


2014-04-24

Breaking Down Barriers to University-Business Cooperation in the University: Change through Incentivisation

Lyndsey El Amoud
University College Cork

Séamus Ó'Tuama
University College Cork

Follow this and additional works at: <https://arrow.tudublin.ie/rapcon>

 Part of the [Business Commons](#), [Educational Administration and Supervision Commons](#), and the [Educational Assessment, Evaluation, and Research Commons](#)

Recommended Citation

El Amoud, L. & Ó'Tuama, S. (2014) Breaking Down Barriers to University-Business Cooperation in the University: Change through Incentivisation, *TUIN Annual Conference, 'Challenges and Solutions for Fostering Entrepreneurial Universities and Collaborative Innovation'*, Barcelona, 24 April .

This Conference Paper is brought to you for free and open access by the REAP: National Network for Enterprise Engagement at ARROW@TU Dublin. It has been accepted for inclusion in Conference Papers by an authorized administrator of ARROW@TU Dublin. For more information, please contact arrow.admin@tudublin.ie, aisling.coyne@tudublin.ie.



This work is licensed under a [Creative Commons Attribution-Noncommercial-Share Alike 4.0 License](#)

Breaking Down Barriers to University-Business Cooperation in the University: Change through Incentivisation

Ms. Lyndsey El Amoud, Dr. Séamus Ó'Tuama

Adult Continuing Education (ACE), University College Cork¹

Abstract

Irish universities are currently engaged in a process of shifting their reliance on state subvention as their primary source of income to one that includes developing new streams of non-exchequer funding. This scenario emerges from a long-term trend of reduced state subvention which was dramatically accelerated by the virtual collapse of the Irish economy, which required an external rescue package brokered with the European Commission, the European Central Bank and the International Monetary Fund (which became known as the Troika) from November 2010. While Ireland has officially exited this arrangement, its public finance will remain severely constrained for an extended period. In this paper we examine the potential of University-Business Cooperation (UBC) in lifelong learning, which has been identified as one of the key university responses to meet the projected shortfall arising from reduced state subvention. We suggest that this area has very high potential for universities, but it has to be underpinned by internal mechanisms to incentivise key university staff to engage proactively in order to meet the targets set by individual Higher Education Institutions (HEIs). Implementing an incentivisation policy will require many of the HEIs to address their own internal culture and modus operandi for rewarding and promoting their staff.

Keywords

Incentivisation, Financial Sustainability, Non-Exchequer Income, Barriers to UBC, Lifelong Learning (LLL)

1 Introduction

In 2011, a European University Association report claimed that 'financial sustainability is one of the key challenges for Europe's universities' (Estermann and Ben-netot Pruvot, 2011:8). As a country which has been embroiled in a financial crisis over the last several years, Ireland has had to take particular note of this challenge, especially when one considers the growth expected in the Irish Higher Education system over the next decade or so. Indeed, Ireland's Department of Education and Skills (2011:110) projects that 'the demand for places in higher education will rise to 68,000 in 2027, from a 2009 base of 42,500.' This increased demand will put further pressure on Ireland's higher education system which is currently heavily dependent on exchequer funding. Recent OECD data shows that in Ireland 85.1 per cent of funding for higher education comes from public sources, compared with the EU-19 average of 81.1 per

¹ Virtual paper presented at the ¹UIIN Annual Conference, 'Challenges and Solutions for Fostering Entrepreneurial Universities and Collaborative Innovation', Barcelona, 24 April 2014.

cent and the OECD average of 72.6 per cent Department of Education and Skills (2011:111). It is apparent that this model is unsustainable and so Irish higher education institutions (HEIs) must develop alternative means of generating non-exchequer income and they must do so quickly in order to keep up with the ever-growing demands placed on the higher education system. One such method of helping HEIs to cope with decreasing public funds and to generate non-exchequer income is to increase University-Business Cooperation (UBC) which is ‘increasingly being named as a key activity to address increasing global competition being faced by governments, businesses, higher education institutions, and students’ (Davey, 2013:6). Eight key areas in which HEIs and business cooperate have been identified (Davey et al, 2011: 10):

- 1) Collaboration in research and development (R&D)
- 2) Mobility of academics
- 3) Mobility of students
- 4) Commercialisation of R&D results
- 5) Curriculum development and delivery
- 6) Lifelong Learning (LLL)
- 7) Entrepreneurship
- 8) Governance

The focus of this paper is on University-Business Cooperation (UBC) in lifelong learning, and particularly, in continuing professional development (CPD).

This paper will address the funding challenges in the HEI sector by looking at the development of a strong mission to deliver Continuing Professional Development (CPD), which can exploit the reputation cache, the disciplinary diversity and the availability of expertise at a level that cannot be matched by smaller institutions and/or private providers. HEIs all realise the opportunities that potentially exist in this sector if they can engage fully with business and professional bodies to effectively respond to training needs across a range of sectors by designing and delivering a suite of programmes accredited by the strongest education brands in Ireland. However, there are cultural, structural, financial and career-oriented barriers within the university system which inhibit the potential growth of this sector. This paper focuses on alleviating some of the key barriers by addressing staff incentivisation. Staff incentivisation can have many elements from transparent links to promotion, additional personal income, teaching and research supports, study/research leave, reconfiguration of work load to less directly tangible incentives like enhanced supports at school/discipline level and formal and informal recognition within the university. Without instituting appropriate incentivisation models for UBC and CPD, then universities may find it difficult to meet their own targets. Conversely, an incentivisation model that is sufficiently broad and flexible to meet the myriad needs of key staff, that is also transparent and supported by a formal agreement for implementation, can effect the necessary cultural shift and commitment to allow UBC to flourish.

The paper begins with a contextual overview of both the lifelong learning agenda within Ireland and the CPD market potential. It will then examine key cultural, struc-

tural, financial and career-oriented barriers within traditional universities which could potentially thwart the success of this sector. Taking each of these barriers in turn, the paper will then analyse methods of creating an environment that facilitates the growth of CPD business by examining how academic participation in UBC and CPD can be incentivised in such a way as to address the barriers identified above, while simultaneously benefiting the institution, academic units and individual academics. These demands to be more commercially savvy are echoed in other similar contexts in European HEIs.

2 Structure of the full paper

2.1 Contextual Overview

Ireland's National Strategy for Higher Education to 2030 (Department of Education and Skills, 2011:110) recognises that:

Irish higher education is now at a point of transition: the number of people entering the system is growing and the profile of students is changing. Unemployment and changing patterns of work bring new urgency and a much greater emphasis on lifelong learning and upskilling.

A further report on part-time and flexible higher education in Ireland, published by Ireland's Higher Education Authority (2012: 4) argued that:

Now, more than at any point in our recent history, there is a compelling economic and social case for new initiatives to raise levels of education and skills among adults in the wider population in Ireland. National and international evidence consistently shows the link between levels of educational attainment among adults and opportunities for employment, as well the likely risk of unemployment. 14.7% of the 2.09 million people in the labour force in Ireland (or 309,000 individuals) are currently unemployed (CSO, June 2012, p.4). Those with lower levels of qualifications are most at risk: 27% of people educated to lower secondary level or below, compared to 7% of higher education graduates (CSO, June 2012, table S9a).

However, it has been noted that, to date, Ireland has had only limited success in achieving participation in lifelong learning compared with other countries. Indeed, the National Strategy for Higher Education to 2030 highlights that only 7 per cent of adults (aged 25-64) in Ireland were participating in education and training in 2008, compared to an EU-15 average of 11 per cent, a UK average of 20 per cent, and quite far behind the European leader in this field, Sweden, at 32 per cent (Department of Education and Skills, 2011: 46). Thus, while it is blatantly apparent that there is an urgent need for adults to upskill and reskill in order to participate in today's fledgling Irish economy, the performance of the lifelong learning sector within Ireland's higher education system is still remarkably below par. The National Strategy for Higher Education to 2030 is, however, attempting to redress this situation. One of the key recommendations from the strategy report is that 'engagement with the wider community must become more firmly

embedded in the mission of higher education institutions’ and they must ‘respond positively to the continuing professional development needs of the wider community to develop and deliver appropriate modules and programmes in a flexible and responsive way’ (Department of Education and Skills, 2011: 21).

Developing commercially viable CPD programmes provides a response to this key recommendation. The mission for CPD programme delivery is twofold. Firstly, it aims to provide a source of non-exchequer income for the university to improve its financial sustainability in the new funding paradigm; and secondly, it hopes to improve the provision of lifelong learning and continuing professional development opportunities for adults seeking to upskill or reskill in order to better position themselves to engage at higher levels and or in new areas as the Irish economy begins to emerge from recession. Irish HEIs have had mixed engagement in this sector, some are high performers and some obvious lacunas, but there is potential for growth in virtually every institution. The challenge for the universities in particular, within the overall HEI landscape, is to reach their potential and be more responsive to market trends. Universities have strong competitive advantages over other providers in this field, as their brands are prestigious, being built on high levels of national and international reputation and in many cases long histories of achievement in a range of disciplines. In addition to this, graduates of Irish universities predominate among elite decision-makers in the country. The benefits for universities of establishing a stronger presence in the CPD market are therefore numerous:

- CPD has the potential to develop into a significant income stream for the university;
- Activity in the CPD sphere raises the profile of the university at regional, national and international levels;
- Engagement with industry and professional bodies on CPD would lead to further types of academic-industry engagement as relationships develop;
- CPD activity fulfils a key element of the university’s role as the leading educational provider in its region;
- CPD provides important clinical practice for academics with consequent positive impacts in other parts of the university’s teaching and learning mission.

Adult learners will also amass numerous benefits from engaging with the university in CPD activity, as they will:

- Achieve accredited awards which have both national and international recognition;
- Participate in programmes that enhance their career paths and improve their employability;
- Benefit from universities’ CPD missions which are informed by leading edge knowledge and skills;
- Benefit from a range of CPD offerings designed to meet the needs of individuals working in business and industry, the public sector and the third sector;
- Have access to flexible, part-time programmes especially designed for professionals, delivered in a range of locations and through technology led learning solutions;
- Benefit from the experience of long established best practice in lifelong learning;
- Benefit from CPD programmes drawing on the universities’ excellence in research and

- teaching;
- Engage with a highly experienced teaching team comprising both academics and practitioners;
- Contribute to a well-educated regional population which will be attractive for inward investment, which may in turn improve their own employment prospects.

A properly conceived CPD programme can also help a university to promote and strengthen its links with key external stakeholders; make a substantial contribution to its non-exchequer income and build mutually beneficial links with industry and professional bodies. However, despite the obvious advantages there are significant obstacles to fully functioning UBC in the CPD sector.

2.2 Key Barriers to UBC

Although universities have the capacity to deliver CPD programmes at a level which cannot be matched by other providers due to the strength of their brands on both a national and international level, there are, however, a number of cultural, structural, financial and career-oriented barriers within the university system which inhibit the growth of UBC in general. This section of the paper will take each of these barriers in turn and will discuss them in the particular context of the delivery of UBC in the area of CPD.

Cultural Barriers

Culturally, projects which are commercially oriented tend to meet with resistance, as they are often perceived to be in competition with the traditional values of a university which typically prioritise teaching and research. In addition, as Estermann and Bennetot Pruvot (2011:67) argue, ‘in most European countries, the cultural and long-lasting link to public funding has made it largely irrelevant for academics to be concerned about the financial sustainability of their institution.’ As a result, it has been frequently acknowledged that there is a large cultural shift that needs to take place within universities in order to fully embrace the opportunities offered by UBC. This often poses a challenging issue for universities who, on the one hand, can be wary of pursuing any activities that may detract their focus from their foremost missions of teaching and research, while on the other hand, they are struggling to become more financially stable as they are faced with decreasing public investment. As this funding decreases, universities must still try to deliver their traditional missions of teaching and research – a goal which, ironically, can become compromised by a lack of appropriate funding. Therefore, in some regard, one could propose that universities can actually become their own main obstacle in the pursuit of the financial sustainability which will allow them to carry out their core mission.

In Ireland the required cultural shift has begun to take place to some extent in that senior university management in many universities now recognise the urgent need for income diversification and non-exchequer income generation in order to stabilise universities as they face a significant fall in public funding: ‘a 32 per cent reduction in government funding since 2008’ (UCC, 2013:10). The universities have a shared set of

dilemmas. They need to continue to maintain and, if possible, strengthen their infrastructure and resource bases. They must maintain their international standing in order to attract sufficient home and international students to generate a sustainable level of fee income. However, while senior management advocate ambitious plans to deal with the changed context, the concomitant cultural shifts and ancillary policies necessary to drive change are not always in place. Likewise, awareness of the challenges and the necessary shifts in focus do not always trickle down to all levels in universities. Indeed, there still appears to be resistance in some quarters to participating in any activities outside of traditional teaching and research, regardless of the benefits that may be accrued from such activities. Unsurprisingly, this is not a challenge unique to Ireland. According to Estermann and Bennetot Pruvot (2011:67),

Sometimes, the strong identity and autonomy at faculty level has led managers and academics to have little interest in the institution as a whole, which makes it more difficult for the central leadership and administration to steer and implement a consistent income generation strategy across the university.

This is something which urgently needs to be addressed if UBC in CPD is to succeed, as this type of activity is dependent on active engagement by individual academics and academic units within a university.

Structural Barriers

Universities can also place structural barriers in the way of their own strategic goals. This challenge was recognised by the OECD's 2012 *Framework for Entrepreneurial Universities* which highlighted that 'universities can be constrained by their own organisational structures and approaches, making it more difficult to carry out the types of entrepreneurial activities which support their strategic objectives' (OECD 2012: 6). Estermann and Bennetot Pruvot (2011: 9/10) also identified this challenge in their research, stating that

Universities identify a number of hurdles in their regulatory framework that hinder income diversification. Inadequate governance structures and the inability to change them, financial restrictions as to the funding cycle, or inflexible staffing regulations impede universities from exploiting their potential and develop new funding streams.

Indeed, a recent study on the cooperation between HEIs and public and private organisations in Europe found that appropriate structures were essential to the success of UBC, as the study noted how 'the presence of some structures, such as the presence of a central contact person, a central agency or a programme or initiative specifically for UBC in entrepreneurship, lifelong learning and/or mobility of students and academics, result in a significantly higher development of those types of UBC' (Davey et al, 2011: 13).

Irish universities have a number of important structural barriers to try and overcome. Firstly, there are issues with staffing to contend with as a result of the current national public sector recruitment policy. To operate effectively, universities will re-

quire increased flexibility and responsiveness in the recruitment policy in line with growth in UBC business and resultant income generation. Secondly, the culture and systems in some Irish universities are not yet fully attuned to dealing with UBC in terms of tendering, contracts, agreements and new modes of delivery. A greater commercial sensitivity and a less risk-averse orientation by key university offices will be key to the institutions' performance in UBC. Other restrictive rules and regulations will also impact the contribution of Irish universities to the CPD market, not least the lack of required level of flexibility and responsiveness in the some institutions' academic programme approval processes which can often impede and slow down the design and delivery of new bespoke programmes to industry clients. Irish universities might also need to consider the establishment of a central coordinating unit for UBC activity, especially to facilitate ease of access to the university for external stakeholders who may not understand the complicated internal structures of Irish universities. Overall, more flexible and responsive structures will need to be put in place for Irish universities to really succeed in UBC.

Financial Barriers

Financial barriers may also thwart the growth of UBC. Indeed, Davey et al's (2011: 11) research concluded that 'the vast majority of academics of all levels of UBC experience agree that funding barriers and bureaucracy within the HEI are the most relevant barriers [to UBC].' A 2012 report from the *Science-to-Business Marketing Research* Centre (Davey et al, 2012: 4) also stated that 'funding has been listed by both academics and HEIs as the highest barrier to UBC, meaning that they perceive that UBC cannot occur if there are no funds available.' Thus, while it is evident that barriers exist around the initial funding of UBC, challenges can also arise when income is generated through UBC. This is particularly visible at the level of transparency in terms of rules around the division of earned income for all key stakeholders, i.e. the university, academic units and individual academics.

Although many Irish universities are presently struggling financially, it will still be important for these institutions to make some form of strategic investment in UBC activities, for example, through providing modest amounts of seed capital to facilitate the initial set-up phase of UBC projects. This seed capital could even be offered to academic units or individual academics on the condition that it will need to be repaid once the particular project becomes profitable and self-sustainable. Another important financial barrier that Irish universities may also have to contend with relates to issues around the transparent division of income generated through UBC activity. It is important that the split of this income is sufficiently satisfying for all key stakeholders (individual academics, academic units, central university administration, etc.) in order to both reward key parties for work undertaken and to encourage increased academic participation in the UBC mission going forward. Individual universities will have to strike a delicate balance for this income division within their own institutions.

Career-Oriented Barriers

In the case of career progression, a critical barrier exists whereby there can typically be poor links between income generation through UBC and promotion. A recent study concluded that ‘academics perceive the primary winners from UBC to be: students, then businesses, in third place HEIs, and as the lowest, their personal benefits. These results imply that academics need to receive greater personal benefits from their HEI in terms of chances of promotion in order to increase UBC activity’ (Davey, 2013: 9). A further study on the cooperation between HEIs and public and private organisations in Europe found that approximately 40 per cent of academics are not engaged in UBC at all, 20 per cent of academics undertake only a low extent of UBC, whilst only 40 per cent of academics undertake a medium or high extent (Davey et al, 2011: 10). This research also indicated how ‘academics do not recognise the benefits of UBC for themselves or their research and especially not in respect of their standing within the HEI or their chances of promotion. All of these factors highlight that academics perceive personal benefits of UBC to be low and this could be another reason for the low extent of UBC’ (Davey et al, 2011: 11). Thus, for UBC to be successful, it is essential that academics be given credit through the promotion process for the additional effort they invest in UBC. Should this not happen, academics will continue to prioritise teaching and research for which they will be given recognition during the promotion process.

This barrier represents a significant challenge for Irish universities, and is one that is likely to take some time to overcome. In the case of many of the universities, if academics are to be strategic with their own time resources, it is highly likely that this time would be better spent working on individual research to improve their own publication record than it would be driving UBC and engaging with the CPD mission within their university. UBC can only be successful if individual academic champions can dedicate time and energy to ensuring its success. Now more than ever, Irish universities should be maximising their human capital. This involves allowing academics to pursue a broad range of activities that can benefit the institution, including teaching, research and UBC activity.

2.3 Change Through Incentivisation

The barriers outlined in the previous pages all have the potential to have a detrimental impact on the CPD mission within Irish universities. However, they can also all be overcome through appropriate methods of incentivisation. Thus, a key goal for Irish universities going forward must be to create an environment that facilitates the growth of CPD business by incentivising academic engagement in such a way as to simultaneously benefit the institution, academic units and individual academics.

This paper recommends that this focused change within Irish universities be carried out as follows:

- Senior university officials must show renewed leadership in this area. They must reinforce among staff the university’s strategic priority of engaging with industry for mutual benefit and for the benefit of society and the economy at large, while ensuring that the core teaching and research mission of the university remains intact. Such strong leader-

ship should encourage the commitment of academic staff to the university’s UBC agenda, which would include a CPD mission.

- In order to increase cooperation within the academic ranks, the university has to both promote the UBC agenda within the institution and create a culture of engagement. This can be achieved through endeavouring to create a positive environment, communicate the advantages of engagement, demonstrate best practice in this field, use role models of cooperation, and celebrate UBC successes within the university (Davey et al, 2011).
- A university-wide system of UBC must also be developed whereby restrictive procedures can be made more flexible and responsive. A greater commercial sensitivity and a less risk-averse orientation by key university offices will be key to universities’ success in the CPD market. Senior management will also need to encourage cross-university activity whereby ‘all parts of the university have to work together, creating synergies and linkages across faculties, departments and other structures, breaking down traditional boundaries and silos’ (OECD, 2012: 6).
- The university needs to commit to ensuring institutional capacity development for UBC. Funding needs to be made available to provide some levels of finance for UBC activities. Appropriate resource allocation models must also be employed by universities to ensure that engagement with the CPD mission can provide a return for both academic units and the university as a whole.
- Finally, a clear structure of incentives to promote UBC engagement among both academic units and individual academics should be communicated to all academic staff in order to motivate their participation in the university’s UBC agenda. Academics must not only be aware of these incentives, but should also perceive them as attractive and desirable (Davey et al, 2011). As Martin (2000: 158) argues, ‘appropriate staffing and staff development are not enough to motivate university personnel to engage in university-industry relations. Financial or material incentives are necessary to signal to staff that the institution values their involvement with the private sector.’ Examples of such incentives are outlined in table 1 below and are categorised according to three broad categories: financial incentives, career incentives and material incentives.

Table 1: Types of Incentives to Encourage UBC Participation

Incentive Type	Individual Academic	Academic Unit
Financial Incentives	<ul style="list-style-type: none"> • Additional personal income delivered through, for example, : <ul style="list-style-type: none"> a) Agreed percentage or fixed rate of income generated from UBC activity. b) Performance bonuses for income generation through UBC. • Additional teaching and research supports such as the availability of travel grants and research funding as a reward for UBC participation. 	<ul style="list-style-type: none"> • Additional funding for academic units delivered through agreed percentage or fixed rate of income generated from UBC activity within the unit for the academic unit to spend as they wish. • Seed funding granted from central university funds for new UBC initiatives. • Increased resources made available through the resource allocation model for hiring staff in units where there is substantial engagement in UBC.
Career Incentives	<ul style="list-style-type: none"> • Transparent links to promotion for participation in UBC. • Opportunity for study/research 	N/A

	<ul style="list-style-type: none"> • leave. • Reconfiguration of workload to allow increased time for UBC activity. • Formal and informal recognition of contribution to UBC within the university. 	
Material Incentives	<ul style="list-style-type: none"> • Improved physical resources and supports at School/discipline level (office space, IT facilities, library resources, etc.). 	<ul style="list-style-type: none"> • Improved physical resources and supports at School/discipline level (office space, staff kitchen, meeting rooms, IT facilities, library resources, etc.).

Such positive incentivisation could then itself become a driver for increased participation in UBC and indeed, greater engagement with the CPD market. Davey et al's (2011: 11) research reinforces this idea as it concluded that 'the effect of perceived benefits from UBC was tested against the extent of UBC and the results show that the higher the perceived benefits, the higher the extent of UBC carried out; an outcome that was true for both academics and HEIs.' If Irish universities can dangle a truly attractive carrot in front of both academics and individual academic units, then there should be no limits to what they can achieve.

3 Conclusion

In a 2011 Communication from the European Commission, the Commission listed one of the key policy issues for Member States and higher education institutions as the:

'encouragement of partnership and cooperation with business as a core activity of higher education institutions, through reward structures, incentives for multidisciplinary and cross-organisational cooperation, and the reduction of regulatory and administrative barriers to partnerships between institutions and other public and private actors.'

If European universities are to achieve the ultimate goal of financial sustainability, then full engagement with UBC is essential. Irish universities, in particular, are likely to be faced with ever decreasing public investment over the coming years. For those institutions, UBC must be viewed as a viable option for income generation. The scope of activities available for HEIs to pursue under the UBC umbrella is vast, with lifelong learning and CPD (as was discussed in this paper) just being one possible avenue to follow.

However, while there are undoubtedly huge benefits to be reaped from UBC both in terms of income generation and other spin-off benefits, there are also numerous barriers to overcome to ensure the success of UBC initiatives. As outlined in this paper, key cultural, structural, financial and career-oriented barriers within the university all have the potential to fatally wound UBC activity. Culturally, projects like this which are commercially oriented tend to meet with resistance as they are often perceived to be in competition with the traditional values of a university which typically prioritise teaching and research. Universities can also place structural barriers in the way of their own stra-

tegic goals – obstacles can include clear processes for course approvals and a lack of responsive rules and systems. Financial barriers may exist at the level of transparency in terms of rules around earned income for both academic units and individual academics. In the case of career progression, a critical barrier exists whereby there can typically be poor links between income generation and promotion.

While these barriers all pose significant challenges for Irish universities, this paper has argued that a key goal for these institutions going forward must be to create an environment that facilitates the growth of UBC, and indeed CPD business, by incentivising academic engagement with the universities' UBC agenda in such a way as to simultaneously benefit the institution, academic units and individual academics. If such incentivisation techniques are used appropriately and the universities stop getting in their own way, then substantial change can happen. The authors of this paper are hopeful that the recommendations made here will be considered as a first step to truly breaking down the barriers to UBC within Irish universities.

Acknowledgements

The authors of this paper would like to thank the government-funded *Roadmap for Employment-Academic Partnerships* (REAP) project for their support of this research.

References

- Davey, Todd et al (2011), 'The State of European University-Business Cooperation', Final Report – Study on the cooperation between Higher Education Institutions and public and private organisations in Europe, Science-to-Business Marketing Research Centre, Germany.
- Davey, Todd (2013), 'Understanding Cooperation', *University-Industry Innovation Magazine*, Issue No.1 Spring/Summer 2013, pp.6-9.
- Department of Education and Skills (2011), *National Strategy for Higher Education to 2030* [online], available at http://www.heai.ie/sites/default/files/national_strategy_for_higher_education_2030.pdf
- Estermann, Thomas and Bennetot Pruvot, Enora (2011), *Financially Sustainable Universities II: European universities diversifying income streams*, European University Association, Brussels.
- European Commission (2011), Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, *Supporting growth and jobs – An agenda for the*

modernisation of Europe's higher education systems, Brussels, COM(2011) 567 final.

Higher Education Authority (2012), *Part-time and flexible higher education in Ireland: Policy, practice and recommendations for the future* [online], available at http://www.hea.ie/sites/default/files/part_time_report_0.pdf

Martin, Michaela (2000), *Managing university-industry relations: A study of institutional practices from 12 different countries*, International Institute for Educational Planning/UNESCO, Paris.

OECD (2012), *A Guiding Framework for Entrepreneurial Universities* [online], available at <http://www.oecd.org/site/cfecpr/EC-OECD%20Entrepreneurial%20Universities%20Framework.pdf>

University College Cork (2013), *Sustaining Excellence 2013-2017* [online], available at [http://www.ucc.ie/en/media/support/hr/briona/UCCStrategicPlan_Web_English_AW\(2\).pdf](http://www.ucc.ie/en/media/support/hr/briona/UCCStrategicPlan_Web_English_AW(2).pdf)