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RESPONSE OF ACADEMICS TO DEMANDS FOR CHANGE IN ENGINEERING EDUCATION

THE IGIP CONFERENCE, GRAZ, AUSTRIA, 2009.

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Abstract *— This paper attempts to show what academics and other stakeholders think about academic change in an Institute of Technology in Ireland as this HEI attempts to respond to a rapidly changing external environment at the same time as becoming a university and moving to a new campus on a green field site. It is a summary of aspects of a doctoral thesis undertaken by an experienced academic that set out to explore how the unprecedented challenges now facing higher education internationally might best be met in the Dublin Institute of Technology. It is insider research and this paper identifies and examines barriers and enablers to change in this HEI. In doing this a story evolves that is rich and insightful and may have application for other HEIs internationally.*

Key words *—Academic Change, Barriers, Enablers.*

1. Introduction

The research was set primarily in the engineering faculty of the Dublin Institute of Technology (DIT) and focused on what was happening at this time of great change. Watson believes senior management in university organisations have to marry a volatile and unpredictable external environment with the internal dynamics and trajectory of their own institution. [1]

This is at the kernel of this paper. What is happening in DIT is significant because change in higher education is a key debate throughout the world at present. Higher education institutes (HEIs) are attempting to respond to the demands of governments and other stakeholders as the global economy crashes, as the costs of higher education escalate due to increased participation rates, as technology changes at an unprecedented rate and as change occurs in the socio economics of fast evolving leading edge global economies.

Barnett [2] writes about the realization of the university in what he describes as, an age of *Supercomplexity.* He suggests that universities must not just respond to the changing environment but they have to make a full creative contribution. He refers to three challenges for university leaders 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 ahead.
3. To identify a form of leadership that engages staff but is not managerial. Intellectual groupings must be brought together to understand each other and to engage with one another. (This aspect is not addressed in this paper but is available in a SEFI publication which will be available at the time of the IGIP 2009 conference.)

2. Changing External Environment for DIT

For higher education, the only constant in the future will be change. The affects of the credit crunch, globalisation, shifts in the Irish economy and the pressures this brings for DIT were examined in this research. Fig.1 summarises the changing external environment for DIT and analyses the changes in driving forces and their likely impact. There are some key drivers which are likely to have significant impact. In particular, increased demands from taxpayers and government for greater efficiency, widened access, improved quality and more flexibility are already impinging significantly on academics.

<u>Question/Exercise</u>

How should fig. 1 be adapted to reflect the changing environment for your university/faculty?

Fig. 1 Changing Environment for DIT - Summary and Analysis			
Changes in External Environment	**Driving Forces**	**Likelihood of Increase in Driving Force**	**Likely Impact on Higher Education**
Credit Crunch	World economic slowdown and debt crisis.	Not known	Cutbacks in government funding and demands for greater efficiency
Increased demands for better service and greater efficiency	National Partnership Agreements	High	Pressure for change on academics and academic managers to **deliver more with less** public funding
Change in governance and greater demands on HEIs to become more entrepreneurial	Increased autonomy for universities with increased pressure to raise funds	High	Possibly less individual academic autonomy and increased pressure on academics for activities that raise funds
Increasing demands for quality enhancement	University designation and demands of government, HEA, NQAI, EUA etc…	High	Diversion of academic time away from academic issues to quality and other administrative procedures
Changing Irish Economy	Globalisation	High	Movement to higher end of value chain and demands for better qualified workers and more R & D.
Changing society needs & development of a learning society	Increased demands from government for alignment of higher education with needs of economy/society	Very High	Changing students with varying age, ability, socio-economic background and in some cases with disabilities.
Greater competition from Universities	Demographics	Very High	Reduced teaching hours/posts Closing of departments /schools /faculties/Institutes in areas that do not respond adequately.
Increased participation rates for school leavers	Societal Demand	Medium - first time entrant numbers to remain fairly static in Ireland	Increasing costs to government and taxpayer leading to increasing demands for greater efficiency and more flexibility from HEIs.
Changing needs of students	More varied student ability and learning strategies & techniques	Very High	Students will opt for programmes which use modern L & T methods that take account of their needs and provide transfer and progression in a flexible, modular format with focus on the learner
Student centred learning and away from teacher focused didactic delivery	WWW & increase in use of ICT.	Very High	Changing Academic Roles and need for facilitation of student learning and increasing use of formative assessment
Changing needs of Professional institutions & industry	Changing accreditation criteria and more varied student learning outcomes as business faces change	Low	Much change has already taken place in curricula in the Engineering Faculty of DIT and these are accredited internationally
DIT becomes a university with changing academic demands	Stakeholders appear to want DIT to become a university	High	More emphasis on higher staff qualifications, research and generation of knowledge and less on teaching & students

3. Methodology

In the swampy lowlands of everyday practice problems are amorphous, unpredictable and messy so solutions cannot be provided by Positivist research traditions alone, Schon [4]

This is an exploratory case study about DIT using qualitative data and is set mainly in the Engineering Faculty. The main barriers and enablers to change are examined by stakeholders and in the data collection a story unfolds about DIT that is rich and insightful. Stake [3] suggests that a case study catches the complexity of a single case and emphasises episodes of nuance in the wholeness of that case. Stake [3] suggests that qualitative researchers seek to discover the multiple views in a case, the multiple realities. There are conflicting views and opinions and the culture of the way thing are done in DIT is important and impinges upon many aspects of this research. In order to reflect these diverse views twenty individual interviews and a focus group interview took place in 2007. 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 President of DIT. The intention was to consult and collaborate with stakeholders about what is happening at this time of unprecedented change.

Strategies were undertaken to neutralise researcher bias and ensure the adequacy of this research. The research questions were relativist with no right and wrong answers. The intention was to explore what Schon [4] describes as the messy subtleties and nuances of everyday life and human interaction. This was an exploration in the workplace milieux and is intended to inform, to shed light on what was happening as change was attempted. This is drawn partly from what Parlett & Hamilton [5] describe as Illuminative Evaluation

Schon [4] 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 effect many people and the answers will be embedded in a deep rooted culture of an institute of technology facing major challenges ahead. The underlying philosophy is of relativist ontology as defined by Guba & Lincoln [6].

Insider research is often open to suspicion because of the position of the researcher. There is suspicion that the researcher will be selective and biased, or as Hall [8] puts it, might manipulate evidence to fit our preferred view of the research findings. There was a very conscious decision when undertaking this research to take account of all stakeholder views with none, not my own or others no matter how powerful the person, taking priority. All viewpoints were considered valid. As an insider researcher, by being up front about this, the importance of being reflexive and reflective were at all times clear to me. For the reader, you can read this paper from a stronger position of knowledge by knowing where the researcher sits in all of this (further detail of the researcher's positionality is provided in section 1.7 of the thesis). So the methods used for data collection and analysis are fully explained and the adequacy and ethics of the methodology used is critically examined in this context in the thesis. (For electronic copies of thesis contact the author directly.)

4. Research Questions (RQs)

The main research question is how does DIT need to change so that it is better able to respond quickly and appropriately to the fast and radically changing environment it now faces?

To answer such a large question requires smaller but still somewhat broad research questions and these are as follows:

1. How do stakeholders see the changing environment, the response and methods of academic change in the engineering faculty particularly and the DIT generally; are changes only skin deep or are academic staff embracing the deep seated changes that are necessary in order that the DIT can meet the formidable challenges ahead. What are the deficits in the way DIT presently responds (if any)?
2. Do stakeholders support the intention to be designated a university. Does this and other change mean changing academic roles for staff and will rewards accumulate differently in a university? Do staff see DIT as being supportive of them in raising their qualifications and increasing their research? Is DIT too demanding of staff? How is the move to a single campus seen in all of this and is the DIT a good place to work and study?
3. What are the barriers to change?
4. What are the enablers to change?
5. Identify what is the best type of university model for DIT

Questions 1 & 2 are analysed together later in this paper under the heading *The Story of DIT as it Faces Change.* Questions 3 & 4 are also analysed in this paper in sections 5.2 and 5.3. Question 5 is not addressed in this paper but is the subject of an article to be published by SEFI in late summer 2009. (Details will be available at the time of the presentation at the IGIP conference)

5. The Findings

Non-reflexive research is amenable to lying and attempting to manipulate evidence to fit our preferred view of the research findings might be likened to propaganda.[8]

The findings of the research are provided under three headings. Section 5.1 tells The Story of DIT. Section 5.2 examines the Barriers to Change and section 5.3 examines the enablers applying.

5.1 The Story of DIT as it Faces Change

Perhaps what emerges to some extent from the data collected is more than answers to questions but findings that tell a story about DIT as it attempts to move from what is agreed by all stakeholders as an overly bureaucratic institute of technology spread across many campuses in Dublin city to a new more innovative, responsive and collaborative university on a single campus. To some extent this is a story about the people working and studying in DIT. It emerges that these people have a strong sense of identity with DIT and we find out what they think and how their lives are changing as DIT evolves. These stakeholders want to have a say in the direction of DIT but there are conflicting views and opinions on this that must be examined. The culture of the way things are done is important and impinges upon almost all aspects of this research.

DIT was seen by all staff interviewed as a good place to work and generally speaking academic staff turnover was seen to be low in most areas. All of the interviewees supported DIT becoming a university provided the ethos of DIT is retained and provided it continues to do what it has always done well, including craft education and junior music. It was felt that DIT needed to cut its own niche and maintain its unique position that has been built on a 120 year tradition, i.e. a multi level and diverse university serving the needs of society. The students' union was positive about DIT but thought that becoming a university *was not such a big deal.* They thought diversity adds richness to DIT and that it was important not to shed anything it does well.

There was a strong staff perception of the need for them to have higher qualifications, although DIT was seen as very supportive of staff in this endeavour. It was also agreed that DIT needed to *smarten up its image* with more research underpinning teaching. A previous attempt in 1997 at moving DIT to university status was not fully supported by staff at that time as they believed that DIT would lose its identity by trying to emulate other universities, a role it was felt it that it was ill equipped to succeed at.

The move to a new campus was seen by all stakeholders as a wonderful opportunity and *should not to be messed up*. DIT must act on the feedback from stakeholder groups and committees appointed. It was argued that DIT structures had evolved from the history of the organisation and its geographical location rather than the needs of stakeholders in a modern society. The DIT is currently based on a ten year old model that developed six faculties from six colleges. Six college principals became six Deans/Directors of faculties. When suggestions were made in 2006 to change this structure fierce opposition arose from interest groups.

The story that emerges from this research is that of widespread and successful change happening from the bottom up and across many areas of the DIT. There is recognition of the need for facilitation of bottom up change by managers at various levels for change to be successful. There was acknowledgement of the need for change to come from the top as well. Senior staff believed that sometimes top down action was required in order to ensure that the institute would converge in a particular direction. But the difficulties of applying top down change without the cooperation of staff on the ground was also recognised by senior staff. They acknowledged the success of bottom up change and the need for continuing such initiatives. Top down change with regard to modularisation and semesterisation of programmes where staff were required to implement these changes as part of pay awards in the national Partnership agreements and in line with a national Benchmarking award that sought to align public service pay upwards with that of the private sector* were seen as somewhat successful, but it was thought there was still some work to be done with reference to student needs in a new modularised and semesterised environment. This change has not yet maximised the benefits of greater efficiency or significantly improved student choice as envisaged. Programmes were seen by some interviewees to still operate largely as before modularisation, perhaps because registration staff, academic staff and students have not yet fully embraced the deeper aspects of this change. This appears to be an example of where top down change can result in staff ticking the boxes without fully embracing the change.

[*Public sector pay was effectively reduced by means of a so called pension levy in 2009.]

The Engineering Faculty is seen by some stakeholders as being somewhat behind other faculties with regard to ongoing change in some areas but in the more successful areas of engineering, change was not just skin deep or simply to gain pay rises but was embraced by staff. There is evidence too of staff motivations occurring in a more selfish way in the engineering faculty. When this happens staffs are still willing to contribute to change, for example at accreditation events, because of the consequences to them and their modules if they did not change.

Deficits were identified. There was evidence of some staff not adapting to change at all and expecting to do things the same way as they have for many years - oblivious it seems to the changing environment all around them. Ladders of opportunity were seen to be lacking in places in engineering for NQAI level 7 (3 year ordinary degree) graduates and it was agreed that the faculty of engineering is presently missing out by

allowing these graduates move to other institutes to continue their studies and not competing adequately to keep them.

Students' representatives suggested that sometimes change in DIT was far too slow in happening and at other times it was just a box ticking exercise so that DIT could claim something was done. An example provided of this was where DIT claimed at the EUA review to have implemented a Students' Charter but the reality on the ground was that very few staff knew anything about the charter and important matters such as formative feedback was not happening as it should and as outlined in the charter. Similarly the EUA recommended improvement of Q6 evaluation procedures but nothing much seems to have happened on this either, much to the frustration of students' representatives.

There was widespread acceptance by all stakeholders of the need for change but the data revealed a number of barriers to change and these are dealt with in the next section.

5.2 Barriers to Change

There were five main barriers to change in DIT identified by stakeholders. These were:

1. management,
2. teachers union & the adversarial culture,
3. bureaucracy,
4. staff members protecting standards in their area,
5. poor communications.

5.2.1 Barrier 1: Management

Although there was agreement that academic managers needed to come from academia, the lack of leadership skills and preparation for management by these academics was seen to be a serious problem in some cases. In general the lack of ability of these managers to lead at a time of change was seen as a problem in this research. Change management appears not to be even raised in interviews for senior posts. In general academic managers were seen as good people and often very strong academically who were trying to do a difficult job with inadequate resources and training, in very challenging circumstances. Nonetheless problems with many of these managers not delegating properly was a feature of much of the criticism. Some managers it seems keep things close and stymie initiatives. But empowerment was not seen as straightforward or as simple as it might seem. Examples were provided of some managers attempting to empower but there was *push back* by staff that it was intended to empower because they did not appear to want or be willing to accept the responsibility. Empowering was also seen as risky in areas where student numbers were already high and where stability and consolidation were considered more important than change.

It was felt by some that the success of bottom up change for academics often depended on their personal rating with their local manager or on the strategic issues facing that manager rather than the benefits of an innovation for the DIT and stakeholders generally. For example petty demarcation issues were mentioned as often restricting innovative development. Demarcation issues have been largely wiped out in industry and have no place in a modern responsive university, but at the same time there must not be wasteful duplication of delivery. Modularisation provides the means of addressing this but, as stated earlier, the full benefits of modularisation have not yet been fully realised in DIT.

A view was put forward in one interview that there was a mix of ability at head of school level and at director level in the same way that there is a mix of ability at lecturer level. If this is so then this raises questions about the attractiveness and appointment processes of these senior positions. One would seem to have a right to expect more of those further up the ladder. Nonetheless there was also acknowledgement of the engagement by many senior staff who are knowledgeable of the nuances and subtleties of academic management with knowledge of what is happening in other universities. Because directors, heads of school and heads of department are appointed permanently, there are many managers in position for a long time whose appetite for change in some cases was seen to be diminished and whose qualifications and university experience were seen by some to be a little outdated and short of what might be required in the future as a new university competing in a changed environment.

These managers themselves though highlighted their excessive workloads, which were acknowledged by others, and complained of inadequate resources to deal with some issues. For example they pointed to new learning and teaching methods demanding extra and new resources that it was not often possible to provide. There was also evidence of these managers not having time to pursue their own research or professional development because of the demands of their posts.

5.2.2 Barrier 2: Teachers Union & Adversarial Culture

The Teachers union is endemic in the culture of DIT and indeed the institute of technology sector. There are good reasons for this. The culture has evolved over many decades and during much of this time management was perceived by many staff as hard, old style hierarchical, top down and bureaucratic. Policy definition appears to have been fairly loose historically but within broad government guidelines of expanding graduate numbers in science and technology, but control of implementation was kept tight in the institutes of technology. Teaching hours and duties were tightly controlled and staff relied heavily on their union to protect them at times from over zealous management. Attempts at weakening the position of the union by

management were stoutly resisted by the large number of unionised academic staff. Most academic staff were members of this very strong teachers union and an adversarial system evolved. There was a six week teachers strike in one college in 1984 in a dispute over promotional posts but this was symptomatic of the poor industrial relations generally. Some proposals for change in the 1990s, including becoming a university, did not appear to staff to properly take cognisance of the views of important stakeholders. At this time DIT seemed to be attempting to emulate other traditional Dublin universities and this was not seen to be appropriate to many staff. Brinkmanship became the norm with staff strongly resistant to this and other major changes that they felt they were not being consulted about.

The new President was appointed in 2003 and a more consultative approach has evolved, but the legacy of history and the old adversarial culture is still seen to prevail in many ways. The importance of the teachers' union in protecting the conditions and remuneration of academic staff was acknowledged by all, including the President and senior management. Although some interviewees wondered whether the union should be involved in academic matters it was the majority view of those interviewed that this was a function of the union where work practice, promotions and other important conditions of service were affected. Indeed, the President of DIT was quite keen on unions being involved at an earlier stage in negotiations around change as part of Partnership IT.

The present culture or way of doing things is seen by students and some members of academic staff and management as outdated and holding up necessary change in DIT. The union whilst welcoming the present consultative approach are cautious. They know that a new President will be appointed in 2013 with a possible change of practice. Nonetheless there is now an opportunity to explore a better way to operate that might prove resilient and sustainable enough to last through new administrations.

5.2.3 Barrier 3: Bureaucracy

Students, staff and management all complained about there being too much bureaucracy in DIT. They felt it must be reduced. Students complained about the slowness of change. Teaching staff complained about the high number of teaching hours and this inhibited research and was generally a barrier to change. The reason for high teaching hours was seen to be because of the bureaucracy associated with managers having to submit teachers' timetables within strict criteria. Increased quality procedures were referred to by a number of senior staff as becoming more burdensome and more bureaucratic even though most interviewees agreed improved quality was necessary. The EUA review recommended that QA tick box procedures should become more about quality enhancement and improvement of programmes on an ongoing basis. The QA officer argued that this would result in less bureaucracy with less control of implementation needed. Academic management in the engineering faculty argued back that there simply were not the resources in the faculty to handle the amount of quality procedures that would be necessary with such a quality enhancement system. So whilst devolving responsibility for quality procedures to faculties might allow improved response, programme improvement and reduce bureaucracy this was not seen as practicable by the engineering faculty at present. The reasons for not being able to respond to this seemingly worthwhile change is because of the bureaucracy associated with reallocating or moving appropriate resources. So reducing bureaucracy in one area is blocked because of another kind of bureaucracy elsewhere.

5.2.4 Barrier 4: Protection of Academic Standards (against *Dumbing Down)*

Students are changing and so is the university learning environment. King [9] highlights the contradiction for universities in fulfilling elite functions of scientific research with the demands for mass access. He suggests there is a strong argument for these functions to be served by different colleges. But the DIT is committed to continuing at multi-level and expanding its research. This provides conflicting demands that naturally result in some tensions. Added to this is the fact that many staff have received their education and intellectual induction in the traditional universities. King [9] argues the stronger the influence of such norms then the lower the chances of increasing diversity. Jary & Parker [10] refer to the multiple and conflicting goals and loyalties of staff. Loyalty to organisation can sometime conflict with loyalty to discipline. Shattock [11] refers to what he describes as a truism that academics tend to be more loyal to their discipline than their university. If this is so then these academics might be less concerned about falling student numbers and the benefits of diversifying to DIT than their commitment to what they perceive to be high academic standards in their profession.

There was widespread agreement in this research that students are changing as participation rates of 55% are exceeded in Ireland, in a universal access system, as defined by Trow [12], and as DIT increases diversity further in a learning society. In these circumstances resistance to innovative academic change results sometimes from academic staff who appear to fear that the DIT may, as some of them describe it, be "D*umbing Down*". This research suggests there is conflict for some academic staff who are more used to lower participation rates in an exclusive system in which only the best and brightest gained access. In Ireland, participation rates of school leavers were about 20% in 1980, in an elite system as defined by Trow [12] , 35% in 1992 and a little over 40% ten years ago, according to DIT. Older academic staff began teaching in an elite system using traditional lecturing techniques and being the expert at the top of the lecture theatre dispensing knowledge to bright students eager to gain

advantage in a struggling economy. But times are different now with universal participation rates, more varied students and access to world class resources through the internet. For example Stanford University and Massachusetts Institute of Technology (MIT) make high quality course notes and other material available online and free. Thus teaching methods must change. Many students nowadays expect modern learning methods to be facilitated by academic staff using information technology in an inclusive and supportive environment devoid of academic snobbery. This research suggests students expect formative assessment and prompt feedback with student learning outcomes linked to industry needs.

There were academic managers and staff interviewed who accepted that in areas where diversity and opportunity have been enhanced that whilst standards may be changing this does not necessarily mean they are reducing. The dumbing down view appeared to be in a minority. For most academic staff the "are we dumbing down" question may only have been a prelude as they were about to undertake change. A last look into the swimming pool from the high diving board before jumping to make sure there was enough depth to the water – and enough academic depth and rigour to what was intended with new innovations. In other words healthy scepticism about major change that might in their view have significant impact on the reputation of their programmes, their profession and DIT.

5.2.5 Barrier 5: Poor Communication

The final major barrier to change identified in this research was that of poor communication. When the President of DIT went to great lengths to meet with all staff in DIT in 2007 in order to hear their views about the future configuration of DIT and any other matters they might wish to raise, this was not as smooth a process as envisaged by senior management. As a result of this some staff found the whole process a complete waste of time and the process was even referred to as *subterfuge*. There was also the suggestion by one interviewee that focus groups should be used to develop early ideas and then there should be the presentation of a "White paper" (sic) for all staff to comment on. It was thought by some staff that this would be a better and less time consuming method of reaching the same point on the page. What is ironic is that the process was aimed at improving communications and collaboration but what was highlighted clearly was the communications difficulties in the DIT. Most staff did not really identify with what the meetings were supposed to be about or what they were supposed to achieve. Many staff did appreciate that they were not excluded from the process even if that process operated in an unsatisfactory manner on this occasion. It does seem that this process was intended by the President to be the first stage of an iterative process and the meetings referred to above were merely the first stage of this process. The President has recently issued a "Green Paper" for further consultation and refinement. This Green Paper followed on from the assimilation of all that has emerged from the Management Forum and meetings with all staff in the Institute. An interviewee suggested a White Paper (proposal document) but the President took a step back from that and delivered a Green Paper (discussion document). But it was not made clear at the time that this was going to happen. The perceptions of staff to the first round of meetings were that of a somewhat baffled audience to whom the whole process had not been made clear. The President later commented to me that he assumed that line managers had briefed their colleagues but this did not appear to happen, certainly not in all cases. This highlights the need that with this more consultative approach there must be seriously improved communication procedures. A white paper (proposal paper) was issued by the President in 2009.

5.3 Category 3: Enablers to Change

Having highlighted five barriers to change we now examine five enablers. Most of these emerged as part of the literature review but some as part of the data collection itself. The five enablers identified were:

1. the more consultative approach adopted, particularly from the President;
2. changing academic structures and improved procedures;
3. Partnership IT;
4. the Learning (Organisation) University;
5. rotating of management posts as suggested by the EUA review team.

There was not always agreement that these were in fact enablers and various criticisms and difficulties are outlined as well as the positive points for each.

5.3.1 Enabler 1: A More Consultative Approach from the President

If there are disadvantages, as outlined in the previous section, to the President implementing a rather drawn out iterative process of consultation before finalising major decisions effecting the DIT, there appear to be advantages to this that seem to far outweigh the disadvantages. Namely that many staff on the ground and unions see the whole process of major change as being far more consultative and collaborative. Getting a shared vision and agreement on the type of university that the DIT wanted to become was one example of this provided by the union representative. There was widespread support for the view that DIT now had a more inclusive way of doing things albeit with change happening far too slowly for some people. Barnett [2] has expressed strong views on this and he highlights the importance of improved communications when decisions are being worked through with the staff of the university. He also points out that staff need space and time to work large matters through in their own minds. Barnett highlights that although this takes time and patience there is no other way; without mutual

understanding there will be no durability to what is being sought. University leaders have not just to deliver outcomes but they have to advance processes collaboratively in the age of supercomplexivity as he describes it.

5.3.2 Enabler 2: Academic Procedures Enabling Bottom Up Change

New faculty board and quality enhancement procedures were seen as working well in one faculty, but this raised questions about how well these procedures worked in engineering. The importance and necessity of rigorous academic debate in matters like this was highlighted and it was felt by some that this was not happening adequately in engineering.

Many academic staff were unaware as to how new quality procedures were intended to operate, but those who were aware, were generally positive about them. They thought they were intended to facilitate more bottom up change and a more collegial way of doing things. Some more insightful interviewees thought the procedures did not always operate in the way they were intended. For example there were criticisms, from at least two entirely separate but informed sources, of engineering faculty executive overriding faculty board when it was thought it was inappropriate to do so.

5.3.3 Enabler 3: Partnership IT

National Partnership agreements were agreed on a three year rotating basis by the social partners from 1986 to the present, though this process is under pressure presently. As part of these national agreements, Partnership IT was agreed to modernise practices within the Institute of Technology HE sector in Ireland. It may be a little too early in the implementation of Partnership IT in the DIT to evaluate how it will proceed but generally staff were fairly sceptical that it could become a new inclusive way to run the organisation, as claimed in the Partnership documentation. Whether Partnership IT will build a process for greater efficiency, better quality and generally a better way to operate DIT and the other institutes of technology around the country is still not clear.

The President of DIT complained that he found it difficult to have open discussions with union officials with regard to developing policy. He thought they would seem to prefer that he formed policy and they would then critique it. They might argue that is what he is paid for but the President seems genuine that he wants them to engage in a collaborative process in the formation of policy. The President believes this would be less adversarial. The unions may not be set up or have the resources to do this or see that as their role. There are less resources necessary for a union when it only has to pass comment on a policy document than if union representatives are expected to contribute to policy, present this at various stages to members, amend it, negotiate in an iterative process and finalise a document in a collaborative way with management that is likely to be accepted by members. The Union may simply not have the resources or expertise to engage in the type of process envisaged by the President.

Most people were content to keep an open mind about how Partnership IT will evolve in the future and it certainly appears to have at least some potential to help build a more responsive organisation operating in an inclusive and collaborative way but it does seem that change in this regard will be very slow indeed.

5.3.4 Enabler 4: Learning Organisation

Not many of the interviewees had heard of the term *Learning Organisation* but it is offered as a possible way to run a modern university better by Trowler [13], Barnett [2], Duke [14] and others. This was put to the small number of interviewees who were familiar with the term, including the President. The main benefit identified for a learning organisation is that it responds more quickly to the changing environment. For this to happen effectively, change has to occur from all parts of the organisation in a flatter structure and communication has to be excellent. The Learning Organisation is acknowledged by writers on Learning Organisations including Senge [15] as ever evolving. It varies in every organisation but as examined in chapter 3 of this dissertation, the Learning Organisation is often more a concept than a reality. Nonetheless there appears to be overlaps between the Learning Organisation and Partnership IT and between these concepts and the Entrepreneurial or Innovative University. The Learning Organisation would seem to deserve further and detailed consideration by DIT and the unions.

5.3.5 Enabler 5 Analysis: Rotating posts

One of the symptoms identified by interviewees of an overly bureaucratic organisation is the permanency of academic management posts. It was suggested that they were permanent because DIT was bureaucratic and unable to change this but also that the organisation was bureaucratic because managers of all types were simply there too long; a kind of chicken and egg scenario. Surprisingly all of the interviewees were in favour of rotating the posts of all academic managers. A greater sense of transparency, empathy and collegiality would develop it was thought and that this would be far more suited to a modern DIT university. It was also felt that there would be more opportunity for academic managers to remain research active and/or pursue further qualifications for themselves. All of the interviewees were in favour of rotating the posts of head of department, head of school and dean of faculty. All interviewees believed that rotating these posts would benefit the DIT, the posts themselves, the people relieved of the post after a specified period and the people who would aspire to taking on the post at some time even if that was far off in the future. This policy would allow DIT be more flexible and move these posts more easily to follow needs as some areas expand and others contract.

However, there are some cautionary notes required here. Data presented earlier refers to the lack of preparation for management positions by academics. Would this not be exacerbated if academic managers continually change and new people frequently come in to manage departments and schools? The new environment for managers appears to be vastly different, more volatile and more challenging than the more predictable settings of old. Another factor that must be considered is the apparent disinterest in these positions by many senior academics. The low number of applicants for such posts in DIT certainly raises questions as to the interest in them and their attractiveness to suitable applicants. In this regard, Watson[1] agrees that middle management positions are insufficiently attractive to the cream of academic staff and goes on to argue that the notion of office rotation at this level does not sit well with the increasingly complex demands of these positions. In fact the increasing complexity of the higher education environment is likely to make these posts even less attractive to knowledgeable staff who in many cases know what to expect; and of course what is ironic is that it seems likely that these knowledgeable staff would most likely be the most suitable applicants for such positions in many cases.

6. Relevance and Limitations

This paper is drawn from some aspects of a doctoral thesis and is intended to illuminate what is happening in a HEI in Ireland as it attempts to change in response to a volatile and unpredictable external environment whilst enabling staff to understand the challenges ahead and to motivate them to address these challenges.

Williams [16] warns that case study research is often criticised for generalising 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 generalisation inappropriate at times but the study is intended to contribute to knowledge of aspects of the Dublin Institute of Technology with its culture and in the context and setting described that may have resonance for HEIs elsewhere with similar characteristics and facing similar challenges.

With regard to senior staff within DIT, it is intended to enable them see more clearly the issues, identify the challenges applying to their area and help them identify the best means of addressing these challenges. Alternatively this project might help them see where future research may be needed in order to examine the specific challenges facing them and explore the methods of change appropriate to their areas.

With regard to academic staff the intention is to inform them about what is happening and allow them see what may be in store for them in the future. Such information can assist them in contributing to change and enable them to better collaborate in it rather than sitting back waiting for it to be applied by managers or even government who they sometimes see as not understanding them or the academic culture that applies to them.

It is not claimed that this research reflects accurately and comprehensively what is happening all across higher education. It is a snapshot of the engineering faculty of DIT at a moment in time. If this research project leads to further more widespread research in DIT it will have served its purpose in this regard.

For the general reader a knowledge of what is happening in DIT 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.

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