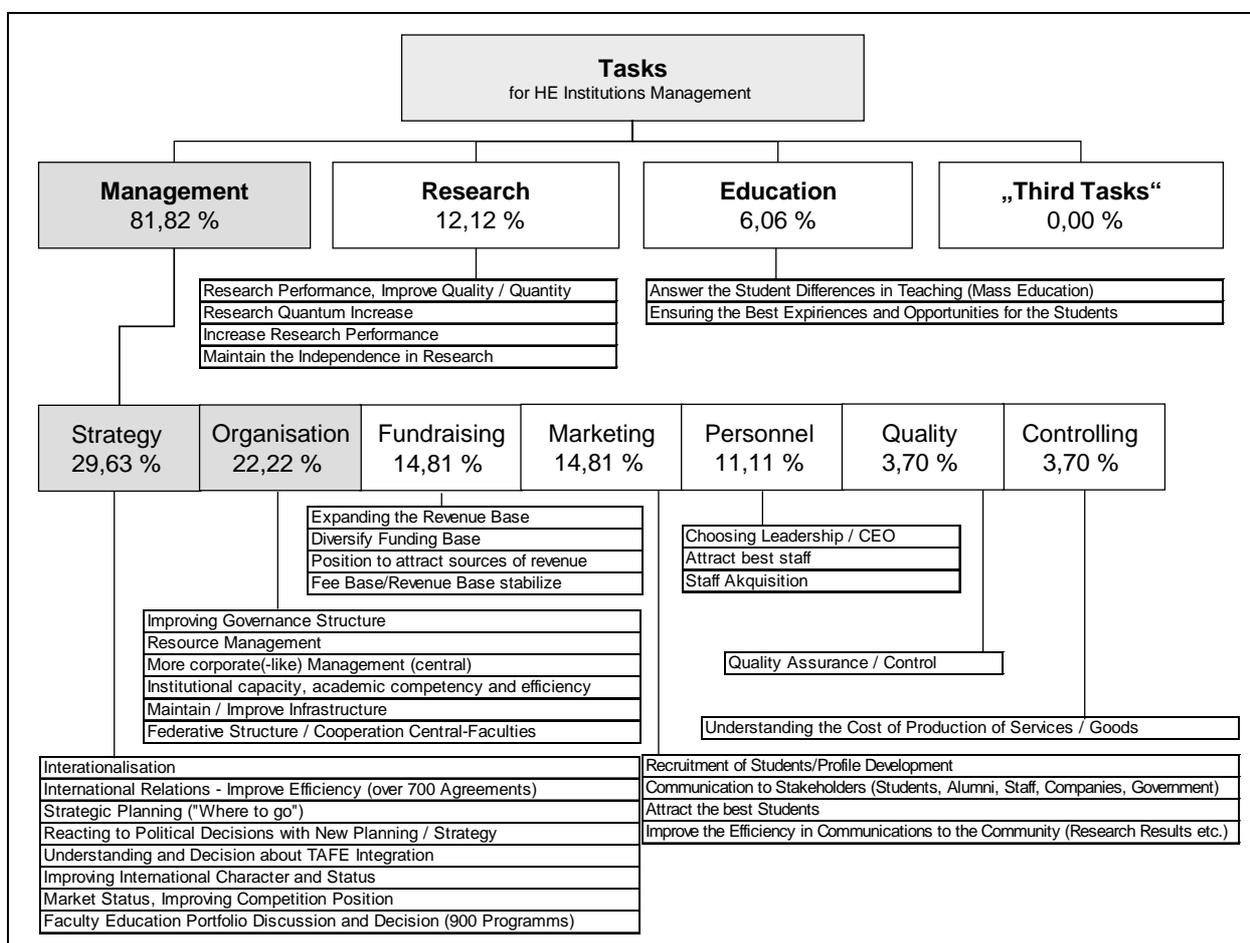
- their expectation of an increasing demand for risk measurement models and
- their expectation of government risk awareness and regulation.²⁰

6.2. Answers towards Open Questions

6.2.1. Most Important Tasks for Institutional Development in Higher Education

The experts' answers towards the open questions concerning the most important tasks for the development of their institutions were strikingly concentrated on *management tasks* (81.82%), whereas the “classic” of research and teaching and their variations / improvements were strongly underrepresented. The often discussion area of “Third Tasks” like continuing education or technology transfer are not even mentioned one time (out of three slots per interviewed expert).

Figure 6-5: Answer Categories Concerning Development Tasks for Higher Education Institutions



Within the named management tasks the categories of “Strategy Management” and “Organisation” are mentioned most often, the more outward oriented tasks of “Fundraising”, “Marketing” and “Personnel” have a little less count of named items.

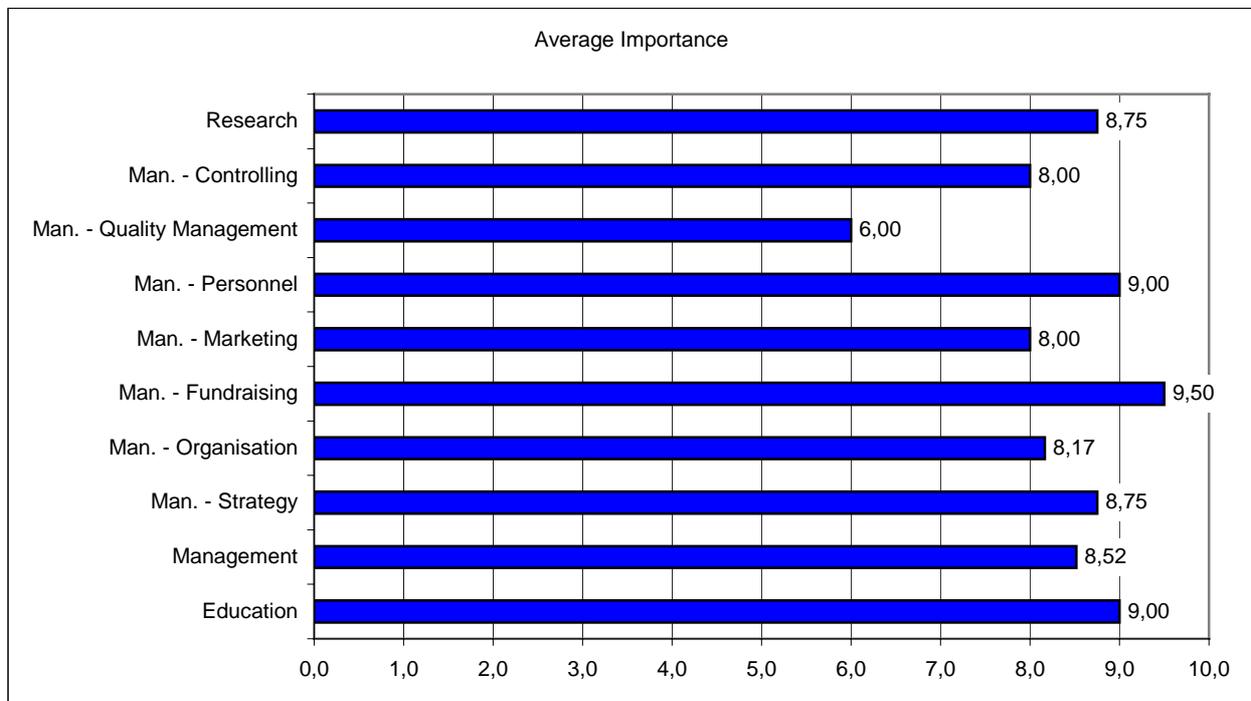
²⁰ This may strongly relate to the state legislation mentioned above.

Figure 6-6: Number of Placement Orders of Named Tasks

Order	1.	2.	3.
Education	1	0	1
Management	10	7	10
- Strategy	3	4	1
- Organisation	1	2	3
- Fundraising	3	0	1
- Marketing	1	0	3
- Personnel	1	1	1
- Quality Management	0	0	1
- Controlling	1	0	0
Research	0	4	0

This ranking changes a little if confronted with the order of the named tasks in the first place (1st, 2nd or 3rd task in the named order) as shown in the following figure. In contrary to that the officially asked ranking of the importance of the named tasks (0 to 10 scale) has no specific importance, it only highlights the special position of fundraising as a very important and demanding task for higher education institutions (9.50 as highest average importance of all tasks).

Figure 6-7: Average Importance Rankings for Named Tasks



6.2.2. Most Expected Topics for External Management Consulting for Higher Education

Figure 6-8: Average Importance for Expected Outside Consulting Topics in Higher Education

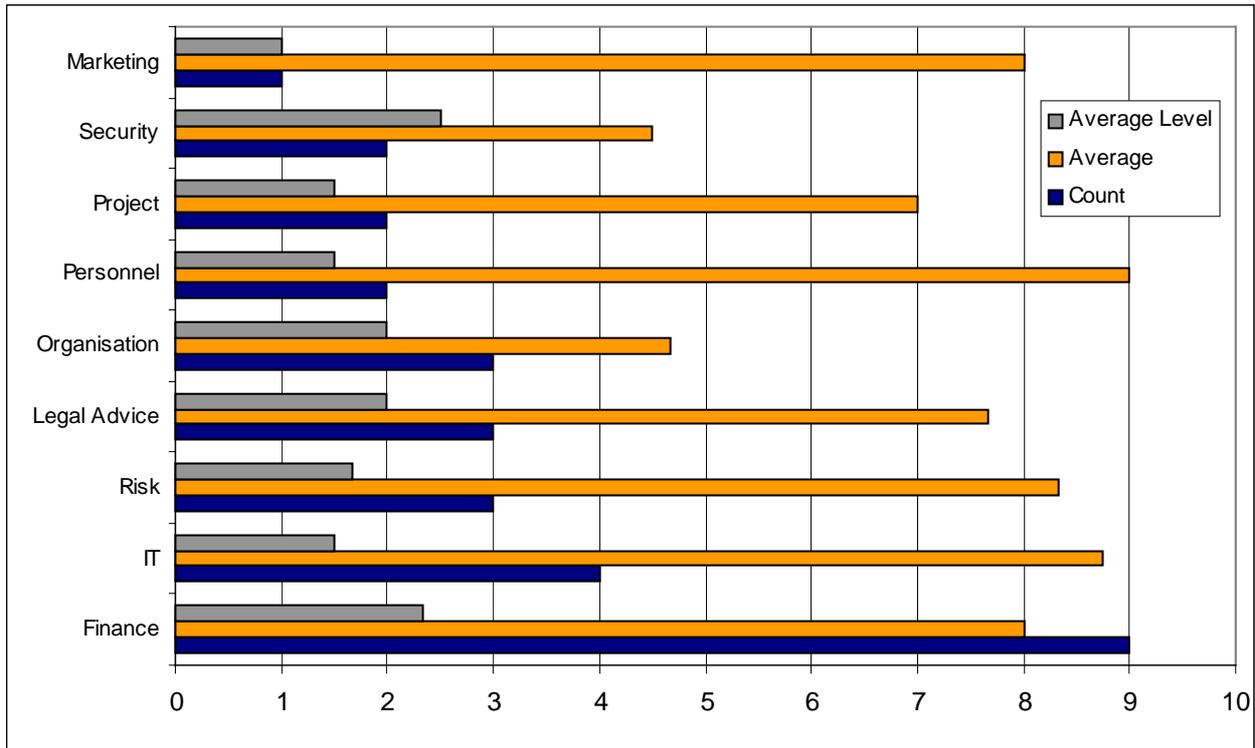
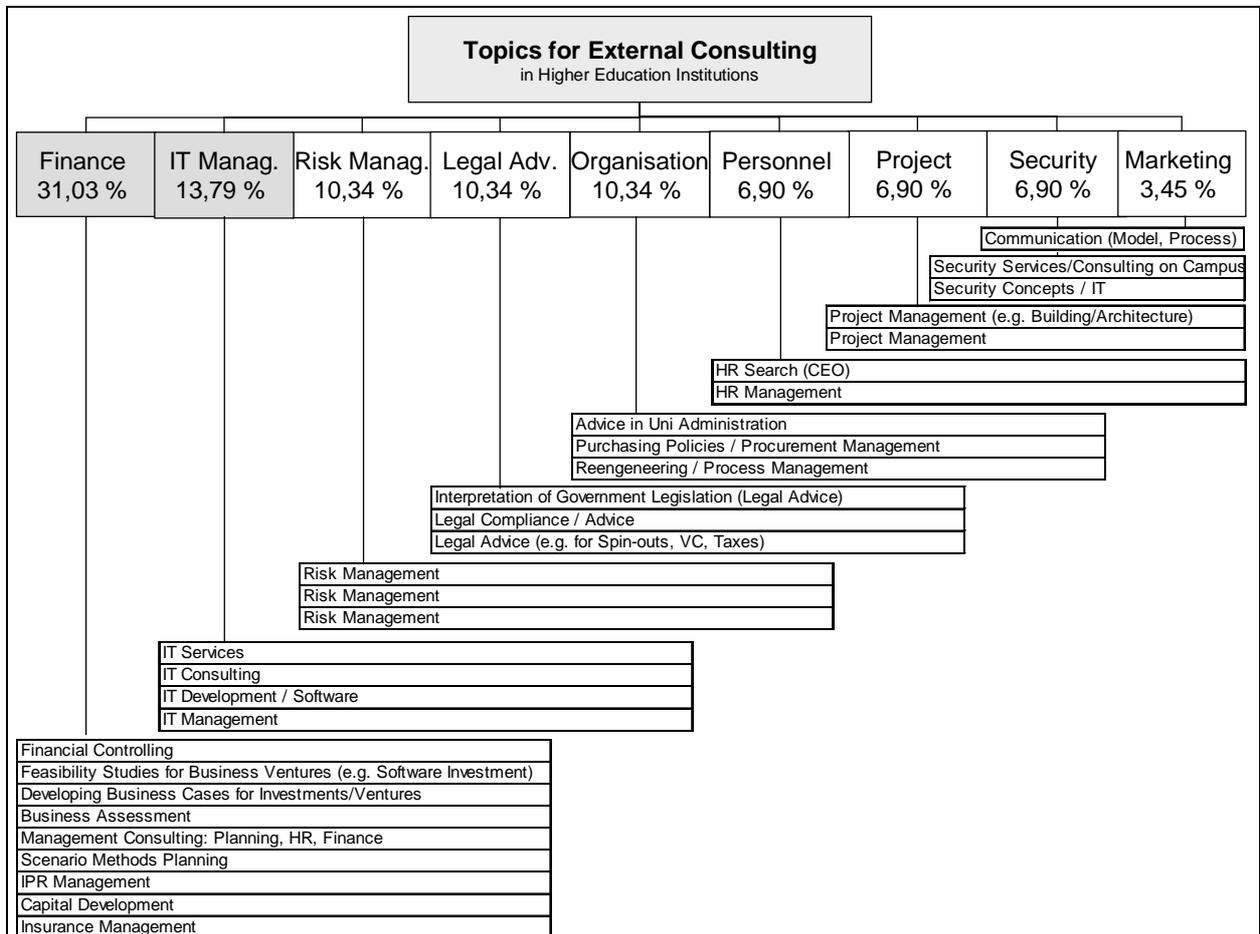


Figure 6-9: Outside Consulting Topics by Categories



6.3. Results in Literature Research

To compare the preliminary results to other findings literature research was conducted in order to match the commonplace assumptions with this field study. Generally *most authors and publications agree with the shown hypothesis* and results above²¹. But in some rare cases as for example internationalisation the literature²² rejects the research thesis - and interestingly this matches the rejection by the experts in the interviews (lowest average recognition). Therefore the broadly *discussed topoi of internationalisation* seems to be quite weak on the practical institutional level of higher education institutions - which means not that it does not take place but that still the “national” topics, projects and budgets are more important.²³

It was indicated by the experts and outlined by the interviewer that the thesis may still be applicable as in each country there are only a few leading universities which develop towards earnest “*Global Higher Education Players*”. Whereas the majority rest of higher education institutions act mainly in a national environment with regional networks, students and responsibilities. Concerning the topic of *increasing staff importance and accountability* the literature is as well as the experts judging quite differentiated: The rising importance and somewhere increasing support and service atmosphere is counterbalanced by an increasing pressure in terms of flexibility, changes and accountability.

Figure 6-10: Literature Research Overview

Hypothesis Number	Topic	Literature Reference
1.1.	Improving Competition	<p>- Horsman 2000: (+) Depicts auditing as counterbalance for improving competition, pressure and probability for quality breaches in HEI (Page 15)</p> <p>- Webber 2000: (+) Describes the improving competition for UK HEI on the base of the competition concept of Porter; “UK universities face more intense competition, taking new forms in new markets, with new entrants that seem likely to focus very effectively on high-growth, high-yield market-segments, especially in computing and business education, potentially leaving traditional providers to serve what might be regarded from a business perspective as the least attractive market segments.” (Page 62)</p> <p>- Bayenet/Feola/Tavernier 2000: (+) Main tasks in strategic HEI Management : Financing, Mass Education, Internationalisation (Page 70-72)</p> <p>- Michael 2000: (+) “The entrepreneurial stages characterized by the full force of the marketplace.” (Page 21) > Stages up to 1945 elitism, to 1960 reconstructionism, to 1985 educationism and thereon entrepreneurialism (Page 21)</p>
1.2.	Improving Differences	<p>- Schuster/Smith/Corak/Yamada 1994: (+) The discovery of improving differences in the governing bodies due to reform besides the theoretical similar description (e.g. strategic planning councils) (Page 179/180)</p> <p>- Pham 2000: (+) “In a competitive environment where Australian universities are funded on a uniform basis and expected to maintain a higher performance level in both teaching and research, regional universities have found themselves at a disadvantage due to a few inherent difficulties.” (Page 118)</p>

21 Indicated by a „(+)” in the figure.

22 In this case Bleiklie 2001 concerning hypothesis 1.3..

23 Compare also the style of the question 1.3.: ““The international competition between higher education institutions exceeds more and more the “national” higher education market.”

Hypothesis Number	Topic	Literature Reference
1.3.	International Competition	- Bleiklie 2001: (-) - Balderston 1995: Distinction Global Players / Regional Players (Page 362) with different criteria (Elite/Vocational University)
1.4.	International Differences	- Ransom et al 1993: (+) “ ... the conditions of HE vary significantly across geographical regions, both between countries in a single region and among institutions in the same country. “ (Page 1)
2.1.	Changes	- Balderston 1995: (+) Describes major topic for change in administration, management, budgets, finance etc. - Pham 2000: (+) „The Australian higher Education system has undergone a tremendous change during the last two decades.” (Page 117) - “Dawkin’s reform” to merge the binary system with CAEs to UNS
2.2.	Flexibility	- Coaldrake 2001: (+/-)
2.3.	Market Exits	- Balderston 1995: (+) US: 10 Exits per year from 1960 to 1992 (Page 348)
3.1.	Academic staff importance & accountability	- Vidovich 2002: (+) Talks about accountability in the context of Quality Assurance (QA) and Globalisation, QA discovered as a marketing / image tool for one institution as well as the whole countries institutions - de Boer (1999): (+) Talks about “more emphasis on performance targets and accountability” (Page 131) in the context of a tendency for managerialism - Bisset et al 2000: (+) “In the United Kingdom, never has the need to publish been so great what with so substantial a portion of the funding of UK universities now tied to their academic output. This linking of government funding to research output is neither new nor peculiar to the United Kingdom; it has been in place around the world for many years. The pressure is on, therefore, as never before, for universities to recruit staff who will produce suitable academic output.” (Page 129)
3.2.	Fundraising / Diversifying	/
4.1.	Outsourcing Services	- de Boer (1999): (+) Talks about “Growth of contractual or semi-contractual Relationships” (Page 131) in the context of a tendency for managerialism
4.2.	Consulting Services & Topics	/
5.1.	Risk Awareness	- Barnett 2000: (+) Talks about the need to understand new uncertainty (supercomplexity) (Page 138-139)
5.2.	Risk Measurement	/
5.3.	Risk Audit	- Horsman 2000: (+) Shows how auditing started in the financial sector and transferred to HE in terms of quality assurance (UK) -> especially internal audit as improving instrument also for risk thinkable Internal audit is better for secrecy, improvement and acceptance than external audit, moreover its cheaper (Page 13)

7. Summary and Further Research

The general results in this research can be brought together in the picture of the “*Managerial University*” for the Australian environment. This picture or role model will receive increasing importance and interest as the growth path of international higher education and exchange seems to grow steadily as indicated by the following facts:

- The growth of the international higher education market from 51 million international students in 1980 to 82 million in 1995 (Webber 2000);
- The expectation of the World Bank for the international higher education market to reach 150 million students in 2025 (UNESCO 1995);
- The increasing differences as three quarters of 1,5 Mio. students studying abroad are concentrated in the top ten host countries (Webber 2000, page 60);

This competition and scale of changes in universities will increase and therefore the need to adapt to management topics such as strategy management, risk management and process / organisation orientation. In this context some critical concerns may be voiced that the universities are neglecting their main tasks of research and education.²⁴ In this development some sort of “backlash” can be expected as it was obvious for example in the area of outsourcing, where some institutions with ample outsourcing projects in the past are on their way back under the name of “core competencies”.

But this is surely for some time the weaker development force, management concepts and concerns will have the louder voice in the near future anyway. And some may even see positive effects in the way of more “*Managerial Universities*” like efficiency in order to get more research on the same budget or other resource benefits. A positive side is highlighted in an international comparison of the same research hypothesis and the same translated questionnaire in other European countries. A forecast of this comparison shows for example an Australian study²⁵ comparing the resource budgets of different universities in different countries - and finding and longing for the ample funding of UK and US universities.

This may lead to further privatisation and management themes and developments for the next years in higher education in order to achieve such funds. As a closing picture one may describe the future development in an international comparison between different political regimes and states of private funding and autonomy as a “*Higher Education Development Train*” with the US and UK models as leading parts. The other countries are struggling to keep the pace these leading higher education regimes are setting. This situation may have economic effects as we are heading towards a knowledge society and knowledge economy.²⁶

24 Discussions as indicated by Stilwell (Stilwell, Frank (2003): Higher Education, Commercial Criteria and Economic Incentives, in: Australian Journal of Higher Education Policy and Management, Vol. 25, No. 2, May 2003, Page 51-61).

25 Commonwealth of Australia, The Productivity Commission (2002): University Resourcing: Australia in an International Context, Canberra.

26 As outlined for Australia in: Considine, Mark/Marginson, Simon/Sheehan, Peter (2001): The Comparative Performance of Australia as a Knowledge Nation, Melbourne.

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**Arbeitspapiere des Instituts für Finanzen/ Finanzwissenschaft an der Universität Leipzig,
Prof. Dr. Thomas Lenk (Stand 9.10.2003)**

Nummer	Autor	Titel
1	Prof. Dr. Thomas Lenk	Alternative Modelle für den Länderfinanzausgleich in der Bundesrepublik Deutschland - Anforderungen und mögliche Ausgleichsmechanismen -
2	Prof. Dr. Thomas Lenk/ Dipl.-Vw. Anja Birke	Entwicklung der öffentlichen Finanzen und der Personalkosten - Auswirkungen auf den Personalbestand
3	Prof. Dr. Thomas Lenk	Arbeit und Wohlstand. Einige Bemerkungen zu J.M. Keynes "Economic Possibilities for the Grandchildren"
4	Prof. Dr. Thomas Lenk / Dirk Bessau	Das Konzept des Sustainable Development
5	Prof. Dr. Thomas Lenk / Dipl.-Vw. Dirk Bessau	Umweltökonomische Indikatoren und Instrumente des Sustainable Development
6	Prof. Dr. Thomas Lenk / Dipl.-Kfm. Volkmar Teichmann	Arrows Unmöglichkeitstheorem
7	Dipl.-Vw. Dirk Bessau / Prof. Dr. Thomas Lenk	Strategisches Innovationsmanagement. Allgemeine Ansätze und besondere Aspekte für Klein- und Mittelunternehmen (ECOVIN-Arbeitsbericht Nr.3)
8	Dipl.-Vw. Dirk Bessau / Prof. Dr. Thomas Lenk	Innovationsökonomik. Ansätze der Innovationstheorie und der Innovationsforschung (ECOVIN-Arbeitsbericht Nr.4)
9	Dipl.-Vw. Dirk Bessau / Prof. Dr. Thomas Lenk	Der Innovationsmanager in KMU: Ein Instrument zur Förderung der Innovations-fähigkeit? (ECOVIN-Arbeitsbericht Nr.5)
10	Dipl.-Kff. Katja Butzmann	Venture Capital zur Finanzierung innovativer KMU (ECOVIN-Arbeitsbericht Nr. 6)
11	cand. Dipl.-Kff. Carolin Anders (Diplôme de l'Institut Européen de Négociation-Groupe ESC)	Das Management des externen Wissens: Das Internet als Hilfsmittel bei der Informationsbeschaffung (ECOVIN-Arbeitsbericht Nr. 7)
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13	Dipl.-Vw. Dirk Bessau / Prof. Dr. Thomas Lenk	Makroökonomische Paradigmen und deren wirtschaftspolitischen Implikationen. Eine Übersicht.
14	Prof. Dr. Thomas Lenk / Dr. Anja Birke (unter Mitarbeit von Tobias Legutke)	vorläufiger Titel: Solidarpakt-II-Verhandlungen im Lichte des Urteils des Bundesverfassungsgerichts zum Länderfinanzausgleich vom 11. November 1999
15	Dipl.-Kff. Carolin Anders	ECOVIN: Projektstand 31.12.99 (dt./engl.), ECOVIN- Arbeitsbericht Nr. 9
16	Cornelia Schwarz	Telearbeit, ECOVIN- Arbeitsbericht Nr. 10
17	Dipl.-Winf./Dipl.-Vw. Olaf Hirschfeld	Workshop-Paper: "Towards a learning society" a seminar on socio-economic research and european policy – Guincho, Lisboa, 28-30 May 2000. ECOVIN-Arbeitsbericht Nr. 11.
18	Dipl.-Winf./Dipl.-Vw. Olaf Hirschfeld	Elemente des Wissensmanagements in Innovationsprozessen in KMU. ECOVIN-Arbeitsbericht Nr. 12.

19	Prof. Dr. Thomas Lenk / Dipl.-Kff. Carolin Anders / Dipl.-Kff. Katja Butzmann / Dipl.-Vw. Dirk Bessau/ Dipl.-Winf./Dipl.-Vw. Olaf Hirschfeld	Das Ausbildungskonzept „Innovationsmanager in KMU“. ECOVIN-Arbeitsbericht Nr. 13.
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21	Prof. Dr. Thomas Lenk / Dipl.-Vw. Dirk Bessau	Ökonomische Nachhaltigkeitsprinzipien
22	Anja Birke, Vanessa Hensel, Olaf Hirschfeld, Thomas Lenk	Die ostdeutsche Elektrizitätswirtschaft zwischen Volkseigentum und Wettbewerb
23	Olaf Hirschfeld unter Mitarbeit von Heide Köpping	Verteilung von Mitteln für Lehre und Forschung an der Universität Leipzig 1999
24	Thomas Lenk/ Achim Rudolph	Die kommunalen Finanzausgleichssysteme in der Bundesrepublik Deutschland. Die Bestimmung der Finanzausgleichsmasse – vertikale Verteilungsprobleme zwischen Land und Kommunen
25	Thomas Lenk/ Achim Rudolph	Arbeitstitel: Finanzbedarf im KFA
26	Thomas Lenk/ Achim Rudolph	Arbeitstitel: Finanzkraft im KFA
27	Thomas Lenk/ Achim Rudolph	Arbeitstitel: Ausgleichsregelungen im KFA
28	Matthias Klumpp/ Thomas Lenk	Description and Measurement of Competition in Higher Education Markets - the Example of Australia