

**AC 2009-218: CHANGING UNIVERSITIES IN EUROPE; A CASE STUDY FROM IRELAND**

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# Implementing Change in Universities in Europe; A Case Study from Ireland

## Introduction

This paper sets out to examine aspects of research recently undertaken in a higher education institute (HEI) in Ireland. The research examined how stakeholders at all levels in an engineering college in this HEI thought it should change in a rapidly and dramatically changing external environment. It was an exploratory case study undertaken over three years between 2006 – 2008. It used collaborative qualitative research methods in order to shed light on what was happening by interviewing representatives of all stakeholders involved, letting each stakeholder group know what the views of other stakeholders were, challenging interviewees on their views by offering alternative positions and attempting to collaborate with all groups so as to achieve a consensus on the outcomes.

Two aspects of this research may be of interest to ASEE members and are examined in this paper:

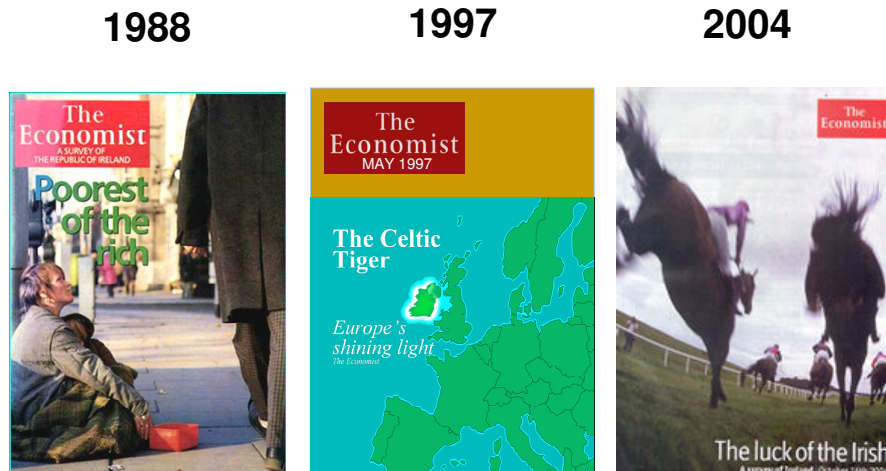
1. The qualitative methodology used; because such methods are often viewed with suspicion by engineers as being unscientific and unreliable;
2. The outcomes of the research for this HEI and from that the possible relevance for some other similar universities might be extrapolated but this should be within the limitations acknowledged at the end of this paper.

## The Setting

The research was set in the engineering college of a 120 year old institute of technology in Ireland with 20,000 students. The engineering college has 5000 students. *The Institute*, as it shall be referred to in this paper, is the biggest HEI in Ireland and is set to move to a new campus (at a cost of €1billion to the taxpayer) and achieve university status. This has led to strong demands from government and industry for a university that is responsive to the external environment and can meet the needs of a modern front edge economy in an efficient way.

Ireland has undergone unprecedented change over the last two decades. Phenomenal levels of growth, the highest in the world in the 1990s according to the OECD (2006), has meant that Ireland is now at the upper end of the value chain in a global economy over which it has little control. Ireland was applauded by the economist magazine in 1997 as Europe's shining light having just a decade previous been depicted as the poor relation of Europe (see fig.1). But a sustained two decades of record growth is now being followed by a period of dramatic change. The international credit crunch and turbulence in the globalised economy leaves a small country like Ireland, that is so dependent on foreign investment and international trade, very exposed in this new volatile environment. All of this has led to consequential demands on universities in Ireland to change fundamentally. Mass participation rates (in excess of 55% of

school-leaving cohort), increased diversity of student intake – particularly with greater numbers of mature students, improved information computer technology and radically changing demands of industry means that engineering colleges in particular are challenged to respond effectively. In Europe the public purse funds a far higher proportion of the costs of higher education than in most other parts of the world. This is now changing somewhat with increased demands from governments in Europe for universities to become more businesslike/corporate or entrepreneurial and so more self sufficient.



**Fig. 1 Economist Magazine**

### The Research Question

The research question posed was:

- How does the Institute need to change so that it might become better able to respond quickly and appropriately to the fast and radically changing environment it now faces, whilst fully engaging staff creatively in the process of change?

Barnett<sup>1</sup> refers to three challenges for university leaders at a time of change and these were at the heart of this research:

1. Enabling staff to understand the challenges ahead and to know that these will keep on multiplying and to recognise that there is no stable state and instability will accelerate.
2. To motivate staff to address these changes in the incessant turbulence of academic life and the volatile external environment applying.
3. To identify a form of leadership that engages staff and is not based on outdated hierarchical top-down systems or is managerial in the sense of excluding staff in decision making. Intellectual groupings must be brought together to understand each other and to engage with one another.

## Evaluating the Success of Collaborative Change

Moelsby<sup>2</sup> suggests that implementing major change successfully is best done by showing vision, achieving consensus, acquiring the required skills, providing incentives and resources, and establishing a realistic action plan. This is best illustrated in Fig 2 below.

Having these components						Results in
Vision	Consensus	Skills	Incentives	Resources	Action plan	<b>Change</b>
	Consensus	Skills	Incentives	Resources	Action plan	<b>Confusion</b>
Vision		Skills	Incentives	Resources	Action plan	<b>Sabotage</b>
Vision	Consensus		Incentives	Resources	Action plan	<b>Anxiety</b>
Vision	Consensus	Skills		Resources	Action plan	<b>Resistance</b>
Vision	Consensus	Skills	Incentives		Action plan	<b>Frustration</b>
Vision	Consensus	Skills	Incentives	Resources		<b>Treadmill</b>

**Fig. 2 Moelsby Model**

The underlying thinking in this research was that the type of change required in this engineering college could only be successfully achieved by having all of the above components in place and that this was best tested by hearing the views of a full range of stakeholders.

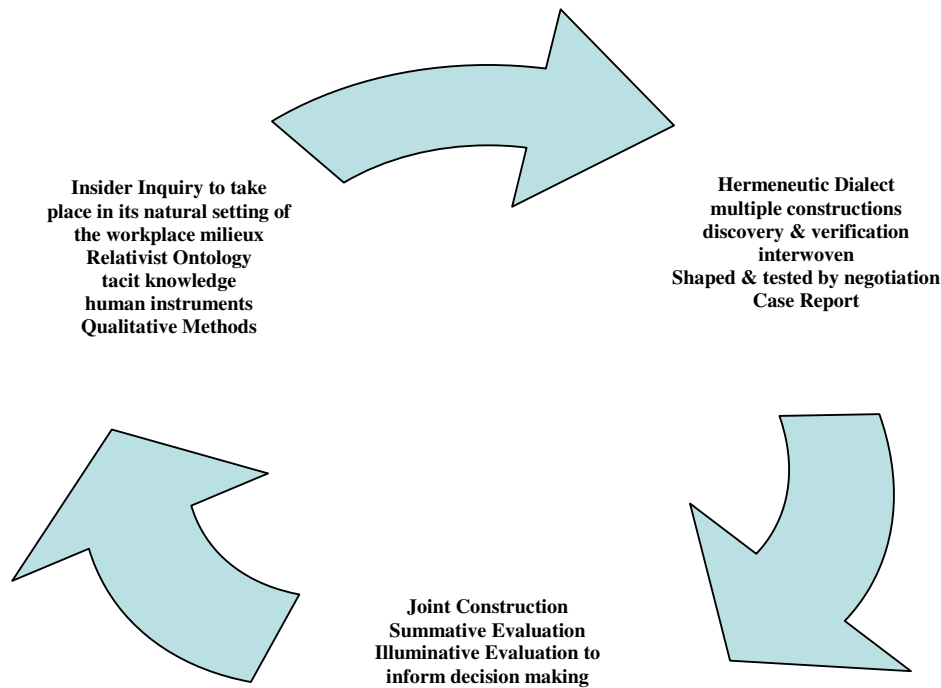
### Methodology

The questions raised in this research are inextricably linked to human emotion and everyday human activity and professional work practice. Schon<sup>3</sup> argues such questions cannot be answered by positivist (scientific quantitative) research traditions alone. People are not machines. So this is a qualitative inquiry, but it forcefully addressed questions of adequacy and ethics often raised by skeptics about qualitative methods.

This was insider research into a case study set in an Engineering College. It was an exploratory study set in the workplace milieu, using qualitative data. The theory emerging from the literature review on changing universities was relatively immature and had not yet been tested adequately in universities in Ireland. The various types of university model, including collegial, bureaucratic, corporate and entrepreneurial were examined and compared with the cultures, practices and understandings of stakeholders in this college. A story emerged about the people working and studying in this college and in that story a change model thought by interviewees as best suited to the culture of the Institute was identified.

Stake<sup>4</sup> suggests that a case study catches the complexity of a single case and emphasises episodes of nuance in the wholeness of that case. Drawing on this idea of case study and the concept of *Illuminative Evaluation* research, as described by Parlett & Hamilton<sup>5</sup>, this research was intended to let people in this college see what was happening in their changing environment. It became clear from the research findings that stakeholders interviewed wanted to have a say in the direction of the college. Stake<sup>4</sup> suggests that qualitative researchers seek to discover the multiple views in a case, the multiple realities. There were conflicting views and opinions and

the culture of the way thing was done was important and impinged upon many aspects of this research. In order to reflect these diverse views twenty individual interviews and a focus group interview took place. Interviewees represented all of the major stakeholders affected by academic change including students, technical staff, central services and all levels of academic staff up to and including the Dean of the engineering college and the President of the university. The intention was to consult with and collaborate with stakeholders about what was happening at this time of unprecedented change. *Fourth Generation Evaluation* as described by Guba & Lincoln<sup>6</sup> was used. This seeks to address the concerns and issues of all stakeholders and not prioritise the opinions of any one group.



**Fig. 3 Research Model**

**Underlying philosophy for using qualitative design – (Relativist Ontology)**

Schon<sup>3</sup> refers to the use of technical rationality often being used to answer research questions of little interest to most people. The questions that many people are interested in having answered are those concerning everyday practice but these questions cannot always be answered using technical rationality. The questions raised in this research affect many people and the answers were embedded in a deep rooted culture of a publicly funded institute of technology in Ireland with a history of public sector practice. Hierarchical structures and bureaucratic procedures were the norm.

There were 24 hours of audio recordings and over 70,000 words in the interview summaries

Stakeholders	Position	Numbers	Data Collection	Notes
Top Management (Directorate)	President	x 1	Interview	Both engineers
	Dean of Engineering	x 1		
Middle Management	Heads of School	x 3	Interview	4 engineers
	Heads of Dept.	x 2		
Academics	Assistant Lecturer	x 4	Interview + Focus Group	13 engineers
	Lecturer	x 8		
	Senior Lecturer	x 3		
Other Stakeholders	Tech support staff	x 1	Interview	
	QA officer	x 1		
	Union rep	x 1		
	Student rep	x 1		
	Individual Interviews	x 20		
	Focus Group	x 6		
	Total interviewees	= 26		

**Fig. 4 Interviewee Details**

In the research there were a number of perspectives and all of them were considered valid and relevant. The data analysis recognised this. According to Guba & Lincoln<sup>6</sup>, if there are a number of constructions possible with data collection, as is the case with this research, then objectivity makes no sense. So we are in what Schon<sup>3</sup> describes as the *swampy lowlands* of messy everyday practice where problems are unpredictable but require answers. The dominant epistemology in engineering and science uses positivist methods to answer realist questions using quantitative data. Such methods are quite appropriate for realist questions but it is important to emphasise here that good quality research is possible where qualitative data is used. Questions raised in this research were not realist questions but relativist questions as defined by Guba & Lincoln<sup>6</sup> whose answers were subjective and set in a particular context.

### Ensuring Adequacy

There are often suspicions about the outcomes of qualitative inquiry so the strategies undertaken to ensure validity, objectivity, reliability and to neutralize researcher bias were made explicit. This allowed the reader evaluate authenticity but also acted to ensure adequate reflection by the researcher. Guba & Lincoln<sup>6</sup> suggest that the most certain test of validity with this type of research is verifying constructions with those who provided them. At various points, interviewees were involved in doing this and the data and the researcher's interpretation of it as was made available to them for scrutiny at various stages. Feedback from critical friends was also helpful in this regard as was a series of presentations of work in progress at various workshops and conferences. Early research findings were presented at SEFI conferences in Norway in 2006 and Finland in 2007, and the 2007 ASEE conference. This allowed the

researcher to get initial feedback from academics internationally and test the authenticity of early findings.

### **Literature Review of Changing Universities**

According to Clark<sup>7</sup>, privatization of universities is highest in many parts of Asia, and lowest in Europe, with the exception perhaps of the UK. He lists various Asian countries who have from 50% to 80% private expenditure as a total of overall expenditure on education. The US at 53% is ahead of Australia at 44% and Canada at 43%. The UK is at 37%, France at 14%, Netherlands 12%, Sweden 11%, Germany 8%, Norway 6% and Denmark is at 3%. The public purse in Ireland pays for 80% to 95% of the costs of higher education varying between universities at the lower end to institutes of technology at the higher end of this spectrum. Universities in those parts of the world with the highest levels of private funding tend to be becoming either more corporate or more entrepreneurial. This trend brings pressure on universities in Europe to follow suit in this regard.

#### **The Corporate University**

The Corporate university appears from the literature review to be common in the UK and Australia particularly. In Ireland the term corporate is normally aligned with a business model that depends mainly on top-down decision making. In the literature the terms corporate and managerial appear to be often used almost synonymously but with variations of the managerialist theme and with the use of terms such as soft, hard and new managerialism offered by writers. For example Duke<sup>8</sup> refers to the pejorative use of the term managerialism where it asserts authority, strong hierarchy, and the exercise of the principles of economic rationalism within the university. Trowler<sup>9</sup> believes that managerialism in the UK saw increased executive leadership and repudiations of collegiality. Student fees increased whilst academic staff salaries and status decreased. Workload for academic staff was increased and more staff were employed on temporary or part-time contracts. Managerialism and the de-professionalisation of the academic labour force resulted and effectively managerialism meant that universities were not run on the basis of academic priorities but on the basis of increased efficiency measured by performance indicators. In Ireland there have been attempts by one university to become more corporate in operation with an all powerful chief executive officer dictating what is to happen. This model was repeatedly referred to by stakeholders in this research and was investigated as a possible way to operate for the institute in this research.

#### **The Entrepreneurial University**

Shattock<sup>10</sup> refers to Clark's picture of the Entrepreneurial University as achieving almost iconic status amongst university models for the 21<sup>st</sup> century. Similarly Marginson<sup>11</sup> refers to Clark's entrepreneurial university as the idealized model of research university. Clark<sup>12</sup> in his first analysis of Entrepreneurial Universities in Europe describes them as universities that move away from close governmental regulation and sector standardisation. The catalyst for change is an age of turmoil for higher education with no end to change in sight. Demands on universities are often greater than their capacity to respond, so responding to external needs and demands appears to be an endless task.

Clark<sup>7</sup> in follow on research outlines in detail the take off of entrepreneurial universities in the USA and cites Stanford as a good example. Stanford became the mother university of silicon valley in the 1930s and supported the development of electronics firms such as that formed by Stanford graduates William Hewlett and David Packard. Clark<sup>6</sup> describes the resulting Hewlett Packard company as the classic university spin-off. The university supplied materials and a physics lab for a 50% interest in future patents. Ties between the university and firms were close and collaborative. The university opened its classrooms to local businesses. Marginson<sup>11</sup> believes that the Ivy League universities in the USA are closest to Clark's model. Apart from Stanford, Clark (2004) also examined other American universities such as Massachusetts Institute of Technology (MIT), University of Michigan, University College Los Angeles (UCLA), Georgia IT and others with an ability to charge top-of-the-line tuition fees and with a capability of raising enormous sums of income.

Edwards<sup>13</sup> compares the university in Europe with the USA. He believes there are no large private benefactions in Europe such as that which has enabled universities in the US like Harvard and the other Ivy League private universities to prosper. Even Oxbridge receive only small benefactions by comparison with US universities he contends, but this example might put things into perspective a little for the Institute in this research. Purdue University is considerably bigger than the Institute with 37,000 students, but Purdue university raised \$1,700,000,000 over a seven year period from 2000 to 2007. Purdue had set an initial target of \$1.5 billion but had to revise this upwards when they realized they were going to overshoot the original target, according to its former President Dr. Martin Jischke<sup>14</sup>. To put this in perspective, this Institute in 2007 had a deficit of €2,000,000 and this was considered a very serious matter. To suggest that this Institute could become an Entrepreneurial University in the American sense seemed ridiculously optimistic to many stakeholders interviewed in this research.

But apart from the capacity to raise large sums of money what are the other lessons to be learned? All of these entrepreneurial universities appeared to have certain things in common. They identified their niche in the market and sought to capitalize on it. The newer universities did not attempt to replicate the older ones and compete in a game they could not win. Instead they looked at their own characteristics and culture to build on the very sound foundation of their own unique identity. They had confidence in themselves and accepted that there were obstacles and many inhibitors to change to overcome. Hierarchical structures were seen to be one and bureaucratic structures were often seen to prevent or certainly slow down change but there seemed to be a clinging to a steady state inertia that wedded some universities to the status quo. Universities are very bottom heavy organisations with much of the output coming from a large number of academics at medium and lower scales.

In this Institute, bureaucracy is still a problem and to investigate how the Institute needs to change, the McNay<sup>15</sup> model was used as a conceptual framework when questioning interviewees and as an analytical tool for data analysis.

### **The Conceptual Framework and Analytical Tool for this Research**

There were four main theoretical models that were examined in this research in connection with the decision making structures, university autonomy and changing



paradigms in higher education policy. These were Collegial, Bureaucratic, Corporate/Managerial and Entrepreneurial.

McNay<sup>15</sup> offers a model, shown in fig 5, with two dimensions:

- Dimension 1 (vertical) Policy definition;
- Dimension 2 (horizontal) Control over implementation.

	Policy definition: loose		
Control of implementation loose	<b>A Collegium</b>	<b>B Bureaucracy</b>	Control of implementation tight
	<b>D Enterprise</b>	<b>C Corporation</b>	
	Policy definition: tight		

**Fig. 5 McNay Model**

And four University types operating from the four quadrants of the McNay model:

- Type A, Collegium, this model has the freedom to pursue university and personal goals unaffected by external control; it has loose policy definition and loose control of implementation.
- Type B, Bureaucratic, this model focuses on regulation, consistency and rules; its management style is formal with a cohort of senior managers wielding considerable power. It has loose policy definition but tight control of implementation.
- Type C is the corporate university where the management style is commanding and sometimes charismatic. There is a crisis driven competitive ethos and decision making is political and tactical. Students are units of resource and customers. It has tight policy definition and tight control of implementation. It uses managerialist practices.
- Type D is the enterprise and is orientated to the outside world and it espouses continuous learning in a turbulent environment. Management style is one of devolved leadership where decision making is devolved and its dominant unit is the small project team. Students are seen as clients and partners. There is tight policy definition but loose control of implementation.

McNay<sup>15</sup> concludes from his research that all universities draw on each type of management.

Similarly Coaldrake & Stedman<sup>16</sup>, suggest that most universities around the world are moving from loose policy definition to a policy that is more firmly determined; away from organisations featured by collegium and bureaucracy to one closer to the corporation or enterprise. They believe that successful higher education institutions will be those who can mobilize people and facilities flexibly into project based teams across organisational boundaries. This will require the linking of individual energies in line with the goals of the organisation. Coaldrake & Stedman<sup>16</sup> warn this is often viewed as managerialist, but they continue that whilst no university can expect optimum output

and innovation by imposing inspection and control on staff, neither can it be expected that some invisible hand will guide the path of individual academics or that effective change will happen by academic introspection and reflection. Herein lies the kernel of the problem, academic freedom does not include freedom from responsibility to stakeholders.

It is clear that there is a need to negotiate the match between organisational goals and individual work and to allow substantial freedom for academic staff to contribute to those goals. But one of the difficulties for higher education, as it moves to become a mass system, is that values formed by academics in an elite system may persist in some cases in a developing mass system. The culture can become embedded it seems and is difficult to change at times.

It became clear in this research that there is an *Irish take* on certain concepts. Certainly staff interpret terms such as collegiality, entrepreneurship and corporatism differently. The difficulty now is that with a volatile external environment combined with increased expectations from the government and taxpayer, much more collaborative and creative solutions are now required. But a trend towards more entrepreneurial universities can have major implications for policy and culture. Some members of the academy may be better positioned or capable of capitalizing on research and other opportunities. Rewards in the form of status, promotion and resources may flow unevenly through the system. This has led to resistance from staff and teachers' unions to such a change.

### **Research Findings for the Institute**

The culture and practices in this HEI as change was attempted showed that stakeholder constructs, how they saw past and present practices and what their imagined future may be, was affected by their age, predispositions, their professional identities and their position in the organisation and whether they were union members. But what was clear to all was that the university cannot stand still.

Using the McNay<sup>15</sup> model as an analytical tool it was found that traditional collegial and bureaucratic models were seen by most stakeholders in this research as being too slow to change, however, it was thought that collegiality was essential in academic work. It was concluded that the institute was not a collegial organisation as such but that there was a lot of bottom up change that happens in a collegiate way and that by and large this was a good thing and should continue. But significantly, the Institute was viewed as overly bureaucratic and that bureaucracy must be reduced significantly.

Nonetheless there was support from stakeholders for continued bureaucracy in some specific aspects of operation. For example student assessment was seen by all stakeholders to require strong rules and regulations to protect both students and academic staff. Quality assurance was also exemplified by most staff as requiring bureaucracy but the QA officer argued that it was necessary for this activity to devolve more to faculties in the form of quality enhancement (QE) procedures. In this way, it was argued, it would become more innovative and responsive. But there were complaints from faculties that new QE procedures were becoming over burdensome and pushing out other important activity because of a lack of time and resources. For

this reason faculty staff argued against devolving of responsibility and argued that QA must remain centrally controlled and hence bureaucratic. This is an example of the kind of tension that arises with change and highlights the need for allocating resources appropriately.

Nearly all interviewees were opposed to business like or corporate models to run the university. Concerns were raised about the effects such a model might have for students, society, academic staff and the Institute if implemented. A number of interviewees referred to another university in Ireland when asked about corporate models. Nearly all interviewees were strongly opposed to such a model for the Institute. The very idea gave some interviewees *a chill down their spine* but one interviewee thought that it had been successful for another Irish university and that the Institute should follow suit. When asked whether there was a risk that this Institute would be in danger of being at the whims of a particular chief executive officer (CEO) at a particular time, this interviewee thought that there were enough checks and balances in place and that a style of management that is more decisive would be better.

Writers such as Shattock<sup>17</sup> argue that businesses that adopt top down management processes and a non-participative, non-empowering style of management may belong to an earlier industrial age. Shattock<sup>17</sup> goes on to warn universities who adopt this approach as a short term reaction to acute financial stringent, that such a reaction is not likely to provide long term academic success.

But despite trenchant views opposing a corporate university for the Institute, most interviewees supported corporate practice for some activities. For example resource allocation should be more businesslike with resources following students it was felt. Also where research carries significant risk or potential for significant profit, then it was felt that this needs to be more businesslike with tight control of policy definition and tight control of implementation. Campus companies would fall into this category. This would put these activities in quadrant C on the McNay model as shown in figure 6 below. However it should be emphasised that although this would mean corporate or businesslike operation in these activities, there was no support for dictatorial top-down managerialism, not even by top management. It was thought that such managerialist practice would mean staff would wait to be told what to do rather than innovating and responding to change in the innovative way required and that a university responding adequately to external demands could not afford to disenfranchise academic staff in this way. It was felt by interviewees that such a situation would result in the university losing much creative contribution from these staff and indeed the ghost of Taylor and outdated Scientific Management techniques might be at play at times in some corporate models with management viewing staff as unworthy or untrustworthy when contributing to change.

Although the suggestion for the Institute to become an entrepreneurial university, like a US university, were considered by some staff to be unrealistic, there was a lot of support for a move to the left hand side of the McNay model, loosening control of implementation with more innovation and collegiality. This was supported by many staff and management interviewed and this is illustrated in fig 6 below. This figure

summarises the views of stakeholders interviewed for this research about how the Institute needs to operate for various activities in the future.

	<b>POLICY DEFINITION LOOSE</b>		
<b>CONTROL OF IMPLEMENTATION LOOSE</b>	<b>A Collegial</b>  Lots of activity in module & programme improvement and development encouraging bottom up change and Partnership. Cross/inter disciplinary research underpinning teaching to be increased	<b>B Bureaucratic</b>  Reduce significantly but retain in some activity such as student assessment and some QA	<b>CONTROL OF IMPLEMENTATION TIGHT</b>
	<b>D NOT ENTREPRENEURIAL BUT INNOVATIVE</b>  Increased responsiveness to external environment, increasing diversity, attracting new types of students, improving programmes (QE), maximising benefits of modularisation and expanding research.	<b>C Corporate</b>  For resource allocation and for in campus companies or where activity carries significant risk or potential profit to DIT	
	<b>POLICY DEFINITION TIGHT</b>		<b>McNay Model</b>

**Fig. 6 Collegial Innovation Model**

The word *enterprise* was opposed strongly by some staff if this meant running the university solely based on the needs of the economy. The term innovative was much more acceptable to most interviewees and indeed more appropriate for European universities because the ability of universities in Europe to raise funds was far lower than in American universities it was thought. Nonetheless most stakeholders saw the recruitment of international students for example as being legitimate and important in raising revenue. Clark<sup>7</sup> at times uses the word innovative for entrepreneurial with respect to European universities but Shattock<sup>10</sup> believes this word does not capture the concept adequately. He believes what is needed is a stand up or self reliant university, confident in what it does and is autonomous. Nonetheless nobody interviewed was opposed to the word innovation and for the Institute to operate in area D of the McNay model for much activity. Interviewees thought that the Institute could then become responsive to the changing environment. There would certainly be a need for less control over implementation for this to happen it was thought but a tight policy definition was agreed to be sensible in this regard at times. Otherwise if loose policy definition were applied, some innovative but poorly controlled areas might head off in a direction with consequent risks to the whole organisation. Top down decisions on policy were supported provided there was prior consultation with staff on all major issues.

Diversity and student numbers could be increased by maximising the benefits of modularisation by operating this activity in quadrant D of the McNay model, with the university setting policy and encouraging departments and schools to implement it as they saw fit for their area. It was also thought by staff that the move to become a university means research needs to be increased, and if this is so then a lot of research might evolve at department level and so operate well from area D of the McNay model. This is provided such research did not offer significant risk or potential for large profits in which case as already stated it should operate from quadrant C.

## Conclusion

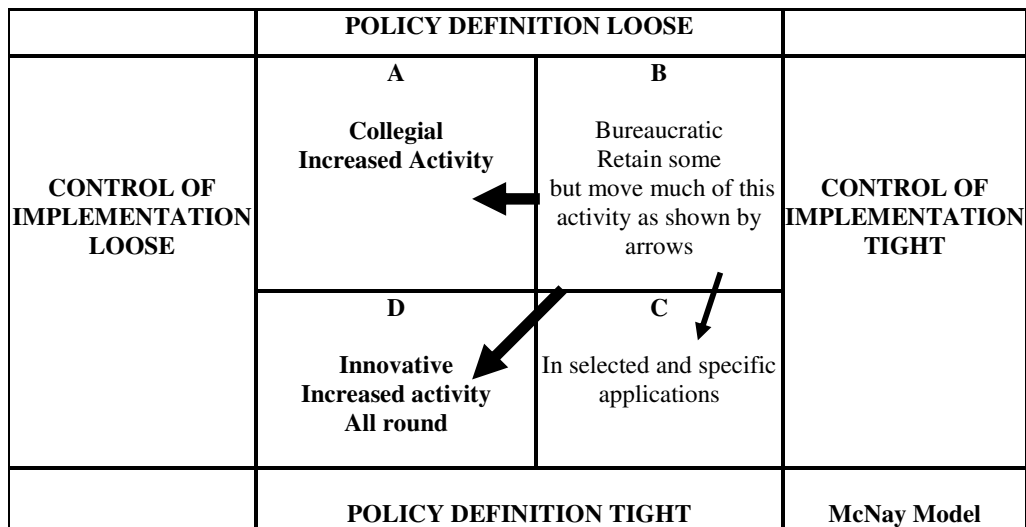
This qualitative inquiry was seen as appropriate to answer the relativist questions raised. The methods used allowed collaboration with stakeholders who provided the data and they later contributed towards evaluating the validity of the interpretations of the researcher. Organisational change was taking place whilst this research was being undertaken and this research may even have contributed to change in some small way as the Dean of the Engineering College co-authored a paper with the researcher that was presented at ASEE in 2007. This paper was also sent to the President of the Institute by the Dean of the Engineering College at that time. The President and Dean as interviewees, were sent the researchers interpretations of evidence collected at various times and sometimes provided feedback on it. Whether this affected their thinking as they implemented change is not clear but it may have..

This case study aimed to catch the complexity of a single case whilst emphasizing episodes of nuance in the wholeness of the changing university environment. The conclusions suggest that whilst traditional collegial and bureaucratic models were seen by most stakeholders in this research as being too slow to react to the fast changing environment now facing universities, the corporate or business model of operation was firmly rejected by interviewees. The entrepreneurial model of university is aspired to by the Institute itself but many stakeholders were very opposed to the American style of entrepreneurial university because the institute in question simply does not have the capacity to raise the amounts of private money associated with the successful American entrepreneurial model. It was thought by stakeholders that the term innovative seemed to be more appropriate for European universities generally because the ability of universities in Europe to raise private funds was far lower than in American universities. It was clear that the suggestion to adopt models identified as being successful elsewhere in other universities was problematic because of the different circumstances, cultures, structures and settings applying. Nonetheless it was shown in this research that successful models from other universities can be used as a compass to help inform policy makers and stakeholders and help a university find a route through it's own domain whilst facing similar problems and challenges in the fast changing environment that have been addressed by others.

It was clear in this research that all stakeholders interviewed understood the need for change. A *European type* of entrepreneurial university was explored where **innovation** was the key word. A so called European model of entrepreneurial university as an innovative organisation. Most stakeholders were quite supportive of increasing activity in the D quadrant with tight policy definition but loose control of

implementation. As one dean put it, agree the policy and then get out of the way to let the academics implement it. This appears to be consistent with what Clark<sup>7</sup> describes as *Collegial Entrepreneurship* and this appears to be very close to the innovative model preferred by many stakeholders for the Institute. Clark<sup>7</sup> too sees entrepreneurship as very different in European and American settings and that it is relatively new in Europe. Clark<sup>7</sup> sees sustainable entrepreneurialism as having a shared governance where those who do the work of policy implementation also participate in policy formation. This is in sharp contrast to what happens in the corporate university where decisions are made at the top without consultation.

Fig. 7 shows the trajectory the Institute might need to take if it is to respond adequately to change whilst keeping stakeholders committed and involved. This would see most activity on the left hand side of the McNay model as shown earlier in fig 6 above, hence the term *Collegial Innovation* is recommended for this Institute. To summarise then for the Institute, this all means reduced bureaucracy with increased collegiality, much increased innovation and some specific corporate activity.



**Fig. 7 Trajectory Needed for the Institute**

But this research supports the view of Fullan<sup>18</sup> that a particular model of university, no matter how successful, cannot just be lifted and applied to a HEI elsewhere. The history and culture of any college must be examined and change made in a way that will suit that particular college. This supports the proposition put by Ramsden<sup>19</sup> when he warns that the mistake many universities make is believing that structures are subordinate to cultures. He argues that no structure will work unless the culture also works.

### **Relevance and Limitations of Research**

Williams<sup>20</sup> warns that case study research is often criticized for generalizing from a small sample. But good quality evidence based case studies can contribute to knowledge of organisational phenomena that is rich and insightful. In this case study

there were many unique and interrelated factors that might tend to make generalization inappropriate at times but the study is intended to contribute to knowledge of aspects of this college of engineering with its culture and in the context and setting described that may have resonance for colleges elsewhere with similar characteristics and facing similar challenges. If sceptical engineers ask what can we learn from studies like this, then my answer is everything we possibly can.

This research was only a snapshot of parts of the engineering college at a moment in time. For the university itself this research project may lead to further more widespread research, and if so this research will have served its purpose in this regard. For the general reader a knowledge of what is happening in this college can facilitate the extrapolation of learning from this context and setting, to other settings but with appropriate health warnings about different cultures and contexts in tow. There is no suggestion of a panacea; just messy articulations from the swampy lowlands of everyday practice in an institute of technology in Ireland that is undergoing major change. So this research is **not** intended to be satellite navigation providing exact instructions at every point of difficulty to academic managers finding their way through organizational change. It is intended to be more like a compass for managers and academics attempting to navigate through the tricky terrain of organisational change in other colleges and universities facing broadly similar challenges. The compass points to a collaborative style of change model harnessing all of the ingenuity within the university towards an agreed end. The compass for this college points to a university not focused solely on finances but a university that is willing to make appropriate decisions and not drift. A stand-up university that makes ends meet. The compass points to a new type of European, *Innovative Collegial University* and adopting bureaucratic and corporate business practice where this is appropriate. A university comfortable in its own skin, establishing an appropriate identity and confident to debate policies openly in a mature way with decisions made based on the strength of the argument and supporting evidence, and not on the power or position of the person.

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