

Impediments, Inhibitors and Barriers to University Entrepreneurialism

Bruce Henry Lambert

bruce@reorient.com

EUEREK: *European Universities for Entrepreneurship: their role in the Europe of Knowledge*

Entrepreneurialism and its impediments: an introductory discussion

Problems of Definition: Entrepreneurialism is rather ill-defined, and a moving target

Problems of Relevance: Is entrepreneurial or innovative action relevant to other missions and fundamental activities of the organization or individual?

This study addresses inhibitors, impediments and barriers to university entrepreneurialism. It is largely a meta-analysis of twenty-seven university case studies conducted in late 2005 across seven European nations by eight research teams, all affiliated with the European Commission-sponsored EUEREK project, *European Universities for Entrepreneurship: their role in the Europe of Knowledge*.

Prior to detailed analysis of the entrepreneurial impediments highlighted in our twenty-seven EUEREK case studies, and development of the findings with further research and analysis, it is critical to discuss and understand what constitutes entrepreneurialism.

It is clear that there is a substantial range of opinion about what is an entrepreneurial university. Finlay (2005) traces the use of the term and compares it to alternatives, including "the innovative university", "the adaptive university" and "academic capitalism." He notes studies that use the entrepreneurial university term to focus primarily upon change and academia's response to turbulence, and urges looking more broadly than in education; the earliest relevant definition he notes is from 1755, a definition of entrepreneur as "a specialised bearer of risk." Shattock (2003 p. 147) also mentions the risk taker etymology (noting the Oxford English Dictionary traces the word to 18th century French origins, for someone hiring a musical venue and expecting to subsequently profit from admissions revenues). Finlay covers descriptive, analytic and prescriptive usages of the term entrepreneurial, as well as discussing a political or market-positioning usage. The definition Finlay applies to his own studies (p. 76) recognizes that parts of an organization might be best served by conventional methods, while other parts, in response to some form of environmental disequilibrium, are entrepreneurial.

Clark uses the following definition in his book *Creating Entrepreneurial Universities* (1998 p. 3-4):

""Entrepreneurial" is taken in this study as a characteristic of social systems; that is, of entire universities and their internal departments, research centers, faculties, and schools. The concept carries the overtones of "enterprise" - a willful effort in institution-building that requires much special activity and energy. Taking risks when initiating new practices whose outcome is in doubt is a major factor. An entrepreneurial university, on its own, actively seeks to innovate in how it goes about its business. It seeks to work out a substantial shift in organizational character so as to arrive at a more promising posture for the future. Entrepreneurial universities seek to become "stand-up" universities that are significant actors on their own terms. Institutional entrepreneurship can be seen as both process and outcome.

Throughout much of the two years and more of the research, the two terms "entrepreneurial" and "innovative" were used as loosely synonymous. The concept of "innovative university" has much appeal. Gentler in overtone, it also casts a wider net. It avoids the negative connotations that many academics attach to individual entrepreneurs as aggressive business-oriented people seeking to maximize profit."

This definition is perhaps a good starting point. My personal added caveats are that these definitions are useful where risk (and reward) are focused on an individual, but risk is a less useful dimension if shared among thousands of stakeholders. Also, that *defining something as 'entrepreneurial' is often a moving target bound in time and place*; what is now termed an 'entrepreneurial activity' might cease to be after some period / years, or might not be thus termed in a different environment. In any event, it should be recognized that the term "entrepreneurial" means various things to different people. It is clear from our EUEREK case studies that some in academia narrowly believe that entrepreneurialism only and always revolves around revenue streams and managerialism, and some such people see entrepreneurialism itself as an impediment to their scholarly interests.

Entrepreneurialism

Problems of Motivation: Why do it? To gather resources, kudos or rewards? To hone skills?

Before focusing on logistical impediments to university entrepreneurship, or those impediments which require imagination or involve direction, there is a more fundamental process: motivation -- a lack of which leaves little or nothing to measure.

Motivation is a key precondition to action. It cannot / should not be assumed that motivation exists. Motivation to change or experiment involves risk and exposure to unknown problems; people generally shy-away from uncertainties, though the degree uncertainty is unwelcome can vary substantially between individuals and between different cultures (Hofstede 1980).

Motivation often can be stimulated by adjusting incentives (and/or disincentives; the well-known 'carrot & stick' combination). With substantial incentives, people are motivated to find ways to bypass or overcome impediments. Organizational change literature is filled with such cases of success, and sometimes failure. In this study it should be recognized from the start, for example, that what some term 'impediments' are situational, and defined as impediments only in light of minimal motivation, which in turn often reflects lack of incentive. It should also be considered to what extent key people are ready to brave uncertainty, even if financial risk, or a risky expenditure of limited time, are not major components.

Yet even with good motivation, progress and success are not assured. Personnel rigidities, financial barriers or time limitations perhaps cannot be overcome.

Knowledge (or lack of it) is a further variable factor. Change is taking place rapidly; best-practices are still uncertain. Further, this field is competitive; there often are substantial disincentives to sharing insight, knowledge and techniques with competing individuals or institutions. Finally, one of the great anomalies of university organization is that many leaders and managers have inappropriate education. University top officials and academic faculty often are completely untrained in management and institutional development. Staff-level university administrators more appropriately trained in functional fields often have insufficient leverage to guide the organization.

A focus on inhibitors is inherently difficult; that being measured is important due to something that does not take place, is limited or is output in some lesser way.

Inhibitors to entrepreneurialism mentioned in EUEREK case studies

Some inhibitors to entrepreneurial action were cited explicitly within the EUEREK case studies (as were aspects that promoted entrepreneurialism and change). These are summarized below:

Umeå University <i>explicitly-cited inhibiting factors</i>	Sweden <i>explicitly-cited nurturing factors</i>
--	--

<ul style="list-style-type: none"> • the university's past reputation for political radicalism is perhaps a deterrent to those interested in business and commercialization • no possibility to charge direct tuition; student numbers and compensation rates per student are key rigidities constrained ultimately by the state • leadership continuity is poor: after three years, deans & prefects revert to being normal faculty • Swedish language is still widely used, though English may be more appropriate to the university's international positioning • many from the medical faculty work also externally, including with small businesses, but the wider faculty is not encouraged to do this • full four-year funding must be arranged prior to each doctoral student admission; this is a bottleneck • each unit pays for the central External Relations Office (ENS); there seems no limit on its costs, and such development expertise in each faculty is now underutilized, even discouraged • external funds often do not cover continuing costs, such as machinery maintenance, which then must be drawn from the basic budget • some satellite campuses are in small northern settlements with minimal local talent • difficult to develop selectivity & competitiveness due to central government rigidities in student & faculty recruitment • salary scales are rigid, individual incentives for entrepreneurship are poor (such success is not considered an academic merit), and envy of rewards among peers is problematic • geographic isolation requires action; physical distance from the capital and from corporate decisionmakers is an inhibitor • too much comfort; little entrepreneurial hunger; too few success stories • business & industry often bypass the university, unaware of what can be offered 	<ul style="list-style-type: none"> • lengthy effort to attract and develop a valued university into the region • income from external commissioned courses is twice the national average • a need for action is natural in light of the geographic isolation • lack of funds is a motivator to find more external funding • university Board no longer run by teachers but by external appointments (always including students); now more open to society • a newer dynamic university, with some mistrust of the older establishment • the university developed a centralized professional External Relations Office (ENS) • positive spillovers from foreign students • risks are very small • more open markets for faculty services fuels responsiveness
<p>KTH</p> <p style="text-align: center;">Kungliga Tekniska Högskolan</p>	<p style="text-align: right;">Sweden</p>
<p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • subject-based organizational structures can be unduly rigid, permitting narrow thinking • more diversity is needed but hiring rigidities, limited childcare, and other limits make a relatively poor working environment • university support services for innovation need further development • Swedish academics own their intellectual property; perhaps a hindrance to development 	<p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • multidisciplinary meta-centres are being developed to stimulate new project directions • diversity is expanding
<p>University of Lund</p> <p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • huge, comprehensive, ungainly organization • applied efforts are considered of a lower status than basic research; simple moneymaking is considered "ugly" • academics only recently are engaging in two-way dialogue with industry; previously it was one way: merely going out to teach society • "...a culture resting on old traditions with a focus on academic excellence has its own incentives and rewards, not always with the same goals as those that characterize enterprise." Several respondents mentioned this, though it may unreasonably equate entrepreneurialism solely with commercialism. • time is limited; academics are "swamped" with too many activities already • large external projects and patents are not appropriately valued as academic merits 	<p style="text-align: right;">Sweden</p> <p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • central steering core allows more sense of "pulling together" as well as actual progress
<p>Jönköping University</p> <p style="text-align: center;">Högskolan i Jönköping</p>	<p style="text-align: right;">Sweden</p>
<p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • Rector has much personal responsibility and little job security; lacks the full range of private sector remuneration & financial incentives 	<p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • large number of partner universities (210) around the world helps circulate

<ul style="list-style-type: none"> • Struggle with newer university positioning & identity (including the name? Jönköping has non-standard characters internationally, and is often mispronounced; properly: 'Yunshopping') • uncommon governance system (4 corporations under the umbrella university foundation) can be unwieldy; sometimes unclear or conflicting goals, while synergies can mean ceding control to the central administration • still bound to Swedish state rules on tuition limits and student numbers, though a private foundation • entrepreneurial mindset in Sweden is considered to be limited; too complaisant in believing that the State will ultimately provide 	<p>new ideas and best-practice operational development</p> <ul style="list-style-type: none"> • close links with the local region, which also acts as a landlord; freedom from the rigidities of the nationwide firm handling rents for Sweden's academic premises
<p>State University -Higher School of Economics - SU-HSE</p> <p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • still rather new organization with substantial successes but also some who are in opposition; near to being evicted in September 1998 when government changed. Some might consider such uncertainties a disincentive to stay and work for institutional development - perhaps the private sector is more predictable and rewarding of good work. • early staffing bottlenecks seem to have been largely overcome through group training, but perhaps this has engendered more 'groupthink' than found elsewhere; also, the most capable people migrate into business and away from academia • friction with outside work competing with the institution, though activity elsewhere may bring ideas and techniques back to the organization • classrooms, student housing and facilities for sport are insufficient, even below standard, which causes problems for attracting and retaining the best students possible and precludes attracting fee-paying diverse foreign students with useful experiences • path to success unclear particularly in Russia • Ministry of Education future path, regulation and funding unclear • professional standards are still developing nationally • (big) business demands have been urgent and are fundamentally short term in nature (unsupportive of experimentation) • initiatives such as new departments that cannot be successful leaders in their disciplines may slow overall progress and tarnish the overall reputation • need for internationally-able faculty • the institution is little-involved with smaller outside contracts due to individual faculty handling such activities on a private (personal) basis; this is also a bottleneck to internal information flows • efforts to impose more centralized management have caused estrangement • prior failure (Higher School of Journalism) may lead to caution that stifles new entrepreneurial initiatives • links to government can be both benefit & constraint • some rigidity in thinking as to the proper role and status of a business school • compensation and incentives are still inadequate at the lower end and for entry-level staff; this still necessitates multiple outside jobs ('lecture tour') • in an active, unsettled market that is full of novelty, it is difficult to clearly distill which factors lead to success or failure 	<p style="text-align: right;">Russia</p> <p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • relatively high compensation and clear incentives for mid-level faculty and top people • uncertainty has been used to fuel speed of growth; to slowdown invited potential collapse
<p>Baikal Inst. of Business and International Management (BIBIM)</p> <p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • need for more flexible professors with foreign language abilities, practical experience and interest in collaboration • some state licensing is still in a comparative state of change / unsettled • great distance from Moscow may lead to underestimating the region • the whole system is in such a state of flux that many may have unreasonable expectations; "More than half of the graduates have a job different from their studies" - is this so strange? Also - they have jobs! • very high demand on resources (classrooms & equipment) is unhelpful • serious problems with monitoring accounts and drawing out basic funds • links to local industry are often not to the advantage of the university 	<p style="text-align: right;">Russia</p> <p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • close protective relationship with the larger Irkutsk State University, though independent • innovative flexibility with time: night or weekend studies • building links to Japan • 'Baikal' regional managers training

<ul style="list-style-type: none"> considerable uncertainty over whether the organization will long survive difficult to conduct effective branding 	
University of Pereslavi <i>explicitly-cited inhibiting factors</i> <ul style="list-style-type: none"> former 'professional deployment' kept the region stocked with high-level human capital; now many of the best people are leaving the region for better opportunities elsewhere, while few good people come to replace them serious shortage of well-qualified teachers; poor pay; low motivation accountants are a law among themselves, with an expanding cohort and substantial leverage in all areas of university affairs fragmentation of functions; no effective 'rules of the game' radical restructuring seen as possible (foreign buyout, etc.) substantial liquidity crisis is likely to dampen risk-taking behavior 	Russia <i>explicitly-cited nurturing factors</i> <ul style="list-style-type: none"> close links with local industry good atmosphere of creativity
Moldova State University <i>explicitly-cited inhibiting factors</i> <ul style="list-style-type: none"> expressed need for promotion of innovative technologies for pedagogical development, also better training methodology unclear how Center Prometheus links to market needs 	Moldova <i>explicitly-cited nurturing factors</i> <ul style="list-style-type: none"> promising activities in the Center Prometheus
Alecu Russo State University of Balti <i>explicitly-cited inhibiting factors</i> <ul style="list-style-type: none"> the US State Department supplies outside funding that the university has no accounting for (somewhat odd); is it clear how long the funding will continue? regional universities may be disadvantaged in national competitions for financial support; are there measures for good representation in the capital? prejudice remains from Soviet times over the term entrepreneurialism 	Moldova <i>explicitly-cited nurturing factors</i> <ul style="list-style-type: none"> regular salaries are low, but supplements and incentives have been made available to pay teachers
Academy of Economic Studies of Moldova - AESM <i>explicitly-cited inhibiting factors</i> <ul style="list-style-type: none"> local businesses have yet to become interested in university operations knowledge of modern management is still relatively poor in the country prejudice remains from Soviet times over the term entrepreneurialism 	Moldova <i>explicitly-cited nurturing factors</i> <ul style="list-style-type: none"> strong alumni network dynamic growth; good reputation
Trade Cooperative University of Moldova - TCUM <i>explicitly-cited inhibiting factors</i> <ul style="list-style-type: none"> is the cooperative movement progressive in terms of mercantilism, perhaps with special skills, or perhaps anti-commercial? can the cooperative movement and the state continue to fund this effort, or must the proportion of fee-paying students (and fees paid) greatly rise? 	Moldova <i>explicitly-cited nurturing factors</i> <ul style="list-style-type: none"> strong niche links in the cooperative movement & with consumer cooperation
University of Tampere <i>explicitly-cited inhibiting factors</i> <ul style="list-style-type: none"> focus areas for the university are diffused what seems cutting-edge may simply be local testing of innovation coming from elsewhere (low value-added) Recent external membership on university Board begun, but limited to a single person from whom little is expected; Consultative Committee between university and key local persons exists, but has yet to become dynamic cross-departmental co-operation is difficult departmental leadership is done begrudgingly; university leadership is constrained; the centre has limited levers for providing direction resource-sapping projects may be accepted for limited marginal benefits highly risk averse, with limited vision many more applicants than are accepted; the university thus has no driving need to develop its marketing; images of 'the red university' persist State control and traditions are so strong that only "mental entrepreneurialism" is possible, that is "without compensation" administrative rigidities; researchers also feel entitled to do or not to do what they want 	Finland <i>explicitly-cited nurturing factors</i> <ul style="list-style-type: none"> Tampere has much surrounding industry, both traditional & in newer services excellent experience in attracting donated professorships change is only possible to implement slowly, but that may be good for institutional survival, being ultimately safe & stable
University of Lapland	Finland

<p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • northern region is often considered bleak and desolate; the university is seen as an arm of regional policy more than a novel energy of its own • administrative rigidities smother and stifle initiative • professional managers are needed • external funding is pursued even where there is little added value or promised positive spillover effects • project-based personnel groups may be underfunded by their projects • the region has few potential paying customers for external services (using present compensation formats) 	<p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • most northern EU university, with a pioneering mentality & exotic image • network faculty in Economics and Tourism is a novel effort to bridge disciplines and distance • the university effectively markets the surrounding 'frontier environment' • Province College has been setup to support local development • Explicit focus on the idea that "only change is eternal"
<p>Helsinki School of Economics - HSE</p> <p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • researchers are not as driven to change, or as excited, as management • consensus-based change is gradual and slow • the state and ministry constrain the range of possible action - almost like a 'command economy': "the planning machinery of the state defines how many students are educated, in which fields, who train them, with what resources and regulations" -- it is mostly preplanned • the civil servants in the ministries are ignorant of the true needs of companies (for example, conducting executive training of Finnish corporate personnel to be posted abroad may best be done in Asia) • the international education market is difficult to robustly enter due to central government rigidities; relatively low pay is a barrier to attracting top researchers or teachers, and many instead migrate away • demands are recognized that cannot be met because they fall outside the focal areas determined by powers outside the university • grant applications require disclosure and claim to be a competition, but the researcher has no way to protect a research idea - many can be easily purloined and copied by others • internal (affiliate) corporate development is of unclear legality • any financial surplus might be taken by the Ministry of Finance • many believe that policymakers should not affect the work of researchers • tenured professors are difficult or impossible to replace, and retain much authority, so change is very slow 	<p>Finland</p> <p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • cross-cutting phenomenon-based research starting to be stressed (multi-disciplinary) • explicit efforts to bridge teaching, research and outreach • innovative program educating 1400 Korean businesspersons with the Executive MBA is building an important network and bridge likely to be useful in the future, as is outreach to China & Singapore • substantial internal corporate development that can pay top salaries for top teachers • good success with corporate partnership and donor programs • some believe that universities should only change slowly, being instead stable institutions
<p>Technical University of Valencia - UPV</p> <p>Universidad Politécnica de Valencia</p> <p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • rector-appointed General Manager, the sole professionally-trained manager on the management team, has considerable expert power and perhaps veto leverage • civil servant (permanent) status for long-term faculty and staff may be unwieldy and rigid; those who have yet to achieve such status may be constrained and wary of experimentation • former rector was unusual and held office for 18 years; seemingly 'a hard act to follow' for the subsequent management team as the university is without any new strategic plan • efforts by the university to stimulate outreach have been interpreted as reflecting more interest in business than in academics; low univ. overheads for outside contracts (10%) may be unsustainable, yet raising it substantially might also stifle further outreach activities • much independence, but internal conditions are such that much inertia reigns • internal doubts that some institutes are proper research units; personal leverage may have created institutions without content • the 30% retained by researchers is reportedly poor compared to what might be gained in the private sector • local businesses, generally SMEs, often do not know much about what UPV can offer (they learn from their contacts abroad); institutional 	<p>Spain</p> <p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • if well-constructed, the Researcher Activity Index (IAIP) will provide incentives for entrepreneurialism and innovation; if not, the IAIP is itself an impediment • various levels of incentives for excellence and outreach from both the university and from the regional government

<p>marketing may thus be insufficient</p> <ul style="list-style-type: none"> • internal circulation of information is often poor • there seems no clear consensus on what is the proper role of university outreach (UPV has been sued by three local professional organizations for unfair competition) • there is reported interference between teachers and their private consulting; they "never teach everything they know to students." Whether or not this is so, the criticism shows a perhaps costly internal lack of trust • collegial decisionmaking requires bargaining that is costly in time and resources • some claim clearer objectives, guidelines and procedures would encourage entrepreneurialism • teaching is too theoretical, out-of-touch, and should be better attuned to the labor market 	
<p>University of Castellón "Jaume I" Universitat Jaume I de Castellón</p>	Spain
<p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • complex and unwieldy bureaucracy for hiring to permanent positions; rules set by national government (not the institution); some able people choose other career paths to avoid the bureaucracy at the university • development plans have a ragged schedule of implementation; business-like controls and imposition of change on subunits is very difficult • "people are turning into professional risk managers, treasurers, computer programme promoters, etc." and away from their original job type • there is worry that research results may pass to a monopolistic secretive company, instead of going to all who might need the new technology (this shows perhaps a misunderstanding of market forces, risk and promotion) • legal limits to being a part of companies is an impediment • very good project managers are needed (and are difficult to attract) • risk is proscribed; people do not wish to take-on new responsibilities • non-technical research & innovation is undervalued and often overlooked 	<p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • New Technology Education Centre (CENT) has a history of pioneering innovation • strongly-worded 'Decalogue' encourages institutional dynamism • exceptional Innovation Incentive Programme
<p>Cardenal Herrera University - UCH Universidad CEU Cardenal Herrera</p>	Spain
<p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • no Office for the Transfer of Research Results (OTRI) setup yet; external research projects and research contract still very modest in scale • such a private university is reportedly disadvantaged when competing for national funding, but there are many international possibilities which perhaps are not adequately investigated • a religious dimension to most entrepreneurial activities is mentioned, but what this entails is unspecified; the religious connection may be a positive point, or it may be a liability in comparison to secular organizations • bureaucracy is a major impediment; more unit-level independence would reportedly help, with professional management 	<p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • extensive outreach links with regional businesses through UCH work experience placements • emphasis on quality and individual attention might set a good foundation for innovation and entrepreneurialism
<p>University of Alicante - UAL Universidad de Alicante</p>	Spain
<p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • the civil servant status is an obstacle to entrepreneurship and flexibility • seed money for new projects is difficult to garner • the work placement system could reportedly benefit from more freedom • the "contracted doctor" system is a new form of permanent job status, but it is still small scale; it is unclear how it differs from civil servant status - it might be an attractive innovation, but it might be the start of a new academic underclass; does it threaten existing staff in any way? 	<p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • the Employment Initiatives Office (GIPE) builds liaison with area businesses, and through placement and assistance builds both goodwill and communications channels to the surrounding region • liaison is also developed through shared research facilities (via SICAI) • innovative projects with Asia open a novel window that may provide new opportunities for the university • numerous satellite campuses can spread the university presence if

		managed successfully
Miguel Hernandez University	Universidad Miguel Hernández	Spain
<i>explicitly-cited inhibiting factors</i>		<i>explicitly-cited nurturing factors</i>
<ul style="list-style-type: none"> • more imagination is needed to reward entrepreneurs with more than simply financial benefits • too much paperwork and administrative rigidity 		<ul style="list-style-type: none"> • PESCA (Quality Strategic Plan) thus far very positively implemented • the University Career Service seems very proactive and successful • Technology Working Breakfast initiative brings together businesspeople and researchers • PAREDIT overcomes some of the inefficiencies of properly deploying bureaucratic resources
University of Valencia - UV	Universitat de València	Spain
<i>explicitly-cited inhibiting factors</i>		<i>explicitly-cited nurturing factors</i>
<ul style="list-style-type: none"> • inertia and 'generation gap' stifle entrepreneurship • problems defining what is proper for university activities; seeking to avoid 'unfair competition' with the private sector • societal intolerance of failure (includes unspecified 'punishment') leads to risk averse behavior • Incompatibilities Law limits lecturers and other civil servants from certain types of participation, rewards, etc., and also limits time which can be spent on external activities • poor liaison between the university and surrounding society; there is basic disconnect between the classroom and the outside practical world • civil servant status and job security might promote abuse of such things as sick leave (which is mentioned as a problem) 		<ul style="list-style-type: none"> • OTRI (Office for the Transfer of Research Results) working to develop entrepreneurial links & networks
Academy of Hotel Management & Catering Industry - WSHIG	Wyższa Szkoła Hotelarstwa i Gastronomii w Poznaniu	Poland
<i>explicitly-cited inhibiting factors</i>		<i>explicitly-cited nurturing factors</i>
<ul style="list-style-type: none"> • differential between the full and part-time programs (for example, with the lower language requirement in the latter) likely to be harmful to institutional reputation (dilutes the brand) • owner & founder has attracted substantial loyalty (or at least long service) among faculty & staff, but it is unclear if he is effective in drawing-out ideas and innovation from them in the present top-down (rather than collegial) arrangement • a large proportion of professors are elderly, themselves educated during the period of Communist centrally planning; how well can they train students in hospitality and service orientation? • new programs offered at public institutions (AMU, PUE, etc.) compete successfully for students with WSHIG but have a fundamentally different, subsidized cost base • national limitations on granting higher degrees, and long years between application and permission, puts private institutions at a considerable disadvantage compared with public institutions; an associated uncertainty also makes attracting top faculty difficult 		<ul style="list-style-type: none"> • effort to instill combination of theoretical knowledge and practical skills links strongly to 'employability' - attractive to students and a growing network of surrounding businesses • foreign & domestic training, and on-site Beverly Hills Movie Restaurant build a special brand & <i>esprit de corps</i> • affiliated high school is a good link for continuity and student intake
Poznan University of Economics - PUE	Akademia Ekonomiczna w Poznaniu	Poland
<i>explicitly-cited inhibiting factors</i>		<i>explicitly-cited nurturing factors</i>
<ul style="list-style-type: none"> • national government regulates which institutions can grant the MA and postgraduate degrees; long years between application and permission puts private institutions at a considerable disadvantage compared with public institutions; this uncertainty also makes attracting top faculty difficult (but once granted the ability to offer such degrees, such institutions enjoy a barrier to entry against new competitors) • reliance on teaching services for income is very high; is there a chance to 		<ul style="list-style-type: none"> • well-recognized institutional reputation; this is helpful in recruitment; plans to double exchange student numbers within four years, and better internationalize the faculty (bringing in new ideas and strategies) • successful MBA program draws in

<p>generate an endowment to stabilize financing, and allow more risk-taking?</p> <ul style="list-style-type: none"> • some innovation with the title of "full professor" but still the career system is rigid; central government now limits holding on multiple jobs by professors - perhaps good, but why can't market define what is best? • generally, the state is still greatly involved in regulating the higher education industry, imposing numerous rigidities not seen elsewhere; top academics with the option to migrate outside the country at substantially better compensation & work terms may be tempted to do so 	<p>excellent revenues; builds a strong network likely to be of use in future</p> <ul style="list-style-type: none"> • Consulting office of the PUE Foundation links the university with surrounding industry • tax advantages for knowledge professionals is a subsidy that may help keep clever people in the universities, even though academic salaries are low
<p>Adam Mickiewicz University - AMU Uniwersytet im. Adama Mickiewicza w Poznaniu</p> <p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • ungainly collegial decision-making requires much expenditure of time and energy in all levels of the organization • national subsidies for research take little note of social sciences & humanities • national standards for salaries do not allow much institutional flexibility or special incentives for excellence • part time studies receive the same diploma - are the students required to do the same work? The cachet of state-funded full-time students contrasts with privately-funded part time students; the latter are less able at admission, but what about upon graduation? Is there a need for better quality control? • evening & weekend teaching is a good source of additional income for faculty, but is also tough; the need to emphasize teaching income has taken time and energy away from research • external activities by universities (for example publishing) are being severely curtailed; VAT imposed on R&D (draws resources elsewhere) • proportion of fee-paying students is fixed by central government, which sets a ceiling both on revenues and potential outreach through that route • no central campuses; offices and facilities are scattered throughout the city of Poznan, limiting potentially useful interaction • a fear of institutional entrepreneurialism is noted: faculty worries that new rules may require more or different work, which may cut into their own overall incomes 	<p style="text-align: right;">Poland</p> <p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • strong collegial tradition in contrast to managerialism • perhaps Polish academics have needed to be entrepreneurial to survive: pressure makes diamonds! • AMU Foundation provides offices and logistic support for new ventures • satellite divisions likely to help secure a strong regional presence and commitment into the future
<p>University of Plymouth</p> <p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> • surrounding geographical area is economically depressed, with relatively high unemployment, low skills base and low productivity (this might be seen as opportunity by visionary university leadership) • as-yet immature liaison between the universities and the South West Regional Development Agency; the interactive mechanisms and agenda for excellent regional cooperation has yet to be achieved; various & diverse parallel initiatives among multiple actors is likely wasteful & frustrating • branding of the region and its strengths seems to be confused; links to the sea and to tourism are only semi-developed • the university is relatively weak in its research agenda and output; though having four Centres of Excellence in Teaching and Learning, and coping with / driving change relatively well. When compared with more prestigious universities, the Univ. of Plymouth is not nationally considered cutting-edge; this may depress the quality of recruitment (students, staff & faculty) • doubt was expressed in the case study on Plymouth's entrepreneurialism as the level of risk in their multiple projects was low; if risk-averse from meekness or lack of vision, then certainly an impediment - but if low-risk paths bring ample or substantial reward, risk-taking may be contraindicated • is the university hampered by conflicting institutional visions of elite vs. regional vocational development? what is the peer group of this university, and what is its reputation there? • large scale and unwieldy structure impede effective management; communications among units and throughout the university is ragged 	<p style="text-align: right;">United Kingdom</p> <p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> • the University of Plymouth Colleges: an innovative local network for widening participation that serves to funnel students, information and ideas to the university from throughout the region; also Channel Island Univ. Consortium • Peninsula Medical School: forces contact and collaboration with Univ. of Exeter (otherwise a rival) • Award-winning Widening Access to Education initiative draws attention to innovative activities • successful with various gateway initiatives for training and partnership • Enterprise in Higher Education programmes are well-subscribed

<ul style="list-style-type: none"> time strictures and general resistance to change impede progress 	
<p>University of Buckingham</p> <p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> scale is likely too small; difficulties with recruitment abroad as multiple larger British university rivals have magnified their outreach; substantial shrinkage in enrollment gives the impression of a university in trouble - which further impedes recruitment of top students or faculty Bologna standards may negatively impact flagship two-year bachelor (honours) degree; extended 'stretch' year (to three years) possibility may only dilute the impact of prior marketing and sow confusion unmentioned was the potential for generating endowment through loyal & grateful alumni: perhaps not yet adequately developed (much could be done if given £50 million additional endowment); the unique strengths and human network of the university are as yet inadequately tapped 	<p>United Kingdom</p> <p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> Buckingham's personal small-group teaching might be a good environment for nurturing students, exchange of ideas and development of novelty (if compared to many typical large lecture formats) both success (Buckingham Angels) and failure (History of Art Dept.) are likely to have been valuable lessons for management
<p>University of Nottingham</p> <p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> grand action to begin operations in Malaysia and China, along with new domestic initiatives, might give the impression that entrepreneurialism and innovation mainly stem from the centre; rather, ideas and initiative from the disparate units, and from individuals, are also essential base salaries are classed as ungenerous, management of university staff is seen as notoriously difficult, and academic jobs fundamentally generate no economic equity; if doing cutting-edge businesslike activities, why not instead work in business, where the bureaucratic frustrations are probably less and the economic rewards are greater? ("we are akin perhaps to a firm of solicitors with 1400 partners" -- yet solicitors are paid much better!) new veterinary school ideally should have strong demand, but rural location of studies is quoted as a detriment; perhaps distance from London and more-exciting cosmopolitanism is an inhibitor generally to recruitment and retention of students and faculty. while in many senses the university is highly entrepreneurial, there is mention still of resentment and rigidity in regard to entrepreneurial projects; time limitations are a bottleneck to effectively driving change; the Research Assessment Exercise is quoted as a primary aim, when in fact it is merely a surrogate measurement of excellence there seems to be recognition that some projects will not work, but are they given long enough to blossom? For example, the e-university collapse, and the Thailand campus effort both have been largely abandoned, but were they given sufficient chance? The vice chancellor "made it clear that a major entrepreneurial venture of this kind (Malaysia campus) is not achieved without a considerable amount of hard work, sustained commitment, and willingness to bear some risk." But is the time frame clear? Is it a strategy that first mover advantages must be realized within three to five years, for example? 	<p>United Kingdom</p> <p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> strong, cutting-edge operations with many market-oriented activities risk / reward recognized via £3m pump-priming fund setup for research commercialization; professional PR (Public Relations) hiring active steps to consolidate departments and minimise interdepartmental competition for students (68 depts --> 31 schools); interdisciplinary focus allows quicker initiative and dynamic new 'stories' on promising R&D paths explicitly recognize that not all innovation works out, but remain upbeat: "we need to position ourselves so that once every five to ten years we can make £15 million (from IP exploitation)" strong recognition of marketization and a changing, more competitive environment in UK academia broke new ground with the appointment of a Chinese professor (nuclear physicist Yang Fujia) as University Chancellor, no doubt bringing much attention in China to the university
<p>London School of Hygiene and Tropical Medicine</p> <p><i>explicitly-cited inhibiting factors</i></p> <ul style="list-style-type: none"> compensated outreach has been deemphasized; consultancy is shrinking; this may limit wider outside interaction and cross-fertilization "For most academics here, entrepreneurialism is seen as 'hard capitalism' and they tend to shy away from that..."; this statement displays a limited and rather grim view of entrepreneurialism (rather than, for example, innovation driving change in a desired direction) "risk" has a different meaning for medical fieldworkers developing countermeasures to disease, including risk of death central London location has very limited space; land and facilities elsewhere have been sold; no information on the university's arguments considering the need to be sited in the present location the Research Assessment Exercise is considered superficial point-scoring (with focus on high-impact journals rather than, for example, on saving lives); the case implies a strong anti-authoritarian undercurrent - which could 	<p>United Kingdom</p> <p><i>explicitly-cited nurturing factors</i></p> <ul style="list-style-type: none"> clearly defined & focused activist mission "to contribute to the improvement of health worldwide..." with focus on behaviour and vectors rather than basic science; almost a missionary zeal to "help the health in the worldwide community without financial gain" (that has attracted good quality academics distrustful of marketization & "hard capitalism") wide outreach (distance education includes students from 120 countries) intellectual property protection has been instituted, albeit almost

be (but does not seem to be) harnessed for entrepreneurial operations and redesigned operations

defensively (much is licensed in the Third World at low cost)

- Press Officer hiring shows a recognition of need to better interact with surrounding institutions & public

Which inhibitors are most important?

"Which inhibitors presently are the biggest barriers to university entrepreneurialism in Europe?"

This question was discussed and informally surveyed in March 2006 among our multinational EUEREK project group. Seventeen EUEREK researchers were each asked the above question, with the request to rank what they believed were the top five inhibitors. The questionnaire provided a total of 64 options (see below), plus a write-in option. A total of 84 answers were received, with 39 of the 64 options gaining one or more votes. By-far the most chosen answer (9 votes in total) was that:

- Entrepreneurialism is not part of an academic's career assessment.

Only one other inhibitor received four votes as a major inhibitor to entrepreneurialism:

- Civil servant status within the university.

Other inhibitors that received three or more votes were:

- Personnel rigidities: seniority system & tenure & unions
- Lack of financial autonomy: limitations & steering are imposed by the State
- Entrepreneurialism not included within core goals
- Few incentives for institution building & reform
- Awkward governance precludes entrepreneurialism: need permission
- There is no motivator, especially if work is now comfortable, with no demands for change
- Organizational synergies, catalysts and coalition building are still poorly-developed
- Conservatism
- Traditional non-competitive mentality
- University people are unwilling to share prerogatives with businesspeople or other outsiders; selfishness precludes effective coalitions
- The university & its people have a skills deficit in entrepreneurialism, economics & management

Overall, the impediment options were generated from our case study interviews, derived from literature on higher education or organizational change, or were developed from inductive reasoning. The below potential impediments to university entrepreneurialism were included:

<i>legal</i>	The cooperation & ongoing permission of key people is expensive and troublesome
<i>legal</i>	Civil servant status within the university
<i>legal</i>	Entrepreneurialism not included within core goals
<i>legal</i>	Awkward governance precludes entrepreneurialism: need permission
<i>legal</i>	Personnel rigidities: seniority system & tenure & unions
<i>legal</i>	Academic freedom means people are pulling in different directions
<i>legal</i>	Lack of financial autonomy: limitations & steering are imposed by the State
<i>legal</i>	Tradition of micromanagement from above
<i>legal</i>	Tax rebate for academics & creative professionals (threatened?)
<i>legal</i>	High cost of salary overheads
<i>legal</i>	Existing program rigidity
<i>legal</i>	National barriers to more international participation
<i>legal</i>	Legal barriers do not allow certain projects
<i>legal</i>	In contrast to North American universities, there are no fundraising expectations; no

	systems exist for contact with potential donors
<i>legal</i>	The university has a national or State character rather than pan-European or global
<i>legal</i>	Expansion brings difficulty because new staff cannot easily be severed
<i>measurement</i>	Lack of measurable parameters and metrics
<i>measurement</i>	Entrepreneurialism is a moving target
<i>measurement</i>	Organizational synergies, catalysts and coalition building are still poorly-developed
<i>measurement</i>	Few incentives for institution building & reform
<i>measurement</i>	Entrepreneurialism is not part of an academic's career assessment
<i>measurement</i>	Unclear incentive system, especially with teaching
<i>measurement</i>	Focus on technological research, but not enough on expanding other forms of knowledge
<i>measurement</i>	Career ladder rigidity (Habilitation)
<i>measurement</i>	Research Assessment Exercise (RAE) stifles risk; rewards publishing in high-impact journals
<i>mental</i>	Too little contact and interaction with the wider world; "ivory tower" syndrome
<i>mental</i>	Bureaucratic sclerosis: over-reliance on Standard Operating Procedures
<i>mental</i>	Groupthink
<i>mental</i>	Conservatism
<i>mental</i>	Are we trying to build intellectual capacity or to build intellectuals?
<i>mental</i>	There is fear of being debased by mercantilism
<i>mental</i>	Society does not expect universities to be entrepreneurial
<i>mental</i>	There is no motivator, especially if work is now comfortable, with no demands for change
<i>mental</i>	Many people still believe the State will care for all: Don't worry, be happy!
<i>mental</i>	Lack of practical emphasis
<i>mental</i>	Traditional non-competitive mentality
<i>mental</i>	Reputation: staid, 'red' etc.
<i>mental</i>	Some people celebrate failure; eager to crow that scholars are not so smart
<i>mental</i>	Youth & imagination may be more likely to generate new & entrepreneurial ideas; they may be at the university, but are disregarded
<i>mental</i>	Universities and society require counterproductive shows of deference
<i>mental</i>	Scholars often work with incrementalism and measuring reliability, which contrasts with entrepreneurial uncertainty in the face of multiple variables
<i>mental</i>	University people are unwilling to share prerogatives with businesspeople or other outsiders; selfishness precludes effective coalitions
<i>resources</i>	Need for a system of "training the trainers"
<i>resources</i>	Lack of good models: no best practice
<i>resources</i>	Universities are too loosely-coupled: difficult to generate enthusiasms
<i>resources</i>	Students may have a voice, but their presence is short term and the learning curve high, so they are ineffectual; initiatives & reform cannot be ushered through to completion by students
<i>resources</i>	Entrepreneurialism may detract from a scholar's main mission
<i>resources</i>	The university & its people have a skills deficit in entrepreneurialism, economics & management
<i>resources</i>	Lack of personal incentives, especially when compared to making an independent business
<i>resources</i>	Entrepreneurialism may mean more work without more pay
<i>resources</i>	Limited English abilities are a barrier to international outreach & collaboration
<i>resources</i>	Administrative staff is spread unevenly
<i>resources</i>	Over-reliance on tenuous or variable income streams
<i>resources</i>	Siting limitations (physical plant insufficiencies)
<i>resources</i>	Lack of money
<i>resources</i>	Too many people expect a benefit: corruption
<i>resources</i>	Capable people already have an overflow of work, and are pressed to the limit
<i>resources</i>	Time limitations: too much to do already
<i>resources</i>	Opportunities may be lost in the long time required for consensus-building
<i>resources</i>	We cannot even do well what we should do: where is our inspirational teaching?

Many of these potential impediments cited can be classed as minor, being more logistic limitations rather than unbridgeable limiting factors that preclude entrepreneurialism.

No doubt additional inhibitors exist, as well as alternative ways of grouping them. For example, groupings might focus on the level from which the inhibitor is generated, or where it impinges. Or subsets might be resource oriented, perhaps grouping needs or requirements that are unfulfilled.

Classifying inhibitors and impediments to entrepreneurialism

Where does this inhibitor intrude or impinge?
(or, where is the problem generated?)

Universal
National
University-level
Faculty or departmental
Individual

Needs or requirements:

permissions
resources
ideas
etc.

What kind of limitation?

legal
measurement
mental
resource

The varied possibilities for grouping these inhibitors are perhaps most useful when developing stimulant measures directed toward practical policy or for organizational redesign. The relevance of different approaches depends on the nature and specifics of local concerns in each environment.

Further discussion & musings (tentative; suggestions & debate encouraged !)

Universities around the world are being buffeted by change. Some of the challenges are financial, others are technical, others deal with vision or positioning. The immediacy of challenge is felt differently in different circles. Some universities, departments and individuals can continue operating without much sense of fiscal pressure, perhaps sheltered from market rigors thanks to stable and secure financing. But many more have had their budgets cut, and must somehow respond or creatively adapt.

It may be that the possible range of flexibility is so highly constrained that little or nothing is done.

The Commission of the European Communities (2005) in *Mobilising the Brainpower of Europe* cited four major bottlenecks to European higher education: uniformity, insularity, over-regulation, and under-funding. These are also discussed here, and many of those interviewed in the case studies clearly agree that these are trying problems. The key challenges the Commission sees are achieving world-class quality, improving governance, and increasing and diversifying funding (p. 3). Other researchers also agree (van der Ploeg 2006) that in comparison with top universities in the USA, European universities now face substantive challenges such as reforming their funding

models and generating more autonomy. Perhaps some of this can be achieved through building more independent and stable endowments. The Lisbon Agenda (*to make the EU by 2010 "the most competitive & dynamic knowledge-based economy in the world, capable of sustainable economic growth with more & better jobs and greater social cohesion."*) may have been more of a stimulus to higher education systems in the Far East and North America: where it was seen as a call to challenge. Conversely, many key people in Europe still know little about such efforts, and the mobilization of energies and resources has been rather poor as of yet. Fragmentation continues in Europe, in spite of Bologna, due in part to subsidiarity and national differences in recognizing that problems exist.

Micro-level results?

In the process of their long training, some academics simply add to their skills set. Many others, however, learn to see the world differently. Some effectively lose their abilities to argue with passion, and without footnotes.

What actually is the process of entrepreneurialism? Can it be distilled to 1) imagination and then 2) advocacy / promotion? If so, and the process needs key personnel as catalysts, we may be looking in wholly the wrong place. Do we expect the College of Cardinals to best demonstrate how to party? Academics and administrators should not be relied upon for solutions to these problems. Why not invite a mix of other people into the universities to help tackle such challenges?

Risk and reward

Some people migrate away from university work and academia due to relatively poor compensation levels. As universities become more business-like in terms of operations, what some consider attractive elements of university ambience may diminish, such as collegiality, job security and a less frenzied pace. This would seem to mitigate against choosing a university career. However Bonner (2006 p. 62) notes cases where industrial researchers migrate to academia in search of more control over choice of research area. Universities can conduct research in domains that offer insufficient prospects for direct commercial return to industry, but where great impact is nonetheless possible (one example is work with Third World health problems).

Should we expect that academics or university administrators with an entrepreneurial bent can reasonably evaluate opportunity? University people typically are not trained or well-equipped to handle risk. What in fact are university-based entrepreneurs risking? In extreme cases, they risk public funds, public trust, and the potential devaluation of their university's degrees. Their jobs, however, might be secure. These are the type of people who might accept least-cost construction bids with minimal due diligence from shady operators, and are then surprised when their project markedly deteriorates in the first five years. If such people worked in the private sector, they likely would be fired; in centuries past, they might have been shot or lynched.

Competitiveness

University personnel often claim that their hands are tied unreasonably; they've no lack of reasons why something can't be done. But they complain in the midst of substantial subsidies, while constructing barriers-to-entry against those they've determined are interloping outsiders.

Some of the conditions imposed on university researchers under the rubric of "market-driven universities" are extremely unreasonable. For example, grant applications require disclosure of key research ideas with detailed research plans. This grants process is highly competitive and often involves substantial funds, but the researcher is required to divulge both prior art and creative step without guarantees of confidentiality. The researcher has no way to protect a research idea - many

easily can be purloined and copied by others. Ideas are often valuable; they are carefully protected as key assets by industry, but are bandied about cavalierly in the academic world.

Entrepreneurial businesses and private sector organizations typically have a clear organizational hierarchy that defines responsibility and provides individual incentive for those driving change or championing a new venture. Universities can easily fail to adequately assign 'ownership' (and sufficient incentives) for a new venture, especially if it is outside of normal academic operations. The likelihood of success may diminish, perhaps greatly, if responsibility and incentives are diffused over many people. A corollary to this is the flow of decisionmaking. Committee-led operations and group decisionmaking are often cumbersome procedures that require much time. Groups would seem to have the potential to generate more ideas and objections than a single individual, but incentives and motivation are needed if organized sclerosis is to be overcome. These management variations, and how they relate to vision and integrity, are likely to affect project timeline, costs and success. Managing and motivating university faculty is a considerable challenge, and university institution-building is a substantial and important job. Yet there are generally no stock options available for university leaders, nor do they enjoy the deluxe benefits available to top corporate administrators in the private sector. Ultimately, many of the best managers and administrators consider migration; some leave for the corporate sector.

Managers at traditional universities need to work backward with reform - there are many rigidities that preclude or inhibit change. For example, many full-time faculty jobs cannot be scaled-back or eliminated even when course enrollments have declined. Faculty jobs often are "protected," such rigidities can promote poor service-mindedness while the university must maintain programs or courses for which there is little or no demand.

Need for new revenue-collection models?

A partial disconnect from demand-driven service provision results in suboptimal effort. In some cases this is due to there being reluctance (or explicit rules) which forbid universities from providing certain services; in Spain, university outreach is being challenged as unfair competition by unsubsidized businesses. Another example from among our cases were the universities of Lapland, Plymouth and elsewhere claim that their region is almost exclusively small & medium size firms, with few potential paying customers for the university's services. But a major impediment is rigidity in the university's service model: potential customers are being asked to pay in advance, prior to receiving any benefit. An innovative approach might instead be where the university assists individuals or firms and is compensated with shares or equity. This allows looking at the market in a different way, and such local regions might actually offer exceptional opportunities and first-mover advantages for university-based services.

Entrepreneurship may be unrecognized except in comparison with elsewhere. Change, and tolerance for it, becomes commonplace; over time, novel programs may seem unremarkable.

We must bear in mind the key impediment pointed out by Mike Shattock: that entrepreneurial universities "are not necessarily comfortable institutions to work in..." (2003 p. 157). University people who prefer a comfortable workplace may try to thwart change. Yet the demands of environmental change, especially shrinkages in entitlement funding, might ultimately require entrepreneurial response(s). Many in universities now feel pressured to alter their workways. This is not unjust; and is likely quite useful ... **pressure makes diamonds !**

References & reading list

Bonner, John (2006) "Reaping rich rewards." in *New Scientist*, (30 September 2006), pp 62-63.

Chang, Yuan-Chieh, Ming-Huei Chen, Mingshu Hua & Phil Y. Yang (2006) "Managing academic innovation in Taiwan: towards a 'scientific-economic' framework." *Technological Forecasting and Social Change*, Vol 73:2, pp 199 -213.

Clampitt, Phillip G. & M. Lee Williams (2000) "Managing Organizational Uncertainty: Conceptualization and Measurement." Paper presented at the International Communication Association Convention, Acapulco, Mexico, June 2000. Online (8 Oct 2006) at:
<http://www.imetacomm.com/otherpubs/research/manorguncertain.pdf>

Clark, Burton R. (1998) *Creating Entrepreneurial Universities: Organizational Pathways of Transformation*. (IAU Press, Issues in Higher Education) Oxford: Pergamon Press for International Association of Universities.

Commission of the European Communities (2005) *Communication from the Commission - Mobilising the Brainpower of Europe: Enabling universities to make their full contribution to the Lisbon Strategy*. (20 April 2005; COM(2005) 152 final; SEC(2005) 518) Brussels: European Commission. Online (2 Nov 2006) at:
http://ec.europa.eu/education/policies/2010/doc/comuniv2005_en.pdf

Finlay, Ian (2005) "The Idea of the 'Entrepreneurial' University." in Hayward, Geoff (2005) *Expanding Higher Education: Issues And Challenges*. (SKOPE Monograph 8; Spring 2005), Oxford: Centre on Skills, Knowledge and Organisational Performance - SKOPE, pp 68-85. Online (8 Oct 2006) at:
<http://www.skope.ox.ac.uk/WorkingPapers/SKOPEMONO08.pdf>

Hofstede, Geert (1980) *Culture's Consequences: International Differences in Work-Related Values*. Beverly Hills, CA: Sage Publications.

Hofstede, Geert (1986) "Cultural differences in teaching and learning." *International Journal of Intercultural Relations*, Vol 10, pp 301-320.

Laukkanen, Mauri (2003) "Exploring academic entrepreneurship: drivers and tensions of university-based business." *Journal of Small Business and Enterprise Development*, (Dec 2003) Vol 10:4, pp 372-382.

Lukes, Steven (1974) *Power: A Radical View*. (Studies in Sociology) London: Macmillan Education Ltd.

Lukes, Steven (ed.) (1986) *Power*. Oxford: Basil Blackwell Ltd.

O'Shea, Rory P., Thomas J. Allen, Arnaud Chevalier & Frank Roche (2005) "Entrepreneurial orientation, technology transfer and spinoff performance of US universities." *Research Policy*, Vol 34:7, pp 994 -1009.

Shattock, Michael (2003) *Managing Successful Universities*. Buckingham: SRHE and Open University Press.

Subotzky, George (1999) "Alternatives to the Entrepreneurial University: new modes of knowledge production in community service programs." *Higher Education*, Vol 38:4, pp 401-440.

Sweetman, Kate (2001) "Embracing uncertainty." *MIT Sloan Management Review*. (Fall 2001), Vol 43:1, pp 8-9.

van der Ploeg, Rick (2006) "European Universities Must Get Their Act Together." *The Transformation of Public Universities* (SSRC project), (12 Sept 2006), NY: Social Science Research Council (SSRC). Online (8 Oct 2006) at:
http://publicuniversities.ssrc.org/commentaries/european_universities/

Williams, M. Lee & Phillip G. Clampitt (2000) "How Employees and Organizations Manage Uncertainty: Norms, Implications, and Future Research." Paper presented at the International Communication Association Convention (Organizational Communication Division), San Diego, CA, May 2003. Online (8 Oct 2006) at:
http://www.imetacomm.com/otherpubs/pdf_doc_downloads/ica_2003.pdf

Yokoyama, Keiko (2006) "Entrepreneurialism in Japanese and UK universities: governance, management, leadership, and funding." *Higher Education*. (Oct 2006) Vol 52:3, pp 523-555.
