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Growth Strategies and Intellectual Capital Formation in New and Emerging HEIs¹

Chapter for
Knowledge café for Intellectual Entrepreneurship through Higher Education

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Abstract

Higher educational institutions are being asked to contribute more effectively and efficiently to economic growth, innovation and intellectual capital. As they do so, the academy has also come under pressure. The content of academic work, the role of faculty, and the balance between teaching, research and service, have, arguably, been restructured, reconfigured and redefined. For academics within traditional universities, pressures for accountability and social relevance have challenged what many valued as ‘their autonomy’. But, for staff within new and emerging HEIs, those formed or reconstituted circa. 1970, there have been different pressures. Many were hired originally as teachers and now face increasing pressures to spend more time conducting research. Growing research is not without costs. Based on an international study, this chapter seeks to understand how new HEIs are responding to the challenges and the extent to which human resources issues impact on institutional and research strategy.

¹ This chapter is based on Ellen Hazelkorn (2002) ‘Motivating Individuals: Growing Research from a ‘Fragile Base’ paper to the General Conference of the Programme on Institutional Management in Higher Education, OECD, Paris.

The professoriate is at the heart of the academic enterprise. Without a committed faculty, no university can be successful nor can effective teaching and learning take place.²

The organizational leadership often seems to fail to understand ‘the effort to squeeze research out of people and departments that have no training, aptitude or inclination for research...’³

Between WW2 and the late 1970s, higher education across almost all OECD countries underwent a significant metamorphosis with respect to the number and type of institutions and students. Polytechnics, fachhochschulen, advanced colleges of education, institutes of technology, community colleges, etc. as well as *ab initio* universities emerged to cater for a wider range of socio-economic groups, and educational and employment requirements. While older universities continued to offer advanced post-graduate study and conducted research, these newer institutions catered variously for vocational or undergraduate needs, often with a regional or community bias; their emphasis was on training, and academic staff were expected to concentrate on specific workplace needs. However, unlike traditional universities, these institutions were not funded for research and only some were permitted to enroll coursework masters students. Over the years, many began to chart significant careers in applied or industrially relevant research and consultancy, in response to socio-economic demands of their region, national strategies and the internationalization of research. Their mission to support regional economic growth and help ‘retain an educated manpower in the area’ became inextricably bound up with their need to grow research capacity and output.

Thirty years on, a new force – the knowledge-based or information society – is helping transform national higher education systems and the role that different institutions play within it. As national governments attach greater strategic importance to knowledge production, national and institutional research expenditure and capacity building are no longer discretionary. Higher educational institutions (HEIs) are required to contribute more effectively and efficiently to economic growth, innovation and intellectual capital. The quantity and quality of research outcomes are being tied more and more to funding, and ultimately to institutional prestige. Established universities have been better placed to exploit the demands of this new global knowledge economy and meet government objectives. In contrast, newer institutions as late-developers or newcomers are facing particular barriers-to-entry and the gap appears to be widening. Effectively, research is playing an increasingly critical role in establishing a new fault-line cutting across higher educational institutions and the educational marketplace.

² Philip G. Altbach (2000) ‘The Deterioration of the Academic Estate: International Patterns of Academic Work’, Philip G. Altbach, ed., in *The Changing Academic Workplace: Comparative Perspectives*. Centre for International Higher Education, Lynch School of Education, Boston College, p11-12.

³ Martin Trow (1998) *Review of Education*, no.1.

As higher educational institutions respond to this new and competitive environment, the academy is also coming under pressure. The content of academic work, the role of faculty, and the balance between teaching, research and service, are, arguably, being restructured, reconfigured and redefined. For academics within traditional universities, pressures for accountability and social relevance have challenged what many valued as ‘their autonomy’. But, for staff within new HEIs there are different pressures. Many were hired originally as teachers and now face increasing pressures to spend more time conducting research. Yet, growing research and establishing a nexus between teaching and research is not without human costs.

Because research is based upon researchers, this chapter seeks to understand how new HEIs are responding to these challenges and the extent to which human resources issues impact on institutional and research strategy. Based on an international study of 26 new and emerging HEIs across 17 OECD and non-OECD countries⁴, it will address the following questions: 1) What human resources issues arise for HEIs seeking to grow a research culture? 2) How are staff responding to the new emphasis on research strategy and priority setting? 3) What types of strategies and policies are these institutions introducing to encourage and facilitate research and researchers? Is there a ‘best practice’ that can help new HEIs encourage and grow research activity? 4) Finally, the conclusion will raise some wider questions about growth strategies and intellectual capital formation.

Human Resources Issues in an Embryonic Research Culture

If massification and expansion in 1960s differentiated the second stage in higher educational development from its elite origins, then the late 1990s marked the beginning of the third stage. By then, it was clear that a broadly educated population could no longer be formed by and within universities alone. In societies where knowledge and knowledge creation are highly privileged and integral to both national and institutional prestige, advanced learning and research capacity are allied and critical. New HEIs may vary in origins and context but they share many experiences which transcend geography. In particular, new institutions across the OECD/non-OECD cite human resources and training as key issues affecting the development of their research strategy. The following issues were identified:

- Many new institutions developed as a result of the transformation, amalgamation or merger of smaller, regional/community or vocationally-oriented, colleges, while others were established as *ab initio* institutions. With few exceptions, they were not traditionally resourced for research primarily

⁴ Entitled ‘Processes and Strategies for Growing Research in New and Emerging HEIs’, the research is being conducted on behalf of the Programme on Institutional Management of Higher Education (OECD, Paris). The project focuses on tertiary, postsecondary, alternative, modern, new generation universities and non-universities established since 1970. Data and unattributed quotes are drawn from substantial questionnaires, interviews with senior research managers and researchers, institutional visits, and a seminar of participants.

because their initial focus was teaching technician, technical or other vocational programmes, often at sub-degree level. As a consequence they tend to have poor institutional infrastructure and technical support; they often lack important facilities critical for research activity, inter alia, good libraries, appropriate staff offices, seminar and tutorial rooms, etc. This ‘sheer underdevelopment of profile’ is further reflected in the funding gap between new HEIs and older universities, which has continued to widen over the years.

- Academic staff at new HEIs tend to echo these origins and deficiencies. Many were hired specifically to teach and without consideration of research skills or future research activities in mind. Hence, recruitment and promotion criteria reflected programme focus, with practical experience preferred. Many staff lack a postgraduate qualification and/or research experience, and have limited capacity to attract or compete for funding or produce the requisite outcomes. Moreover, if they were hired before the institution got university status, they often find the new research environment quite alien. Consequently, most of the new HEIs lack a sufficient number of qualified researchers and research supervisors.
- The existence of a *de facto* or *de jure* binary system in many participant countries has effectively meant that the conditions and terms of employment have differed between traditional universities and new HEIs. Contracts did not necessitate research alongside teaching, and staff were often entitled to long summer holidays. Correspondingly, academic workloads tended to be significantly greater in new institutions than in universities. There are often also salary and career differentials.
- New institutions have been responsible for parenting many new and important disciplines which have arisen from professional practice, such as business/commerce, nursing, education, sports sciences, media, creative and performing arts, architecture, etc. Almost by definition, these fields have had no research tradition.

In many cases, these degrees are only now coming to fruition. In the interim, the capacity of these staff to successfully compete for research funding and to produce the necessary research outcomes...has been severely limited.⁵

Relatedly, some institutions have faced particular difficulties navigating from successful applied and professional teaching programmes to research postgraduate activity.

Given the above context, institutions are trying to encourage a balance across teaching and research. Half of the HEIs surveyed said they did not differentiate between research and teaching posts; all staff are expected

⁵ Gar Jones and Nikki Lengkeek (1997) ‘Research Development: The Experience of the New University’, in *Research and the New Tomorrow*, UNITEC Institute of Technology Auckland, New Zealand, (1997), 228-229.

to be involved in both. However, a quarter of HEIs mentioned the existence of research-focused posts of some kind, while others mentioned that they were beginning to look at this. Thus, despite the ‘motherhood’ statement, there seems to be a reality that teaching and research responsibilities and roles are changing and are likely to continue to change. For institutions, a strong research profile is critical not just for institutional mission but also for status and survival. Hence, institutions mentioned the growing tendency to preference research activity, to align recruitment, promotion and career structures to research outputs, to measure performance on the ability to generate revenue and intellectual property, and to link academic workload to research performance and teaching level. From where these institutions began, this approach represents a significant strategic redirection.

Nevertheless, the process of growing a culture of research and scholarship within these new HEIs can be lengthy, challenging and difficult for both management and academic staff. Berrell suggests that the process of change can be so long that many good researchers leave out of frustration⁶. One interviewee suggests that institutions were ‘facing a generational change among the academic staff...’ while another stated it was not possible to ‘create a research culture in less than 20 years...’ Given this projection, institutions are seeking to attune their research ambitions to institutional reality by addressing the wide range of human resources and training issues particular to their institution. Table 1 below illustrates one institution’s method of categorizing research potential among academic staff. While crude, the typology solicits important questions about what HR strategies an institution should implement to facilitate its research mission and objectives.

Table 1
A Staff Typology

<ul style="list-style-type: none">• Research active• Research oriented• Research minded• Research inclined• Research defunct• Research negative
--

⁶ M. Berrell (1998) ‘The place of research, scholarship and teaching in newly established universities,’ *Higher Education Management*, 10, p277-93.

The Academy's Response to Research Priority-setting

Rowley et al⁷ suggests that adapting to change can be much more difficult for people who are only engaged in teaching rather than research-oriented staff. The latter face new ideas as a normal part of their academic practice, while the former are primarily didactic – instructing students. Versions of this assessment are evident throughout the case studies, the interviews and the literature; all point to the fact that restructuring and refocusing an institution and its staff towards research represents a ‘fundamental challenge’⁸ because its staff are suddenly confronted by ‘new sets of expectations...’⁹ Staff responses fall into three general categories, which broadly map onto the above typology:

- The *active researcher* (first two categories) is supportive of the research strategy and often shares many of the same concerns and frustrations of management. S/he focuses on the inappropriate institutional research culture and the problems that correspondingly arise, inter alia, inadequate physical environment and research facilities, insufficient funding and supports, high teaching loads with inadequate time for research, and the lack of critical mass of fellow researchers. The active researcher is also concerned about salary and career differentials compared with traditional universities, particularly the fact that career structures may not adequately reward their efforts. Active researchers may also be critical of their respective Heads of School or Faculty because the latter often ‘sees research as a hassle.’
- The *uneasy researcher* (the next two) is often anxious about how the changes and new demands will impact on their workload. S/he may be concerned about institutional proposals to align funding to priorities, to review research strengths and to codify research activity. Some of this anxiety may arise from the definition of ‘research’ and ‘research output’ being used, with its emphasis on basic research and publications. They may also be uneasy about the perceived preferencing of research over teaching, which they feel is the core mission. As one institution stated:

There is some concern that the increased research activity will be at the expense of the teaching. On the other hand, the research offers a possibility for professional development for the benefit of the teaching.
- The *research negative person* (last two) is usually antipathetic or openly hostile to the strategy. S/he may have been recruited because of professional or vocational experience, and may have neither the

⁷ James Daniel Rowley, Herman D. Lujan and Michael G. Dolence (1997) *Strategic Change in Colleges and Universities. Planning to Survive and Prosper*. San Francisco, Jossey-Bass Publishers, pp293-297.

⁸ Elizabeth Deane, G. Jones and N. Lengkeek, "Engagement in research: The post '87 Australian experience", in *Research and the New Tomorrow*, UNITEC Institute of Technology Auckland, New Zealand (1997), 102:113.

⁹ Gar Jones and Nikki Lengkeek (1997) op. cit.

academic prerequisites nor the experience. For him/her, 'research is something people are being asked to do extra' or 'over and above' their real job which is teaching. Some are particularly unhappy at the way new staff are being recruited or promoted to higher-level posts over existing staff, including them. Finally, the research negative person may have been in either of the above two categories earlier in his/her career but because of age or institutional culture, in which s/he has been operating, are no longer active. Fear of or inability to change can be a strong factor.

Several institutions mentioned experiencing morale problems and other tensions accompanying their strategic and organizational redirection. This is not surprising; new expectations about academic employment are shaping tenure, salary and promotion. Performance related pay, linked to research criteria, assessment and outputs are becoming increasingly common. Likewise, the daily routine of the academic is also undergoing change; research activity is influencing directly academic workload and teaching opportunities. The transition from HR to IR issues is partially dependent on how academic staff see themselves with respect to the typology, whether the institution is bound by national or enterprise (local) negotiations and whether it negotiates with an general educational or academic trade union or a staff association.

Perhaps most significant is the fact that the new emphasis on research alters the internal institutional dynamic by challenging the 'ideal that all academics are equal members of a scholarly community'¹⁰. As greater emphasis is placed on performance and assessment, and consequently on performance-related pay and benefit, a new competitive element is introduced into what was formerly, at least theoretically, a unitary staff structure. That structure provided a common comfort base from which decisions about recruitment, promotion and distribution of work, often underpinned by seniority, were made. Thus, there is some (often deep) disquiet among staff - especially those who because of professional background, age or attitude - feel 'left out' or 'sidelined' by the new environment. Tangible rewards in terms of promotion, salary, special resources and status exist for active researchers, especially those who can win sizeable external funding, while others may find themselves teaching ever larger numbers of students.

Despite these tensions, participating institutions were neutral as to whether staff responses were helping or hindering their research strategy (see Table 2 below). Many mentioned that staff reaction was positive, and supportive of university initiatives. Only a few mentioned strong trade union reaction, and only one mentioned resistance: 'developing a strategy to codify research active status experienced strong resistance'. How to explain this apparent contradiction? Di Adams offers the following observation:

¹⁰ Peter Coaldrake and Lawrence Stedman (1999) *Academic Work in the Twenty-first Century*. Higher Education Division, DETYA, Australia. <http://www.detya.gov.au/highered/pubgen/pubsauthor.htm>.

I have watched new academic staff at this University [Canberra] over the past 5 years working hard and long hours to establish themselves and their credibility with students and with colleagues within the University and within the disciplines. The dropout rate has been small, with only three chose to leave the university...None has been motivated or 'driven' by policy or regulation...[Rather] the interest and commitment of these new academics is to their students and their subjects. It is this commitment that has pushed them to work long hours to reach the standards of teaching and research that they wished to achieve. It seems that the industrial policies of the current government, and the managerial practices of the University are 'flogging a willing horse'.¹¹

INSERT TABLE 2 HERE

Institutional Strategies, Policies and 'Best Practice'

Skoie¹² advises that the task of introducing research should be 'approached carefully to generate an effort with reasonable standards. The time horizon should be carefully set'. Likewise, Johnston et al¹³ states that with careful planning of academic activities, new institutions can realize the appropriate scale and foster an ethos which reinforces their mission of research and related teaching. Given their histories, most new institutions have adopted this pragmatic approach to achievement, although both the institutions and the literature have mixed views on whether it is possible to grow research from their existing base or whether they need to rely more heavily on other strategies. This section looks at institutional research strategies with specific reference to developing intellectual capital and growing research capacity.¹⁴

Institutional objectives

All the participating HEIs stated that their future lies in research. Many were established as part of a regional economic strategy. Thus, their mission to provide 'economically useful skills with industrial relevance, ' to maintain 'academic excellence in a professional context,' to ensure that 'academic activities are aligned with the economic development of their region' has become inextricably linked to growing research capacity. Relatedly, almost all participating institutions state that research activity and priorities are directly related to their competitive position: it is necessary to 'sustain academic and professional reputation in a knowledge-based economy' or to 'retain and improve their position' vis-à-vis their competitors. Accordingly, specific research objectives are generally stated as follows:

¹¹ Di Adams (2000) 'Views of Academic Work' in *Teacher Development*, 4,1:65-78.

¹² Hans Skoie (2000) 'Faculty involvement in research in mass higher education: current practice and future perspectives in the Scandinavian countries' in *Science and Public Policy*, 27,6:418.

¹³ R.J Johnston, K. Jones and M. Gould (1995) 'Department Size and Research in English Universities: inter-university variations' in *Quality in Higher Education*, 1,1:47.

¹⁴ For a fuller examination of the issues, see E Hazelkorn (2002) 'Growing Research: Challenges for Late-developers and Newcomers,' Keynote Address given to the 'New Generation Universities' conference, University of Western Sydney in association with the Association of Commonwealth Universities and IMHE/OECD, Australia.

1. Grow and expand research outputs and participation levels
2. Grow/recruit/retain research active staff and students
3. Increase research funding
4. Establish research clusters/centres of excellence
5. Allocate resources to facilitate productivity and excellence
6. Promote national/International partnerships and collaboration

Reconfiguring an institution whose primary, if not sole purpose, was teaching, into one that links teaching and research can be a significant jump. Thus, what type of institutional outcome are they seeking to establish? Table 3 seeks to identify possible institutional objectives. In an era when national and supra-national policy favours greater institutional differentiation, the acceptance that each outcome is separate, identifiable and legitimate could help modify arguments that conducting research represents ‘academic drift’. In this regard, the majority of institutions do not seek to transform themselves into research-intensive institutions, albeit most did see their status linked to moving up - thus implying a hierarchy where research intensive has the highest status. Nevertheless, based on preferred outcome, other strategic choices and HR policies follow.

Table 3
Institutional Objective

<ul style="list-style-type: none"> • Research informed • Research based • Research active • Research led • Research intensive
--

Strategic choices

Other factors impacting on and linked to institutional objectives are strategic choices. Table 4 outlines some choices that institutions are confronting as they endeavour to reach their objective. Accordingly, institutions are making decisions based upon where they see themselves along the appropriate polarity.

Table 4
Strategic Choices

- Recruit or grow?
- Research culture vs culture of scholarship?
- Decentralized vs centralized management structure?
- Targeted/niche vs seed-corn/universal funding?

Recruit or grow? The extent to which institutions choose one or other position is partially conditioned by their sense of urgency. To what extent are external factors such as government policy, funding, demographics, competition, etc. opening up or constricting institutional opportunity? In other words, is it possible to grow research from the existing academic staff? Is there time to grow research? Or, should there be greater reliance on recruitment strategies? The case studies and literature are divided on this issue, although there is little disagreement that research activity conditional on ‘highly-motivated individuals.’¹⁵ Factors influencing these individual researchers cannot be overlooked. Both Deane¹⁶ and Geiger¹⁷, through different examples, illustrate that research productivity is critically influenced by organizational conditions because ‘star scholars’ are ‘not an end in themselves but rather a means.’ Having recruited ‘stars’ the emphasis shifts to retaining them - what is the institutional culture? what are the facilities and resources? what is the pay/career structure?

Research culture vs culture of scholarship? According to Clark¹⁸, the nexus between research and teaching too narrowly describes higher education’s role as a place of inquiry. A few years earlier Boyer¹⁹ had also rejected the dichotomous view of research vs. teaching to pose a broader understanding of ‘scholarship.’ Scholarship, he argued, embraced a more integrative understanding of knowledge production and dissemination: discovery, application, integration and learning. Gibbons et al²⁰ provided another leg to this frame, recognising and amplifying the intellectual and strategic importance of collaborative and interdisciplinary work via the concept of Mode 2 research.

¹⁵ Geoff Harris and Geoff Kaine (1994) ‘The determinants of research performance: a study of Australian university economists’ in *Higher Education*, 27,2: p200.

¹⁶ Elizabeth Deane, Gar Jones, Nicola Lengkeek and Alison Warton (1999) ‘Does an academic appointment kill off Research? A pilot study in the biological sciences’ in *Journal of Institutional Research in Australia*, 10,1: p2 (May).

¹⁷ Roger L Geiger (1993) *Research and Relevant Knowledge. American Research Universities Since World War II*. NY and Oxford, Oxford University Press, pp273-283.

¹⁸ Burton Clark (1995) *Places of Inquiry. Research and Advanced Education in Modern Universities*. University of California Press, Berkeley.

¹⁹ Ernest L Boyer (1990) *Scholarship Reconsidered. Priorities of the Professoriate*. New York, Carnegie Foundation for the Advancement of Teaching.

²⁰ Michael Gibbons, Camille Limoges, Helga Nowotny, Simon Schwartzman, Peter Scott and Martin Trow (1994) *The new production of knowledge*. London, Sage. See also Michael Gibbons, ‘Excellence in Higher Education: a niche for the new universities, paper given to the New Generation Universities conference, Sydney, Australia, June 2002.

Given the particularities of their history, many new HEIs have, often unwittingly, adopted these concepts, thereby helping to widen the debate on research, including what constitutes research. Consequently, they talk of ‘adjusting ministerial criteria’ to fit their disciplines, and including innovation and creativity, traditional publications and creative/professional practice, and cross disciplinary and industry relevant work within acceptable categories of staff activity.

For the statistical report to government, we use the distinction of basic and applied research and development. However, our daily research activities are so much diversified, we do not strictly distinguish [between] these categories.

Decentralized vs centralized management structure? Decision-making, strategy, priority setting, distribution of resources - to what extent should these functions be led from the top or from the faculty/school? The Research Office is now virtually ‘ubiquitous’ led most often by a Deputy or Pro Vice-Chancellor or Vice-President for Research or Research and Development, who has an explicit role to manage, organize, and improve the competitive performance of research. The formulation of a research strategy or research management and training plan is the primary starting-point, on the basis of which each institution seeks to identify a selected number of research priorities or ‘interdisciplinary’ themes. Depending upon institution, the Deputy/Pro Vice-Chancellor or Vice-President for Research is the institutional link and co-coordinator between and across faculties and management, via Deans and/or Research Committees. The research planning process invariably involves elements of top-down and bottom-up, albeit the balance differs across participants. Fifty-four per cent of participating HEIs involve faculties and researchers in setting the agenda, albeit one institution is now ‘telling its researchers’ what the strategy and priorities are while another suggests its successes are due to local management decision-making. Relatedly, how and where research activity is organized within institutions also differs, albeit the majority of participants stated their desire to shift the locus of activity away from individuals and towards clusters and critical mass, with grant-awarding reputations and timely outcomes. Research might be based on individuals but it is less and less an individual activity.

Targeted/niche vs seed-corn/universal funding? Government policy across the OECD has seen the decoupling of research and teaching. All participating HEIs recorded a reduction in government and similar grants, and an increase in competitive funding. On average, institutions are experiencing a 9% drop in institutional funding, and an increase of 6% in both external competitive and other funding. For new HEIs, however, any downward change in the core funding base is likely to be proportionately more serious. The key question is the extent to which they can make up the difference by diversifying funding sources. Earning external funds via competitive research grants carries its own challenges given their fragile base. This has placed increasing pressure on institutions to win research funding. Not surprisingly, institutions are making strategic choices about how to use their scarce resources. Should it be targeted at winners or likely winners? Should it be targeted at research priorities or should it encourage as many as possible to grow, including new

research areas? Undertaking a targeted approach almost inevitably raises intra-institutional tensions. One institution acknowledged the ‘difficulty in reconciling individual, college and wider institute objectives and aspirations’ while another stated that the ‘review of research concentrations...involved significant uncertainty’ and that ‘developing a strategy to codify research active staff experienced strong resistance.’ There is, however, a clear preference to earmark a significant portion of funding at what are termed, by one institution, as research active staff.

Best practice

Participants are drawing various lessons from their experience and current context. While some have embarked on formally renegotiating academic contracts to either include research or to create research-only positions, others are focused on recruiting experienced researchers directly into academic departments or into (semi)autonomous research units/centres. Attention is also directed at staff development plans and flexible workload schemes (see Table 5). Accordingly, HR policies seek to reconfigure the people mix through a combination of policies, inter alia:

1. Recruit: aligning recruitment to priority areas via experienced researchers, post-doctoral or other senior professorial posts, sometimes on contract and often accompanied by relatively generous support funds and salaries;
2. Re-invigorate: incentivize, reward and recognize research performance via promotion, salary and other benefits, including career stream choices and new academic contracts which include research or create research-only positions;
3. Train: use staff development or faculty-building plans to assist new researchers, including facilitating PhD attainment, mentoring, application writing, etc.
4. Re-orient: encourage involvement in new fields or membership of research teams via incentive schemes;
5. Enable: enhance research facilities and opportunities, including flexible workload schemes, sabbatical leave, research scholarships and fellowships.

While many are focusing on recruitment policies, all institutions offer a wide range of incentives and support services for existing staff. Tables 5, 6 and 7 below illustrate the range of such aids. Institutions and researchers also point to informal mechanisms which facilitate research productivity, including collegiality, sharing information and experiences with colleagues and public recognition.

INSERT TABLE 6 HERE

INSERT TABLE 7 HERE

INSERT TABLE 8 HERE

Conclusion: Growth strategies and intellectual capital formation

Despite differences in origins and context, and the obvious challenges, every participating institution is attempting to build a research culture. Like their more established counterparts, new HEIs, are actively grappling with the complexities of research management and capacity building; as *late-developers and newcomers*, however, most are coming from behind and building upon a fragile base. This has not deterred them. The lessons of this international study concur with the view that HEIs ‘have found it necessary to strengthen their research capabilities, and...have gone about it in a variety of ways²¹’ – by fair means or foul, and often contrary to government policy. Their strategy raises some questions about institutional mission and the policies and processes underpinning that strategy.

First, to what extent should or can everyone be involved in research? At the same time that governments are asking if research is an imperative for all HEIs, individual institutions and senior managers are asking if it is reasonable to expect everyone to be involved in research. Can an institution afford to support or develop research across the board if its resources are limited? Replacing ‘research’ with ‘scholarship’ is proffered by some HEIs as one way around this traditional configuration. They are seeking to formally recognize that intellectual activity varies across disciplines and life. This is particularly the case given the specific vocational, professional or practice expertise of academic staff and teaching programmes at these newer HEIs. Some are also seeking to define themselves within the triangle of teaching, research and practice, rather than between teaching and research.

Second, to what extent do institutional reward and award systems reflect the multiple missions, disciplines, workloads and performance of academic staff? Can workloads or career structures be sufficiently flexible to change/be negotiated over one’s career? Boyer²² has proffered the ‘creativity contract’ as the mechanism through which academic staff can be well-rewarded personally, intellectually and career-wise by involvement in a range of different activities throughout his/her career: specialized research, interpretative essay or textbook writing, applied projects, consultancy, and course development. Yet, while institutions struggle to find better ways to recognize and praise what Boyer calls the ‘mosaic of talent’²³ research funding agencies and national policy instruments continue to reward only traditional scholarly output. This

²¹ Tim Turpin, Sam Garrett-Jones, Nicole Rankin and David Aylward (1996) *Patterns of Research Activity in Australian Universities*. Commissioned Report No. 47. National Board for Employment, Education and Training. Australian Research Council. Australian Government Publishing Service.
http://www.arc.gov.au/publications/arc_pubs/96_26.pdf.

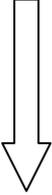
²² Boyer, op. cit., pp43-51.

²³ See also Ruth Dunkin (2002) ‘Motivating Knowledge Workers: Lessons to and from the Corporate Sector,’ paper given to the General Conference of the Programme on Institutional Management in Higher Education, OECD, Paris.

presents particular difficulties for new HEIs, and requires that they develop a dual strategy to ensure that they can respond positively and successfully to the changing revenue patterns while also challenging the underlying criteria.

Third, how are institutional research strategies impacting on the teaching-research nexus and career opportunities for existing and new academic staff? Sidestepping the philosophical and pedagogical debate about the teaching-research nexus, evidence does suggest that increasing emphasis on research activity and outcomes via funding opportunities is altering this relationship²⁴. Table 7 seeks to illustrate four different models which are emerging from the case studies.

Table 7
Reconfiguring the T and R nexus?²⁵

	Model	T-R Nexus	Organizational Structures	Career
	Type 1	T = R	Inclusive Departments	Integrated
	Type 2	T & R	Undergraduate + Units/Graduate Schools	Active & Inactive
	Type 3	T R	Department + (semi)Autonomous Centres	Parallel Pathways
	Type 4	T ≠ R	University + Autonomous Institutes	Separate Careers

This model works on three levels: 1) a philosophical/pedagogical and organizational manifestation of the nexus between teaching and research, 2) a developmental and strategic relationship between each of the ‘types’, and 3) an academic workload or career implication depending upon model and stage of development. The process of growing research reflects a ‘natural’ progression from individual → cluster (unit) → larger cluster (centre). Many factors can influence the speed and desirability of this process, including academic contracts and workload, reward systems, public recognition and status, and the requirement for timely outputs. While there remains a strong desire that research activities should reinforce the academic role of the university, the more an institution moves down this road, the more it encourages ‘two parallel structures within universities: one for teaching and another for research²⁶. The post-Humboltian model, perhaps best associated with France and represented by model 4, pushes this to its extreme, but many

²⁴ See, for example, Larry L. Leslie (2002) ‘Motivating Individuals: Incentives, Staff Reactions and Institutional Effects’, paper given to the General Conference of the Programme on Institutional Management in Higher Education, OECD, Paris.

²⁵ For a full discussion of the issues, see Ellen Hazelkorn (2002) ‘Challenges of Growing Research at New and Emerging HEIs’ in *Enterprise in Universities: Evidence and Evaluation*, edited by Gareth Williams London, SRHE/Open University, forthcoming.

²⁶ Coaldrake and Stedman, op. cit., p23.

HEIs – new and established – are today setting up separate graduate schools and research centres. Indeed, greater emphasis on research clusters and industrial partnerships, as per Gibbons' Mode 2, are effectively facilitating greater separation between teaching and research. Yet, this trend is also being advocated by active researchers, who wish to have contracts and conditions which more adequately reflect their requirements and the time-commitments of research activity. The question confronting institutions is how to meet these demands while avoiding the incremental fragmentation of universities as places of inquiry.

Finally, given that new HEIs are coming from behind and playing catch-up, what is the appropriate time-horizon? Several interviewees mentioned that growing research required a generational change. Yet, many HEIs do not feel time is on their side. Institutional growth strategies reflect this sense of urgency; one institution believed that national priorities and funding instruments would effectively create a new binary between teaching and research HEIs within the next two years while another thought a similar outcome could occur within six months. This chapter sought to explore a range of policies and actions being taken by new HEIs to encourage and grow research in the face of challenging internal and external realities. Issues around research are playing a critical role in restructuring higher educational systems and institutions, forcing both to ask important questions about differentiation and institutional identity. While research is high on the strategic agenda of all higher educational institutions, new HEIs as late developers and new comers face particular difficulties; in the process of resolving the question of how to grow research from a fragile base, their experiences may help forge new ways of thinking about research activity and intellectual capital formation.

Table 2

What internal factors have helped or hindered your research growth?

