Examining Shifts in Institutional Positioning in the Evolving Irish Higher Education System

Volume 1 of 1

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Finally, my experience of completing this thesis is best captured in a quote from somebody I admire greatly: "Talk about a dream, try to make it real." *Bruce Springsteen*

Abstract

The thesis investigates a highly interesting, perennial issue in the contemporary development of higher education in times of massification and public sector reform: forces for organisational homogeneity and differentiation in the field, related shifts in organisational positioning of universities and of restructuration in the field. In particular, the thesis investigates higher education in Ireland between 2011 and 2016 and the impact of a national strategy for higher education launched in 2011. A specific focus of the research is on the intention to introduce a new institutional type, Technological Universities, to the field, and the early effects of this innovation upon organisational isomorphism. The emphasis upon the Institutes of Technology (IoTs) and their response to the reform imparts an element of originality to the thesis, and helps it to become a contribution to knowledge.

From an organisational theory perspective, DiMaggio and Powell (1983) define organisational isomorphic change as a process of homogenisation, in which organisations operating within the same environment and under similar conditions, come to resemble one another.

The study is informed by international examples of restructuring and institutional positioning. The thesis reviews a considerable amount of literature to discuss recent trends in higher education, and to analyse the literature on organisational isomorphism in general and the related literature on diversity and differentiation in higher education in particular. Further, substantial and creative efforts are made to design the empirical investigation including primary data analyses of interviews, the use of quantitative secondary data, and documentary analyses.

This study is expected to be of particular interest to government, policy makers, scholars, and institutional leaders in the higher education area.

List of Abbreviations

CPD	Continuing Professional Development
CUA	Connacht Ulster Alliance
DCU	Dublin City University
DES	Department of Education and Skills
DES	Department of Education and Skills
ECTS	European Credit Transfer System
EHEA	European Higher Education Area
ESG	European Standards and Guidelines
EU	European Union
EUA	European University Association
FETAC	Further Education and Training Awards Council
GMIT	Galway-Mayo Institute of Technology
HE	Higher education
HEA	Higher Education Authority
HEI	Higher Education Institute
HERD	Higher Education Research and Development
HETAC	Higher Education and Training Awards Council
ICT	Information and communications technology
IoTs	Institutes of Technology
ISSE	Irish Survey of Student Engagement
IUQB	Irish Universities Quality Board
NFQ	National Framework of Qualifications
NFQ	National Framework of Qualifications
NGO	Non-governmental organization
NIHE	National Institute for Higher Education
NQAI	National Qualifications Authority of Ireland
OECD	Organisation for Economic Cooperation and Development
PA	Performance Agreement
PBF	Performance-based funding
PRTLI	Programme for Research in Third Level Institutions
QA	Quality Assurance
QQI	Quality and Qualifications Ireland
RDI	Research, Development and Innovation
RGAM	Recurrent Grant Allocation Model

RTC	Regional Technical College
SIF	Structural Innovation Fund
SME	Small and medium-sized enterprises
STEM	Science, Technology, Engineering and Maths
TU	Technological University
UAS	University of Applied Science
UK	United Kingdom
UL	University of Limerick
UNESCO	United Nations Educational, Scientific and Cultural Organization
WTUN	World Technologies Universities Network

List of Institutes of Technology

Abbreviation	Name
AIT	Athlone Institute of Technology
ITB	Institute of Technology, Blanchardstown
ITC	Institute of Technology, Carlow
CIT	Cork Institute of Technology
DIT	Dublin Institute of Technology
DkIT	Dundalk Institute of Technology
IADT	Dún Laoghaire Institute of Art, Design and Technology
GMIT	Galway-Mayo Institute of Technology
LYIT	Letterkenny Institute of Technology
LIT	Limerick Institute of Technology
ITS	Institute of Technology, Sligo
ITT	Institute of Technology, Tallaght
IT Tralee	Institute of Technology, Tralee
WIT	Waterford Institute of Technology

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CHAPTER 1: INTRODUCTION

Chapter 1: Introduction

This thesis presents a study of the higher education system in Ireland over a five year period: 2011 to 2016. At present, there are 36 publicly funded higher education institutions: 7 universities, 14 Institutes of Technology, 5 colleges and 10 smaller colleges. The study is concerned only with the publicly funded university and institute of technology sectors.

1.1 The Study Context

The first ever National Strategy for Higher Education launched in 2011 and covering the period up to 2030 is having a transformative effect on the higher education system. The National Strategy offers strong support for the maintenance of system diversity while proposing structural reform. The impact of proposed structural reform is particularly evident in the Institute of Technology (IoT) sector, with most of the IoTs pursuing re-designation as Technological Universities (TUs) as allowed for in the National Strategy.

1.2 Study Aims and Rationale

From an organisational theory perspective, DiMaggio and Powell (1983) define institutional isomorphic change as a process of homogenisation, in which organisations operating within the same environment and under similar conditions, come to resemble one another.This study set out to examine the influence of institutional isomorphism and diversity in the process of restructuring the higher education system in Ireland. It considers the impact on institutional positioning of introducing a new entity, such as a Technological University, and evaluates the implications and consequences of institutional isomorphism and diversity. The study is informed by international examples of restructuring and institutional positioning.

Fundamentally, this research examines whether the ambition of IoTs to become Technological Universities represents: (i) a rebranding exercise where the existing ethos and mission of the IoT is preserved; (ii) an attempt to gain increased legitimacy by attempting to imitate institutions (universities) that are perceived to be more successful (isomorphism); or (iii) a genuine effort to create a new entity, something

that is innovative, transformative and different to that which currently exists; or perhaps (iv) a combination of all three.

There are few studies on isomorphism and diversity in the literature and none that apply to the Irish context, indicating the need for such a study to be conducted and representing the unique contribution of this study to the literature.

The position of the researcher is as an active participant in the process, primarily due to holding a senior executive position in a higher education institute (Galway-Mayo Institute of Technology (GMIT)) as Vice President for Academic Affairs & Registrar. This role involves membership of one of the consortia steering groups (The Connacht-Ulster Alliance (CUA)) with an ambition to obtain re-designation as a Technological University (TU).

1.3 The Research Questions

Informed by the study aims and following a review of the literature, four research questions were formulated as follows:

1. Is there evidence of institutional isomorphism and/or institutional diversity in the process of and drivers to restructuring the higher education system in Ireland?

2. What is the likely impact on institutional positioning of introducing a new entity such as a Technological University, for instance, how might the likely profile, mission and strategic intent of this entity compare with Institutes of Technology and traditional universities?

3. What lessons may Ireland learn from a review of the restructuring and institutional positioning of selected higher education systems in the international arena?

4. What are potential consequences of institutional isomorphism and/or institutional diversity, specifically in relation to: (i) institutional identity; (ii) the role of the state; (iii) leadership; (iv) institutional autonomy; (v) public accountability; (vi) engagement of agencies and stakeholders; and (vii) internal actors / professional networks?

1.4 Methodology

The study adopted a mixed method approach to data collection and analysis. The quantitative dimension involved a comparative analysis of published data applicable to the Irish context. A diversity matrix was compiled based on ten dimensions of diversity. A survey, designed and conducted by the researcher, constituted one of those dimensions. Documentary analysis of national and international reports was used to provide an evidence base to the qualitative aspect of the study. The qualitative dimension involved conducting in-depth interviews with 26 key stakeholders in the field at national and international levels. Qualitative data analysis was conducted using Braun and Clarke's (2006) thematic analysis framework. The process of data analysis identified four dominant themes of concern to the study participants, namely: the National Strategy for Higher Education; the role of the state; institutional ambition; and the criticality of mission. Each of these four themes comprises a number of sub-themes.

1.5 Originality and Anticipated Contribution to Knowledge

In the Irish context, the existence of isomorphism and the extent to which it may be a driver of institutional ambition for IoTs to seek re-designation as Technological Universities has not been investigated. Investigating institutional positioning linked to isomorphism thus forms part of the original contribution of this study.

This study offers findings, insights and learnings that, it is anticipated, should be of interest to, and a valuable source of information for, a range of stakeholders. Such stakeholders include: HEIs considering restructuring; policy makers; institutional leaders; scholars; and all other stakeholders with an interest in the evolution and life cycle of HEIs. More specifically, the study adds to the discourse on the influence of isomorphism and diversity as drivers of ambition in the restructuring of HEIs. The restructuring debate is in its infancy in Ireland and the higher education system has limited experience of restructuring leading to mergers. Northern Ireland has greater experience of merging, albeit from a trans-binary perspective. It is likely, due to the challenging environment faced by HEIs with regard to reduced resources, expanding student demographics and increasing state control that shifts in institutional positioning will continue to be evident for some time into the future. This study evaluates the status of the Irish higher education system five years after the launch

of the National Strategy in order to determine the impact of the strategy on institutional positioning.

This study contributes to particular areas of academic knowledge including identification of the key drivers of isomorphism and diversity in the Irish higher education system. The study puts forward a model that captures the elements of institutional positioning linked to the influence of both isomorphism and diversity. It concludes with a list of thirteen recommendations drawn from the findings, which if adopted, have the potential to unlock the current impasse in relation to steering the IoT sector towards the future it has long desired.

1.6 Thesis Structure

Following from this introductory chapter, Chapter 2 provides context and background to the Irish higher education system with a particular focus on the period 2011 to 2015, the period since the launch of the National Strategy and the period covered by this study. It provides a background to the Irish higher education system from the 1970s when non-university institutes were created in response to massification. It discusses the impact of the National Strategy and the scale of policy development steering the higher education system since 2011. It describes stakeholders' reactions to the National Strategy, and discusses the changes to the governance and steering approach evident since 2011, particularly the increased authority of the Higher Education Authority (HEA). The chapter concludes with an update on the current position of the higher education system in Ireland, providing context for the focus of this study.

Chapter 3 explores and critically analyses the literature available on institutional positioning in higher education. The literature is reviewed from an International higher education perspective in order to understand the most relevant research and theoretical frameworks applicable to this study. The chapter is divided into five sections based on the theoretical framework identified that best represents the focus of this study, looking for evidence of institutional isomorphism as an influencer of institutional positioning. The isomorphic indicators and drivers identified in the literature form the basis of the conceptual framework informing the diversity typology developed by the researcher to examine trends towards isomorphism and/or diversity in the Irish higher education system,

Chapter 4 presents and explains the research design adopted for this study in its endeavour to examine the influence of institutional isomorphism and/or diversity in the process of and drivers to restructuring the higher education system in Ireland. This chapter discusses the epistemological and ontological underpinnings that inform the mixed-method approach adopted by this study. It describes and justifies the research design, and explains the processes and procedures of data collection and data analysis. It acknowledges the position of the researcher as an integral component of the research process and addresses the ethical dilemma this presents in keeping with research ethics policies.

Chapter 5 presents the qualitative data analysis and findings. Four dominant themes were identified in the data analysis process: higher education strategy; the role of the state; the criticality of mission, and institutional ambition; and these four themes form the structure of this chapter.

Chapter 6 presents and explains the documentary analysis and findings. The rationale for incorporating documentary analysis into the research design and methodology of this study is explained. A documentary analysis framework, designed by the researcher, and consisting of three pillars forms the structure of this chapter. The three pillars are: selected international higher education systems; the Irish higher education system; and dimensions of Institutional diversity relevant to the Irish context.

Chapter 7, Conclusions and Recommendations considers the qualitative findings, combined with findings from the documentary analysis, in answer to the four research questions formulated for this study. Thirteen recommendations are presented. The limitations and proposed areas for further research are outlined and a concluding statement brings the study to a close.

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CHAPTER 2: BACKGROUND AND CONTEXT

Chapter 2: Background and Context

The Irish higher education system is going through a period of unprecedented change as a result of the adoption by the Government of the '*National Strategy for Higher Education to 2030'* as policy (DES 2011). The strategy, also referred to as the *Hunt Report*, recognises that higher education needs to change in order to address the economic, social and cultural challenges of the future. It presents a vision for higher education in Ireland which is underpinned by high-level system objectives and a suite of recommendations. A reconfiguration of the system is required to cater for increased demand and a more diverse student cohort in a challenging economic environment.

This chapter provides context and background to the Irish higher education system with a particular focus on the period 2011 to 2015, the period since the launch of the National Strategy and the period covered by this study. Section 2.1 provides a background to the Irish higher education system from the 1970s when non-university institutes were created in response to massification and economic imperatives. Section 2.2 discusses the impact of the National Strategy and the scale of policy development steering the higher education system since 2011. Section 2.3 describes the reaction to the National Strategy, while Section 2.4 discusses the changes to the governance and steering approach evident since 2011, particularly the increased authority of the HEA. The chapter concludes with an update on the current position of the higher education system in Ireland, providing context for the focus of this study.

2.1 The Irish Higher Education System

The Irish experience of massification and diversification can be traced back to the 1960s. Policy changes at the time resulted in increased participation and higher retention rates in second level, which resulted in increased demand for access to higher education. This shift, coupled with a policy focus on economic growth, required a reoriented higher education system. The Government responded in the early 1970s by establishing eight Regional Technical Colleges (RTCs), signalling a policy to develop a separate non-university sector (O'Hara 2010). RTCs did not receive separate legislation until 1992. Section 5 of the Regional Technical Colleges Act 1992 describes the function of the sector: "To provide vocational and technical education and training for the economic, technological, scientific, commercial, industrial, social and cultural development of the State with particular reference to the region served

by the college." The legislation authorised a college, subject to such conditions as the Minister for Education may determine, "to engage in research, consultancy and development work and to provide such services in relation to these matters as the Governing Body of the college considers appropriate."

In addition, an alternative type of HEI was created in the 1970s called National Institutes for Higher Education (NIHEs). Only two NIHEs were ever created, one in Limerick in 1972 and one in Dublin in 1980. Following a campaign for upgrade to university status, both institutions were successful in 1989, which resulted in the establishment of the University of Limerick (UL) and Dublin City University (DCU). The study group commissioned by the Government to review their case decided against the title 'Technological University' because of the fear that it "might appear to diminish the excellent work of the existing universities in the area of technological education and research" (Clancy 2015, p.26). Subsequently, sustained pressure from the RTC and local Chamber of Commerce in Waterford for university status resulted in a compromise whereby a Steering Committee recommended that the RTC should be upgraded to an Institute of Technology (IoT) imitating the Dublin Institute of Technology, which enjoyed higher degree awarding authority compared to the RTCs. Following the granting of IoT status to Waterford RTC in 1997, the Government was forced to yield to political pressure and grant IoT status to all the remaining RTCs in 1998. During the past decade, the binary divide has been under review following the publication of the National Strategy (2011), which offers strong support for the maintenance of system diversity while proposing structural reforms. This study examines whether isomorphism or diversity is driving IoT ambition to engage in structural reform, leading to re-designation as TUs.

2.2 The National Strategy for Higher Education

Ireland has 36 higher education institutions, with total funding provided of €1.5 billion annually from the state, serving approximately 200,000 students. The Government aims, through the National Strategy, to create a more coordinated and coherent system of interconnecting, complementary HEIs, each with a clearly defined mission (DES 2011). This research focuses on the 21 publicly funded HEIs consisting of seven universities and 14 IoTs; paying particular attention to the IoT sector due to the scale of restructuring envisaged. The 21 publicly funded institutions account for 90% of students in the publicly supported sector.

The National Strategy presents a vision for higher education in Ireland which is underpinned by high-level system objectives and a suite of recommendations. It signals the start of government-led steering to ensure a more coordinated, effective and efficient higher education system. In particular, this involves the termination of bottom-up collaborations through incentivised funding, such as the Programme for Research in Third Level Institutions (PRTLI) and the Strategic Innovation Fund (SIF). The strategy focuses on three significant policy developments:

1. Reform of the IoT sector through amalgamations and mergers
2. Consolidation and absorption of smaller institutions into the university sector
3. Establishment of regional clusters of collaborating institutions within geographical areas (*ibid*.)

Clusters will not change the basic legal status of existing institutions. They are envisaged as "agreements between groups of autonomous, independent institutions to co-ordinate activities and integrate planning to provide better, higher quality services to students and regions and to advance the capacity, performance and contribution of the higher education system as a whole" (HEA 2012, p.19). Achievement of the objectives of a cluster will affect funding of individual institutions through performance compacts; a mechanism for how performance is to be measured and a proportion of funding will, in future years, be contingent on performance. These compacts will be agreed between the Higher Education Authority (HEA) and the individual institutions. While there are tensions between the objectives of clusters and those of alliances seeking TU designation, this study focuses on the latter, specifically examining if isomorphism is a driver of ambition for IoTs in their pursuit of TU status.

Irish higher education is said to be strong in its participation rates, with 58% of students progressing to third level education (Cassells 2016). The Strategy notes that Irish higher education is at a point of transition due to significantly increased enrolment and changing student profiles. The economic downturn (2008-2016) and resulting unemployment, coupled with changing patterns of work and the demise of lifelong careers, require new teaching and learning approaches and a greater emphasis on up-skilling, reskilling and lifelong learning. Consequently, the National Strategy envisages a higher education system evolving within a framework aimed at developing a coherent set of higher education institutions; each of significant strength, scale and capacity and with diverse missions that together meet individual, enterprise

and societal needs. In particular, the Strategy recommends that the "institute of technology sector should commence a process of evolution and consolidation; amalgamated institutions reaching the appropriate scale and capacity could potentially be redesignated." In a further recommendation, it states that "smaller institutes should be consolidated to promote coherence and critical mass" (DES 2011, p.109)

The National Strategy suggests that a Technological University (TU) should be an entirely new type of university designed to maintain diversity in the overall system and one that will positively respond to the country's innovation needs and development opportunities. As a new initiative, the establishment of such a university will require primary legislation.

The belief within the government was and still is that IoTs are operating at a somewhat constricted level and are capable of doing more. This is reflected in a speech by the Minister for Education and Skills in 2011, Mr Ruairi Quinn, T.D., when he stated at the launch of the strategy: "I accept the view that the time has come for institutes to be given scope to develop further. There are untapped capacities within them and I believe that the creation of a very small number of technological universities has the potential to release those." (Quinn 2011). The launch of the strategy in 2011 coincided with a period of intense policy development, as outlined in Table 1.1.

Table 1.1: Timeline of Irish Higher Education Policy Development, 2011-2015

Date	Policy Development	System Implications
2011	National Strategy for Higher Education to 2030 published.	System-level restructuring and reform: consolidation of IoTs; process for establishing TUs; regional clustering of HEIs.
	HEA consultation document: "Regional Clusters, Consolidation Leading to Mergers, Strategic Dialogue".	Emphasis on formal regional collaboration of HEIs, including from across the binary divide.
2012	HEA publishes "Towards a Future Higher Education Landscape", which includes a process for the creation of TUs.	A bottom-up (from the HEIs) and a top-down (from the HEA) approach to system steering results in widely differing perspectives on an 'ideal' HE system.
	HEIs make submissions on their future position within the HE landscape.	
	International Expert Panel produces advice on "A Proposed Reconfiguration of the Irish System of Higher Education".	
	"Report of the International Review Panel on the Structure of Initial Teacher Education Provision in Ireland"	Recommendation that fragmented teacher education be consolidated and integrated into the university sector.
2013	"Review of the Provision of Creative Arts and Media Programmes in Dublin"	Explore model for integrating smaller specialist colleges and IoTs specialising in creative arts and media.
	HEA Consultation Document: "Completing the Landscape Process"	A follow-up to "Towards a Future Higher Education Landscape" with proposed configurations for clusters and signalling a reduction in the number of HEIs from 39 to 24

		following a consolidation and merger process.
	HEA sends "Report to Minister for Education and Skills on system reconfiguration, inter-institutional collaboration and system governance". The Minister responds endorsing the recommendations.	Minister advised on specific configurations for mergers, clusters and other forms of strategic alliances, as part of system-level reconfiguration.
2014	Department of Education and Skills publishes "General Scheme for Legislation on Technological Universities"	Legislative provision for TUs, including specifics on mergers among Dublin IoTs, and more general merger provisions for IoTs considering re-designation.
2015	Technological Universities Bill 2015 published	The Bill allows for the merger of IoTs. It provides for the functions and governance of TUs, the establishment of TUs, and the incorporation of IoTs into TUs.

Adapted from Hazelkorn and Harkin (2015)

2.3 Reaction to the National Strategy

The HEA (2012) published a document in response to the National Strategy entitled "Towards a Future Higher Education Landscape." This addressed two areas for development that have particular importance for IoTs, namely clusters and consolidated (through formal legal merger) institutions. The document specified a four-stage process for consolidation and re-designation as a Technological University and the criteria IoTs need to achieve prior to applying for re-designation as a TU (Appendix 1.1).

In 2013, the HEA produced a report for the Minister for Education and Skills on system reconfiguration, inter-institutional collaboration and system governance in the Irish higher education (HEA 2013). The recommendations in the report are aimed at supporting the delivery of government objectives by creating a system of collaborative, autonomous and accountable higher education institutions that are

internationally benchmarked and globally competitive. A key objective is to build on the diversity that already exists within the system as reflected, for instance, in the distinctive roles and missions of universities and IoTs, while enhancing the delivery of excellent outcomes in teaching, research and engagement for students and stakeholders envisaged in the National Strategy (HEA, 2013, p.5).

The system reconfiguration report distinguishes between IoTs and universities as follows:

> Institutes of Technology are dominant in Levels 6 and 7, and are stronger than the universities in part-time and flexible provision. They also have a larger proportion of mature and disadvantaged entrants, are involved in less research activity in a smaller number of focused areas, and are significantly involved in industry support and regional engagement. Universities, on the other hand, generally focus on Level 8 at undergraduate level, are more active at postgraduate level and in international education, and have a higher proportion of research activity and a much higher proportion of national and international research funding (HEA 2013, p.10).

The International Expert Panel (2012) working with the HEA and chaired by the Dutch higher education specialist, Frans van Vught, accepted the concept of a TU as outlined in the National Strategy, but provided an additional input to the debate by recommending the creation of a single national entity. The proposed 'National University of Technology' would consist of two types of institution: university status for those that meet the TU criteria; and institute for the remaining institutions (offering awards up to Level 9 on the National Framework of Qualifications (NFQ)). While this panel made a series of radical recommendations, which were rejected by Government, institutional leaders hold the view that the option of a National University of Technology was not given adequate consideration; as a result, this option is discussed in the primary research conducted for this study.

2.4 Governance of the Higher Education System

The National Strategy provided the HEA with a new strategic direction as it disagreed with a recommendation from a Government initiated report on public expenditure (McCarthy 2009) which indicated that the HEA should be abolished and have its

functions reabsorbed into the Department of Education and Skills. The National Strategy recommended a strengthened and clearer role for the HEA in relation to implementing strategy. As a result, the HEA now takes a more proactive approach in its relations with the HEIs. This is evident in its Strategic Plan 2012-2016, wherein it states that: "The HEA is the regulator of the higher education system and we are required to implement our funding responsibilities and a process of effective strategic engagement to ensure well-functioning, well-governed, accessible and accountable HEIs, operating to high standards in all areas" (HEA 2012, p.14). The National Strategy also recommends that the HEA engages in 'strategic dialogue' with the HEIs as a method of balancing institutional autonomy with accountability.

It is evident that, over the past decade, there has been a rise in the notion of the 'evaluative state' (Neave 1998). The role of the state as funder was used to steer the entire higher education system towards the achievement of national goals. HEIs are now required to align strategic plans with national priorities, potentially resulting from a position articulated by the HEA that the higher education system was developing in an ad-hoc manner, resulting in "mission drift, confusion over the role and mission of institutions, growing institutional homogeneity, unnecessary duplication and fears about the quality and sustainability of the system" (Clancy 2015, p.274).

2.5 The Current Higher Education Landscape in Ireland

As of March 2017, the current position in relation to TU plans is that four consortia have submitted and received approval from the Minister for Education and Skills for Stage 1 of the process, which involves an expression of interest. The Dublin and South-West alliances have in addition submitted a Stage 2 application, which contains a plan to achieve the criteria for re-designation. The HEA had these plans evaluated by an expert international panel, which recommended approval in each case. The West/North-West alliance known as the Connacht Ulster Alliance (CUA), is currently working on a Stage 2 submission and plans to submit it later in 2017. The South-East alliance has come through a difficult period whereby the trust had broken down between the two partners and attempts are currently underway to move this alliance forward. Four institutions have decided to remain as independent, autonomous IoTs and are not part of an alliance with the ambition to become a TU. The geographical positioning of the four consortia, showing their main campuses, is illustrated in Figure 1.1.

Letterkenny
Institute of Technology

Institute of Technology,
Sligo

Castlebar capus
(GMIT)

Galway-Mayo
Institute of Technology
(GMIT)

Limerick
Institute of Technology

Institute of Technology,
Tralee

CUA

DTU

Athlone Institute of
Technology

Institute of
Technology,
Carlow

TUSE

MTU

Dundalk Institute of
Technology

Institute of Technology,
Blanchardstown

Dublin Institute of
Technology

Institute of Technology,
Tallaght

Dun Laoghaire Institute of
Art, Design & Technology

Waterford
Institute of Technology

Cork
Institute of Technology

Key:

CUA   Connacht Ulster Alliance
MTU   Munster Technological University
TUSE   Technological University of the South East
DTU   Dublin Technological University

Figure 1.1 Location of the Four IoT Consortia Applying For Re-Designation as a TU

The legislative framework to allow for the merger of IoTs and the re-designation of consolidated IoTs to become TUs commenced in 2014 when the Minister published the Heads of Bill titled General Scheme Technological Universities Bill (DES 2014). This process progressed further in 2015 with the publication of the Technological Universities Bill (DES 2015). The Bill provides for significant changes to the governance structures in the TU sector. The Bill also provides for the use of a competency framework, which will set out the criteria deemed necessary for between 3 and 8 appointees of the governing body. It would appear that the government is making little progress bringing the legislation to a satisfactory conclusion. The fact that the National Strategy was adopted as policy in 2011 and with no TUs established

(2017) suggests that the implementation of this strategy is not a priority for government. Indeed, there is evidence of government attempting to influence the process by encouraging mergers between IoTs who have publicly declared their ambition to remain as an autonomous stand-alone institute. It is time for the government to show decisive leadership in relation to the National Strategy and to articulate whether the real policy focus is the creation of TUs or the rationalisation of IoTs currently there is confusion, apathy and lack of trust with an evident lack of progress to date.

However, the importance of TUs is now globally recognised, evidenced by the establishment of the World Technologies Universities Network (WTUN) in 2016. The CUA is one of two Irish HEIs that are members of this network. The network consists of up to 40 universities from around the world with the objectives of:

- Facilitating exchanges between member universities
- Collaborating on research and
- Facilitating links between world technology universities and industry, non-governmental organisations (NGOs) and small and medium sized enterprises (SMEs).

As this is a fledgling network, opportunities for new members will remain open for a period, and it is the aspiration of this researcher that all Irish consortia with an ambition to become TUs would become members to have a collective voice in the international higher education arena.

2.6 Summary

This chapter provided the background and context for this research. It provided an overview of the Irish higher education system from the 1960s to the present day. This period represents the emergence of the non-university sector in response to increased participation in higher education, known as massification. From as early as 1989 there is evidence of institutional isomorphism with two institutes redesignated as universities. Thereafter the state attempted to manage expectations by refusing to allow further re-designations, but conceded in 1998 to allowing all the RTCs to be rebranded as IoTs.

The first ever National Strategy for Higher Education, (launched in 2011 and covering the period to 2030), is having a transformative effect on the higher education system. This is particularly evident in the IoT sector with most of the IoTs pursuing re-designation as TUs. Ambition on this scale was not evident prior to 2011 when only two institutes were actively pursuing re-designation as universities. It can therefore be suggested that this ambition appears to be driving isomorphic behaviour and that is the focus of this study.

Equally, the role of the State was introduced into the narrative and it appears to be a confused role, lacking in conviction. Nonetheless, significant policy development has occurred in the past five years.

The chapter concluded with an update on the current status of the higher education system in Ireland. Fortunately, recent developments, or the lack thereof, have not impacted on this study.

Chapter 3 now presents a critical review of the literature on isomorphism and diversity.

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Chapter 3: Literature Review

Chapter 3: Literature Review

This chapter explores and critically analyses the literature available on isomorphism and diversity in higher education. The literature is reviewed both from a European and International higher education perspective in order to understand the most relevant research and theoretical frameworks applicable to this study. This chapter is divided into five sections based on the theoretical framework that best represents the focus of this study, looking for evidence of institutional isomorphism as an influencer of institutional positioning. This is a new area of research for higher education in Ireland and highlights a gap in the literature from an Irish perspective.

Section 3.1 explores global trends in higher education, specifically their influence on divergence and convergence in institutional positioning. In total ten trends that permeate subsequent sections and inform the research questions are identified and analysed.

Section 3.2 considers institutional isomorphism by focusing on the contribution of DiMaggio and Powell (1983, 1991) and more recent contributions from Scott (2008) and Beckert (2010). The section concludes with the identification of isomorphic indicators and drivers that closely align with the trends identified in Section 3.1, which informs both the research questions and research design.

Section 3.3 reviews the literature on diversity. Diversity is considered at the opposite end of a continuum with isomorphism and both are considered as the substantive components of the theoretical framework for this study. This section identifies the drivers of diversity and discusses the impact of diversity on institutional positioning. It concludes with a proposed typology for evaluating trends in external institutional diversity from an Irish perspective. It demonstrates how the dimensions of diversity selected align with the literature and points to the mode of measurement and analysis that is used in the research design. Fundamentally it is contributing to a theoretical model on institutional positioning in Ireland, which serves as the original contribution of this study to the literature.

Section 3.4 briefly looks at population ecology as a secondary theoretical perspective in support of the main theoretical perspective highlighting the influence of the

environment on organisational behaviour, which in turn impacts on institutional positioning.

Section 3.5 briefly addresses resource dependency theory as another secondary theoretical perspective. This theory suggests that there is a need for strong leadership in times of uncertainty in order to be able to scan the environment and respond with a proactive approach to strategic planning.

Section 3.6 presents an overall summary of the chapter. It closes with a diagrammatic overview of the conceptual framework informing the research, and states the four research questions, arising from the literature review, that form the basis of this study on institutional positioning.

3.1 Trends in Higher Education

A review of the trends in higher education over the decade from 1998 to 2008 reveals that most, if not all, are attributable to the challenge of massification (Altbach, Reisberg *et al*. 2009). The trends reveal greater social mobility, new ways of funding higher education, more diversified higher education systems, and an overall lowering of standards (*ibid*.). This shift, evident also in previous decades, resulted in students of all income levels, as well as students from previously underrepresented groups, having the opportunity to access higher education (Kerr 1994). In more recent times, the growth in lifelong learning has further expanded access to higher education, supported by advancements in information technology (Mingle and Epper 1997, Gumport and Chun 1999).

A report prepared for the UNESCO 2009 World Conference on Higher Education (Altbach, Reisberg *et al*. 2009) identifies trends in global higher education. It identifies higher education in the 21st century as a competitive enterprise. Students compete for places at third level and admission to the 'elite' universities has become more difficult. Universities compete for status, position in the rankings, and funding from government. Competition has its advantages, as it helps to drive excellence. However, it also has disadvantages, in that it can overly influence the mission and values of an institution. Responding to the mass demand for higher education is driving many of the changes evident over the past decades. Altbach *et al*. identify the growth in demand for higher education: "Globally, the percentage of the age cohort

enrolled in tertiary education has grown from 19% in 2000 to 26% in 2007" (Altbach, Reisberg *et al.* 2009, p.vi). In Ireland, during the period 1999 to 2009, enrolments increased by 21% (Clancy 2015).

Ten of the trends from this report are now reviewed (Table 3.1) through the lens of their relevance to institutional positioning in Ireland, the focus of this study.

Table 3.1: Global Trends in Higher Education

1. Globalisation and internationalisation	6. Teaching, Learning and Assessment
2. Student mobility	7. QA, Accountability and Qualification Frameworks
3. Financing higher education	8. New technologies
4. The research environment	9. Competition
5. Regional contribution	10. The challenge of adaptation

3.1.1 Globalisation and Internationalisation

This trend reviews the relationship between higher education and economic development, the impact of massification, institutional autonomy, the challenge of reduced funding and how these elements impact on institutional positioning. First, the two terms of globalisation and internationalisation are defined. Globalisation is defined as "the reality shaped by an increasingly integrated world economy, new information and communications technology (ICT), the emergence of an international knowledge network, the role of the English language, and other forces beyond the control of academic institutions" (Altbach, Reisberg *et al.* 2009, p.iv). Internationalisation is defined as "the variety of policies and programs that universities and governments implement to respond to globalization" (*ibid.*, p.iv).

In a global context, higher education has an increasing role to play in the social, political and economic development of nations. These demands have consequences for their legitimacy, governance structures, organisational arrangements, and the culture and work of academics (Gibbons 1994, Gibbons, Limoges et al. 1994, Dill and Sporn 1995, Slaughter and Leslie 1997, Clark 1998, Gumport 2000, Delanty 2001). However, since the global recession of 2007/8 there is increasing pressure on HEIs to do more with less. The rising costs of higher education are no longer sustainable in terms of resource allocation from government tax revenues. A decline in government financial support for higher education is evident in all OECD countries. The growth in student numbers has presented a challenge for systems that

traditionally provided free access to higher education. Financially, the model of how higher education is funded is now unsustainable and evidence is emerging of fee increases in several countries, including Ireland (Altbach, Reisberg et al. 2009, Cassells 2016, HEA 2016b).

There is a sense of public unease with institutional autonomy as it is unclear whether higher education institutions are capable of managing their resources properly (Baert and Shipman 2005, Schimank 2005). As a result, most countries are reforming their higher education systems and governance arrangements to enhance efficiency and accountability (Arbo and Benneworth 2007).

Other significant trends emerging in the public university sector include decentralisation, mergers, privatisation, and accountability (Stromquist 2007). There is no consensus yet on the interpretation of the changes occurring in higher education as a consequence of globalisation. While it is generally agreed that homogenisation is increasingly evident in the areas of administration, teaching, and research practices, there is also a view that local responses are influential from the perspective of cultural and environmental norms in how new ideas and practices are adopted (*ibid.*).

Internationalisation is used by HEIs to increase student enrolments and thereby enhance the resources of the organisation. Indeed, international students are normally charged a higher fee than local, regional or national students. The reputation, branding, and status of the organisation are important in terms of marketing to and attracting international students. Having a brand that does not include the word 'university' in the title is difficult to explain to the international community. In Ireland, this problem is challenging as both universities and IoTs compete for international students. In general, it is the science, technology, engineering and maths (STEM) disciplines that are promoted to international students as these subjects more easily transcend national borders compared to other discipline areas. While these disciplines are important to economic and technological globalisation, patterns of convergence are emerging in relation to curricula (Stromquist 2007).

Internationalisation provides a solution for HEIs to meet the challenge of reduced funding from the State. Equally, it could be interpreted that the state is steering this agenda by reducing funding in the first instance and thereby encouraging isomorphic

behaviour from different institutional types within the higher education field. DiMaggio and Powell (1983) define institutional isomorphic change as a process of homogenisation, as a result of which organisations operating within the same environment and under similar conditions, come to resemble one another. To meet this challenge, institutions will need to internationalise their curricula and incorporate an international dimension to their teaching, research and service functions (De Witt 2009).

The situation in Ireland is similar to other countries. Ireland has one of the highest participation rates (58%) in higher education in Europe (Cassells 2016). Funding for higher education since 2008 has been reduced, while student numbers have increased and the per capita funding has reduced by approximately 25%. In other countries, such as England, when public funding is reduced the fees paid by students are increased to ensure funding levels are maintained.

Internationalisation is analysed, both in the primary and secondary research of this study, as one of the drivers of isomorphism in the Irish higher education system, as institutions pursue international students as a supplementary revenue stream. The question of internationalisation being an unintended consequence of reduced funding is also worthy of consideration.

3.1.2 Student Mobility

Student mobility is probably the key metric that demonstrates the shift in internationalisation. Estimates predict that by 2020 the number of international students studying outside their home countries will be in the region of 7 million, compared to 2.5 million in 2009 (Altbach, Reisberg *et al*. 2009). The ease with which students move across borders has necessitated the establishment of international comparability frameworks for educational qualifications, a move that could be interpreted as a driver towards international homogenisation.

While the proportion of Irish students availing of the Erasmus programme is in line with the EU average, the number of incoming EU students is twice as large as the number of Irish students going on Erasmus programmes (DES 2010). Full-time international students account for approximately 12% of the student population in the university sector, and 5% in the Institute of Technology sector. International education

is an important internationally traded service in Ireland. The economic impact of international students in Ireland is estimated to be approximately €1 billion (DES 2010). One advantage Ireland has is that it is an English speaking country and it also has an international reputation for academic quality and strong quality assurance procedures.

3.1.3 Financing Higher Education

In recent decades the role of higher education, as viewed by governments, has shifted from the pursuit of knowledge for the public good to a support mechanism for economic development. Mass and universal access to higher education is resulting in government tax revenues not keeping pace with the rising costs of higher education. Increasing demographics are presenting a major challenge to systems where the tradition has been to provide free access or highly subsidised access to higher education. Financially, "this has become an unsustainable model, placing pressure on systems to fundamentally restructure the 'social contract' between higher education and society at large" (Altbach, Reisberg *et al*. 2009, p.xii). Parents and/or students are now responsible for tuition fees, a trend that is gaining traction even in European countries, where free higher education was the norm. Funding shortages are increasingly driving HEIs to pursue supplementary income streams, resulting in a blurring of boundaries between public and private providers of higher education. "In response to these financial pressures, universities and national systems have sought solutions on the cost and demand side. The first – increasing class sizes and teaching loads, substituting lower cost part-time faculty for higher cost full-time academic staff – are difficult, academically problematic and heavily contested." (Altbach, Reisberg *et al.* 2009, p.xiii).

Projected trends linked to financial vulnerability include: privatisation; decentralisation of authority; supplementary revenue streams; greater attention to effective use of resources; leadership; and, a discourse on planning and restructuring alternatives (Kerr 1994, Nowotny 1995, Peterson 1995, Dill and Sporn 1995a, Gumport and Pusser 1997).

The Irish Government established an expert group on future funding for higher education (Cassells 2016) which identified three possible funding options:

a) A predominantly state-funded system

b) Increased state-funding with continuing student fees

c) Increased state-funding with deferred payment of fees through income contingent loans

At the time of writing a decision from government was not available as consultation with stakeholders had not concluded. However, the central recommendation of Cassell's report (2016, p.6) "is that Ireland needs to substantially increase the level of investment in higher education to ensure that the system is able to deliver fully on its role in supporting our national economic and social development. This investment must be linked to enhanced quality and verification of outcomes." Welcoming the publication of the report, the Minister for Education and Skills indicated that additional funding must be accompanied by new performance-based funding mechanisms and specified new targets the government believes should be adopted by HEIs. Funding, resource allocation and resource dependency feature as part of a secondary theoretical perspective underpinning this study, and are explored in the primary and secondary research.

3.1.4 The Research Environment

The three pillars of the modern university may be described as teaching & learning, research, and engagement (Hazelkorn 2010). Research universities are regarded as occupying the top of the ladder of the academic system and are directly involved in the global knowledge network. The 'triple-helix' of university-government-industry linkages is resulting in organisational restructuring within the university. Research offices are being established, often with a commercial focus and responsibility for technology transfer and are helping to generate new income streams for the institution. Research, like internationalisation, has the capacity to generate additional revenue if the critical mass and scale are maintained at the appropriate level. The institutional positioning of research serves to differentiate between institutions which may be described as 'research only', 'teaching only' or a 'mixture of both' (Altbach, Reisberg *et al*. 2009)

In Ireland, the Government embarked on a strategy from the late 1990s onwards of enhancing the scientific, technological and innovative capacity of the enterprise sector and society as a whole. The strategy involved directly supporting research and

innovation capacity within the enterprise sector and significantly scaling-up the research capacity and science and technology infrastructure in HEIs and other public research organisations. The HEA reviewed the commercial and economic impacts arising from exchequer investment in the research centres and initiatives initially funded via the Programme for Research in Third Level Institutions (PRTLI) over its first three investment cycles (HEA 2011). From the time when the PRTLI was established in 1998 and was followed by other substantial research support interventions, a notable closing of the gap with international averages becomes apparent. The improved performance allowed Ireland to achieve a position where it now sits above the EU and world averages and is on a par with that of the OECD in terms of research performance indicators. Although Ireland's innovation system has made significant progress in developing world-class research and development facilities and expertise, it is still not as mature as other leading systems (e.g. Finland, Sweden, Germany). Although Ireland is now operating at a more strategic level, continued investment is required in order for the country to retain its current research position.

The status of research as a key differentiator of institutional types is explored in depth in the secondary research.

3.1.5 Regional Contribution

Higher education is now expected to take the lead on entrepreneurship, interactive learning and technology exchanges in what is described as its 'third mission'. This shift in the role of higher education is best captured with the concept of the 'entrepreneurial university'. According to Clark (1998) "successful transformation to an entrepreneurial university requires a strengthened steering core, a diversified funding base, a stimulated heartland, an enhanced developmental periphery, and a general entrepreneurial belief." (Arbo and Benneworth 2007, p.28).

3.1.6 Teaching, Learning and Assessment

Progress in the area of teaching and learning depends on the level of completion for all population groups. Data are scarce for this area, but it is clear that due to the increasingly diverse student cohort new systems are required for academic support and innovative approaches to pedagogy (Altbach, Reisberg *et al*. 2009). The quest for quality in higher education has been a key objective since the 1990s (Ewell 1991).

Teaching, Learning and Assessment, one of the three pillars of higher education, is explored in depth in the secondary research.

3.1.7 Quality Assurance, Accountability and Qualification Frameworks

The three areas of quality assurance (QA), accountability and qualification frameworks are considered as one trend. Student mobility is a challenge for QA as systems struggle to keep abreast of international qualification frameworks. Accountability and the relationship between the state and higher education is impacting on institutional autonomy and potentially causing HEIs to engage in isomorphic behaviour. "Quality assurance in higher education has risen to the top of the policy agenda in many nations" (Altbach, Reisberg *et al*. 2009, p.x). In HEIs, the quality debate focuses on: compliance and enhancement; student learning and the student experience; staff performance; programme relevance, currency and effectiveness; and institutional evaluation – all of which have the objective of providing confidence to the public on the quality of the awards and hence the quality of the graduates (Peterson and Dill 1997).

The scale of student mobility currently and the projected growth in this area, coupled with the increase in providers of higher education raises questions with regard to standards of quality. European and national qualification frameworks exist which allow for international comparability of awards.

The efficiency and effectiveness of HEIs and higher education systems is an area attracting increased attention from the state. Efficiency is described as an internal measure of goal achievement or 'doing things right', while effectiveness, on the other hand is an external measure with a focus on 'doing the right things' (Pfeffer and Salancik 1978, Cameron and Whetten 1996). With an increased demand on accountability, the focus of HEIs has shifted from efficiency to effectiveness, with increased attention on the student experience, strategies for organisational change, and adaptive structures to respond to a changing environment (Gumport and Pusser 1997). The role of government in higher education is changing and likely moving more towards steerage than control (van Vught 1994). This implies more autonomy at the institutional level, stricter reporting systems and quality measures, in addition to a need for better management and leadership skills. Governments appear to be uniformly focused on creating "elite universities" with "world class" research. "They

want to concentrate resources on a few "centres of excellence" or "centres of outstanding innovation" to harness their "knowledge capital" for economic competiveness." (Arbo and Benneworth 2007, p.30). Not all HEIs are capable of joining this elite club and the likely consequence of such a development is differentiation of institutional type. This is evident with a widening gap between high-profile research universities and other institutions that have a focus on teaching and learning with possibly some applied research (Mode II) relevant to the needs of their regions (Geuna 1999, Altbach 2004).

The area of accountability and the role of the state in influencing institutional behaviour is considered in the primary research for this study.

3.1.8 New Technologies

The prediction of the demise of the university due to the increased use of information and communications technology (ICT) and other innovative technologies is unlikely to come true anytime soon (Altbach, Reisberg *et al.* 2009). While acknowledging that ICT is presenting as a significant academic transformational change agent of the 21st century, Altbach *et al.* (2009, p.xvii) argue "there has been a profound and pervasive disconnect between employing new ICTs and leveraging them to enhance quality." Nonetheless, new technologies are transforming the student experience in higher education in terms of how academics engage with students. Access to higher education now transcends the barriers of time and location. Most programmes include components designed for online delivery, which suggests a convergence in pedagogical approaches for specific disciplines. The method of delivery for these components is referred to variously as distance education, online education, flexible delivery, blended delivery, made possible by the concept of a virtual learning environment and what Noble (1998) refers to as the 'virtual university'.

The shift towards virtual learning requires changes to academic work practices; and the suitability of the academic staff contract features in the primary research.

3.1.9 Competition

HEIs are competing with each other for students as well as attempting to recruit high-quality staff and secure research funding. It has been noted by Arbo and Benneworth (2007, p.28) that "new criteria of relevance, such as widening access, retention rates, student mobility, employability, etc., are built into the operation of the institutions by the introduction of quasi-market mechanisms and funding according to performance indicators." Competition and efforts to protect and enhance institutional positioning is further challenged by concentrating efforts in terms of promotion and branding of study programmes, building and developing alliances, organising fundraising campaigns and providing enhanced student amenities. As such, this highlights that education is transitioning to a global business in what can be described as a period of profound change, one in which institutions will have the autonomy to create their own futures.

Government policy requires HEIs to collaborate with competitor institutions, including institutions from across the binary divide. Being 'forced' to collaborate with different institutional types when all HEIs are competing for students due to the funding model is a likely driver towards homogeneity and is viewed as the state driving isomorphism. This conundrum is explored further in the primary research.

3.1.10 The Challenge for HEIs Adapting To a Changing Environment

In attempting to address environmental changes, higher education is expected to solve problems of cost, quality, effectiveness, and access, employing solutions such as management, restructuring, resource diversification and allocation, quality assurance, and strategic planning. To achieve this aim, increased administrative input is required, which in turn may impact on the authority and autonomy of the academic. Gumport and Sporn (1999, p.6) describe this scenario visually in Figure 3.1.
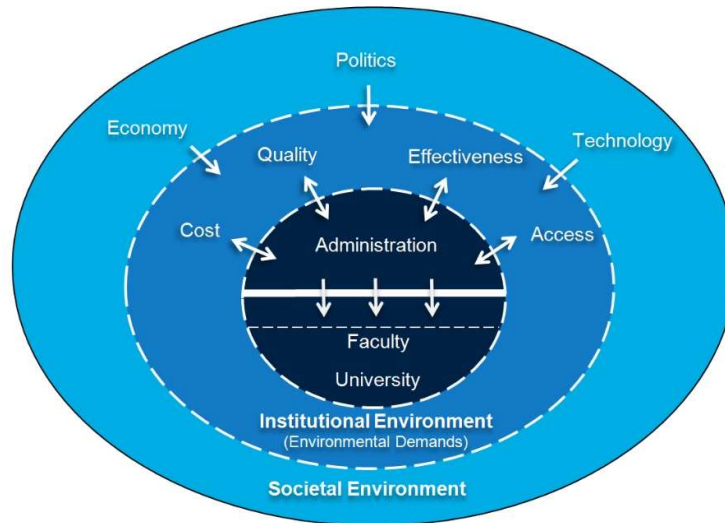
Figure 3.1: The Role of University Administration in Adaptation

The situation regarding the loss of autonomy and authority of the academic is unchanged in recent decades as described by Altbach *et al*. (2009, p.xvi): "the pendulum of authority in higher education has swung from the academics to managers and bureaucrats, with significant impact on the university."

Adaptation approaches linked to environmental change tend to range from total external to total internal control; concentrating on either environmental (i.e., population ecology); organisational (i.e. resource dependence, contingency theory, institutional isomorphism); or internal forces (i.e. strategic choice) (Cameron 1984, Hrebiniak and Joyce 1985).

The managerialist approach to adaptation and positioning features in the primary research.

3.1.11 Future trends

According to Altbach *et al*. (2009) demographics will continue to act as a driving force for development and reform of higher education in the coming decades. The impact of the economic crisis is projected to last for many more years; resulting in many countries and HEIs remaining in financial difficulty, with consequentially increased competition for scarce resources.

3.1.12 Summary

Ten global trends in higher education were analysed and suggest that there is increasing isomorphism due predominantly to the challenges arising from massification (Meyer and Rowan 1977, Thomas, Meyer et al. 1987, DiMaggio and Powell 1991).

There is evidence of convergence in globalisation processes and outcomes in the higher education sector (Vaira 2004). The convergence perspective is challenged by proponents of the divergence argument. Vaira (2004, p.493) argues that "rather than an increasing international convergence in the way higher education sector is politically regulated, managed and structured, it is likely that differences overtake the similarities." If there are isomorphic pressures at work they are at the national rather than at the global level and they exist alongside differences, heterogeneity and polymorphism. Even if organisations share the same institutional environment and pressures, it is likely they will respond in different ways, one of which is isomorphism. The way an organisation conducts its business depends on its strategic focus and how it responds to environmental pressures.

This argument is further explored in the context of this study, which seeks to examine institutional positioning at the national level and explores evidence of trends towards institutional isomorphism or diversity or both.

3.2 Institutional Isomorphism

This section considers isomorphism through a review of the seminal work of DiMaggio and Powell (1983). More recent contributions to the discourse are examined by reviewing research carried out by Scott (2008) and Beckert (2010).

The theoretical framework for this study relies heavily on the approaches to institutional isomorphism, combining the approaches of DiMaggio and Powell, Scott and Beckert, (see Figure 3.2). The counterbalance to institutional isomorphism, namely institutional diversity, relies on three theoretical perspectives described by Meek and is addressed in Section 3.3.
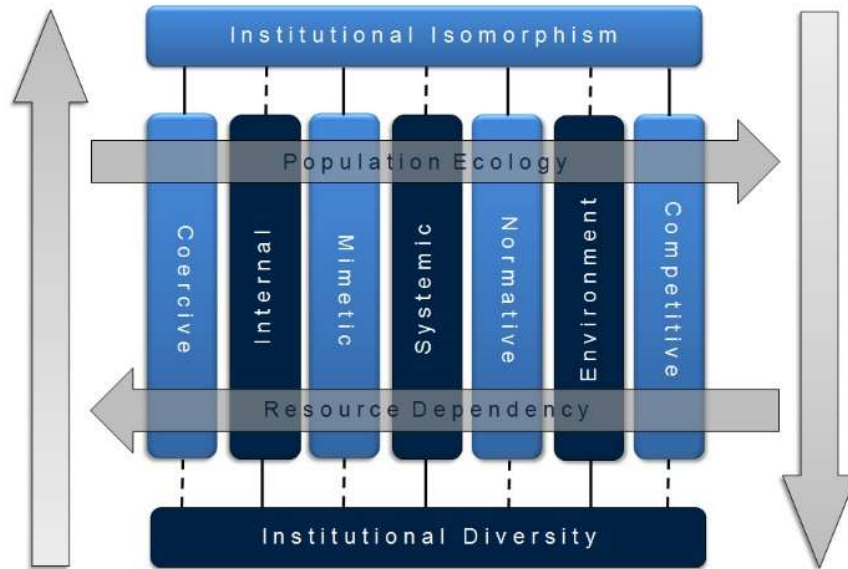
Figure 3.2: Theoretical Framework Showing the Interplay between Isomorphism and Diversity

3.2.1 Drivers of Isomorphism

Riesman (1956, p.25) is acknowledged as being the first theorist to suggest the concept of institutional isomorphism, describing it as creating a "snakelike" academic procession. Just as the tail of a snake eventually follows the path set by its head, the institutions in the middle and at the bottom of the hierarchy follow the actions of those at the top (Jencks 1968). Similarly, DiMaggio and Powell (1983) define institutional isomorphic change as a process of homogenisation, in which organisations operating within the same environment and under similar conditions, come to resemble one another. Dey *et al*. (1993) refer to alternative titles for institutional isomorphism, such as 'institutional homogenization' and 'institutional imitation'. DiMaggio and Powell (1983) explain that "as an innovation spreads, a threshold is reached beyond which adoption provides legitimacy rather than improves performance." Legitimacy may be regarded as one of the key drivers of institutional isomorphism.

There are a number of propositions to explain why non-university HEIs attempt to transform into universities (Morphew 2002). The first proposition is that institutions become universities in order to secure important, tangible resources. Resource dependence theory explains that an institution's transformation to a university is linked to securing continued or increased access to tangible resources such as operating funds, a borrowing framework, and research funds (Pfeffer and Salancik

1978, Tolbert 1985). Mission statements are an example of HEIs attempts to secure additional resources. Critics argue that these statements are all embracing and are intentionally vague to ensure all options to acquire new resources remain open (Newsom and Hayes 1991).

The second is that institutions become universities in order to seem more legitimate to the external environment. An HEI can use the opportunity to change its name to a university as a signal to external stakeholders and the environment that significant organisational change has taken place or is about to take place in pursuit of a new direction or vision (Koku 1997).

The third proposition is that institutions become universities so as to better reflect their increased comprehensive nature. Non-university HEIs are likely to have transitioned into different types of institutions in response to massification and market changes. Gumport *et al*. (1997) argue that the higher education environment is changing and how HEIs function must reflect the realities of the higher education market, its students and their demands.

Earlier and later theories suggest institutional theory has focussed on processes of institutional homogenisation rather than on developments leading to institutional divergence (DiMaggio and Powell, 1983; Meyer and Rowen, 1977). DiMaggio and Powell indicate that the best indicator of isomorphic change is a decrease in institutional variation and diversity. Beckert (2010) argues that once organisations are institutionalised they become 'diffused', which causes organisational structures to grow more and more alike. The pattern of higher education in Europe is changing in the direction of greater isomorphism with globally favoured models of 'the university' (Ramirez and Tiplic 2014). The rise of world class universities is emerging as a global trend, driven in part by the emphasis on university rankings (Cremonini, Benneworth *et al*. 2013, Kehm 2013).

In the Irish context, the existence of isomorphism and the extent to which it may be a driver of institutional ambition for IoTs to seek re-designation as Technological Universities has not been investigated. Investigating institutional positioning linked to isomorphism will thus form part of the original contribution of this study. The lack of empirical evidence on institutional isomorphism is identified in the literature (Boxenbaum and Jonsson 2008). Isomorphism is not confined to the IoT sector, as universities can be regarded as homogeneous in their pursuit of research excellence.

There is also evidence of a shift in university positioning away from the pursuit of knowledge for its own sake towards a support mechanism for economic development, normally the domain of the IoT sector. This convergence towards the centre results from both sectors competing against each other for students due to the higher education funding framework.

3.2.2 Mechanisms of Isomorphism

DiMaggio and Powell (1983) identify three mechanisms that create environmental pressures for organisations to become isomorphic: coercive, mimetic and normative.

3.2.2.1 Coercive Mechanisms

Organisations adjust their structures and procedures to align with organisations on which they are financially or legally dependent (DiMaggio and Powell, 1991, p.74). Coercive mechanisms involve informal and formal rules, laws, and sanctions from government. The government role in funding higher education, competition for scarce resources, the role of accrediting agencies, and a range of other legal requirements and processes have produced an environment of "rule-setting, monitoring, and sanctioning activities" (Scott 1995, p.35).

In recent decades, many higher education systems have reconfigured in response to external pressures and government policy changes (Croucher and Woelert 2016). Although HEIs have been granted greater institutional autonomy (Marginson and Considine 2000, Bleiklie and Kogan 2007, Enders, De Boer et al. 2013) this has been linked to greater accountability requirements and a stronger emphasis on competitive and performance-based funding arrangements (Geuna and Martin 2003, Hicks 2012).

These pressures have resulted in changes to internal university governance and changes to the way institutions interact with their external environment. It is argued that increasing external pressures combined with uncertain environmental variables have, in some cases, driven universities to show broadly converging characteristics in terms of their organisational structures (DiMaggio and Powell 1983, van Vught 1996, Marginson and Considine 2000, Stensaker and Norgård 2001). This has occurred despite most governments around the world seeking greater diversity from higher education providers.

3.2.2.2 Mimetic Mechanisms

Mimetic behaviour arises from the need to cope with uncertainty by imitating organisations perceived to be more successful or more legitimate. DiMaggio and Powell describe mimetic behaviour as: "When goals are ambiguous, or when the environment creates symbolic uncertainty, organizations may model themselves on other organizations" (DiMaggio and Powell 1991, p.69). There is no guarantee that mimetic isomorphism leads to efficiency, but it is indicated as an effective mechanism in generating legitimacy.

In reviewing governance and organisational change in Australian higher education in the 1990s, Marginson and Considine (2000) emphasise mimetic forms of isomorphism as the primary risk-minimising adaptation strategy of the newer universities which face environmental uncertainties. They classify mimetic mechanisms into three developmental categories that impact on universities. The first development is the emergence of markets forcing universities to strategically position themselves and to compete for students and resources. The second development is "a discernible decline" in the power of the academic profession in internal university governance (Marginson and Considine, 2000, p.10). The third development is the proliferation of "one-size-fits-all" performance-based funding mechanisms driving universities towards increased conformity (*ibid*., 219-220).

3.2.2.3 Normative Mechanisms

Normative isomorphic processes refer to professionalisation. Professionals and their networks make organisational structures similar to each other (Huisman 1995, Radaelli 2000). Universities are likely to be more susceptible to normative forces than other organisational forms due to the professionalisation of faculties. According to DiMaggio and Powell (1983), the greater the professionalisation of the organisation's members, the more likely the organisation will be to adopt the practices and programmes of similar organisations.

Professionals as administrators have a key role to play in institutional isomorphism; they are crucial in mimetic and normative isomorphic processes. In the process of adapting to an ever changing and complex environment, managerial or new public

management type strategies are becoming more common in managing HEIs. 'Successful' HEIs are defined through professional networks, resulting in imitation practices. (Meek 1991).

These three mechanisms provide different means for legitimating isomorphism in organisations. The success of HEIs depends on the extent to which they conform to established specifications and expectations (Scott and Meyer 1994). As more organisations conform to these 'rationalized myths', they become more deeply institutionalised, which subsequently leads to institutional isomorphism (Meyer and Rowan 1977). Organisations adapt their behaviour to be consistent with the institutional environment in order to ensure legitimacy (DiMaggio and Powell, 1983, p. 150).

3.2.3 Organisational Change - Beckert

DiMaggio and Powell (1983) and Meyer and Rowan (1977) have greatly contributed to the development of new institutionalism over the past 30 years. More recently, other institutional perspectives have emerged which take a different approach, as Beckert (2010) notes, "instead of seeing institutional evolution as converging on one model, they focused on continued and newly emerging institutional divergence." (Beckert, 2010, p.151).

Beckert (2010) identifies four mechanisms leading the process of institutional change. Three of these mechanisms align with the mechanisms of institutional isomorphism introduced by DiMaggio and Powell (1983). Competition is the fourth mechanism, which, according to Beckert, DiMaggio and Powell deliberately didn't discuss as they sought to provide an alternative to competition-based explanations of institutional isomorphism (DiMaggio and Powell 1983, p.147). All four mechanisms support the processes of institutional isomorphism, but under different conditions they can also lead to institutional divergence (Beckert 2010, p.152). Beckert (2010) argues that the mechanisms identified by DiMaggio and Powell (1983) as sources of isomorphic change can also support processes of divergence. Empirical evidence exists to support both theories and the question Beckert poses is why their coexistence cannot be conceptualised in institutional theory. Beckert's mechanisms behind the process of institutional change are explained below.

3.2.3.1 Beckert's Mechanisms of Institutional Change

(a) Power

This mechanism of institutional change is referred to as coercion by DiMaggio and Powell (1983). Coercion can be exercised directly and also indirectly by ensuring access to resources is dependent on compliance. Institutions tend to gravitate towards inertia due to the manner in which resources are distributed. The more entrenched an institution is, the greater its chances of survival because the institution distributes power resources in a way that supports its continuity (Beckert 2010, p.154).

(b) Attraction

Attraction refers to isomorphic change that results from voluntary imitation, motivated by the expectation of achieving better quality results by adopting new institutional models. Institutions are pulled towards the new institutional models, unlike coercion or power, which has a push factor. The attraction of institutional models can lead to divergence as easily as isomorphism (Beckert, 2010).

(c) Mimesis

Mimesis or mimetic mechanisms are similar to attraction as institutions are pulled towards existing institutional models. Mimetic isomorphism is a response to uncertainty. While imitation is motivated by disorientation rather than by conviction that the model to be imitated is superior, the driving force behind mimetic isomorphism is the search for legitimacy (Beckert, 2010, p.158). Isomorphism is not the default outcome from mimetic institutional behaviour. Beckert argues that "Institutional divergence will prevail if institutional templates observed elsewhere are not considered legitimate institutional solutions." (Beckert, 2010, p.159).

(d) Competition

Theories referring to competition as a mechanism of homogenisation assume that competitive pressure leads to the institutional convergence of organisations because inefficient institutional models are eliminated (Beckert, 2010, p.160). Similar to the three other mechanisms, competition can lead to either homogenisation or heterogeneity, with social theorists suggesting that increasing divergence and not homogenisation, is the likely outcome of competition. Weber (2002) argued that the 'iron cage of rationality' and competitive forces in society would pressure organisations to similarity in structure and action. It is widely regarded that the need

to create more competitive universities is a feature of higher education discourse throughout the world (Ramirez 2010). According to DiMaggio and Powell: competition "encourages homogenisation as organisations seek to ensure that they can provide the same benefits and services as their competitors" (DiMaggio & Powell, 1983, p. 154).

In the Irish environment HEIs compete for students with a generic portfolio of programmes and struggle to provide niche specialist offerings, or indeed, alternative delivery models. Those institutions that differentiate their portfolio and/or pedagogical approach are more successful (HEA 2016b).

3.2.4 Organisational Change – Other Theorists

Two related approaches to organisational change are discussed in this section. The first goes back to the 1960s to a model proposed by Bennis, Benne and Chin (1969). The second by Scott (2008) builds on the work of Bennis *et al*.

The four general strategies used in the change process (Bennis, Benne *et al*. 1969) are:

a) Empirical-Rational. The assumption is that people are rational, interested in positive change and will adapt if information explaining the process is communicated.

b) Normative-Reeducative. The assumption is that people are social beings and will adhere to cultural norms and values. Change is based on redefining and reinterpreting existing norms and values, and developing commitments to new ones.

c) Power-Coercive. The assumption is that people are compliant and will generally do what they are told or can be made to do. Change is based on the exercise of authority and the imposition of sanctions.

d) Environmental-Adaptive. The assumption is people will oppose loss and disruption due to change, but they adapt to new circumstances as normally

there are no other options. Change is based on building a new organisation and gradually transferring people from the old one to the new one.

Scott (2008) suggested three pillars of institutions as a possible framework for examining organisational change: the regulative, normative and cultural-cognitive pillars.

a) The Regulative Pillar. Higher education in most countries, especially in Europe, is part of the public sector and comes under the control of the government. Governments tend to control funding and the level of tuition fees. Although institutions generally have autonomy in relation to curriculum and academic matters, governments are beginning to dictate how HEIs should engage with entrepreneurship and internationalisation as mechanisms to reduce the reliance on state funding (Slaughter and Cantwell 2012).

b) The Normative Pillar. The normative pillar is based upon norms and values that exist in society. In their search for legitimacy, universities have tended to adopt isomorphic strategies; as a result, universities across different countries and continents increasingly have similar curricula, teaching methods, administrative practices, financial objectives and management systems (Meyer, Ramirez et al. 2005, Donn and Al Manthri 2010).

c) The Cultural-cognitive Pillar. The cultural-cognitive pillar concerns the shared conceptions that constitute the nature of social reality and the frames through which meaning is made (Scott, 2008, p.57).

3.2.5 Indicators of Isomorphism

Eight indicators of isomorphism were identified in the literature review: policy convergence; mission drift; identity; performance-based funding; the environment; leadership; strategy; and adaptation. Each indicator is now discussed.

3.2.5.1 Policy Convergence

As a result of establishing the Bologna Process (1999) in the European Union, extensive transnational communication and collaboration has occurred which provides a basis for policy exchange, inspiration, and borrowing (Philips 2015).

However, the question remains as to whether it has led to the convergence of national higher education policies (Dobbins and Knill 2009). According to DiMaggio and Powell (1991) institutional isomorphism may constitute an important source of policy convergence. Given the voluntary nature of the Bologna Process, HE convergence relies more on mimetic and normative isomorphism than coercive methods.

3.2.5.2 Mission Drift

A common trend in most countries is that non-university HEIs are striving to raise their status. This process has been referred to as academic drift (Burgess 1972). Harman (1977) describes academic drift as "a process whereby non-university institutions aspire to become more like universities." (Harman 1977, p.313). A rationale for academic drift is proffered by Kyvik and Skodvin: "Since the non-university institutions historically have suffered from a lack of academic status, their common strategy has been to orient most of their activities in ways that bring them closer to the university image." (Kyvik and Skodvin 2003, p.2).

Quantitative and qualitative research indicates that academic drift is present in higher education systems all over the world (Morphew and Huisman 2002, p.494). One of the main elements involved in evaluating academic drift is the increasing emphasis on research and development, in addition to teaching. The essential question is no longer linked to whether these institutions should have the right to conduct research — this has been accepted in nearly all countries — but if they will succeed in developing a distinct profile with emphasis on applied, also known as use-inspired or Mode II research (Lepori and Kyvik 2010, p.296).

Many universities and university sectors have taken on broad fields of study that are more vocationally/professionally oriented than purely academic, what is referred to as 'vocational drift'. This is evident with universities moving into the market related areas of lifelong learning, applied research and undergraduate internships. However, this is not a new development for universities, instead highlighting their adaptability to respond to shifts in environmental conditions. Indeed Kyvik (2004) argues that this convergence has been brought about by forces on both sides of the university divide. Convergence occurs as both academic and professionally oriented HEIs offer bachelor and masters programmes. This convergence of the two main types of higher education may lead to change in nations with such binary systems. In response to

this situation, nations exhibit diversity, which suggests that an overall trend towards a unitary system is unlikely to emerge. (van der Wende 2008, p.51).

Mission drift, whether described as academic or professional, operates in both directions across the binary divide and is rarely subconscious. HEIs take a conscious decision to engage in activities more appropriate to the other institutional type, generally in response to state steering/control and the influence of the market. The primary and secondary research provides evidence that mission drift is alive and well in Ireland.

3.2.5.3 Identity

The important role of identity in HEIs is well articulated in the literature (Glynn 2008, Kraatz and Block 2008, Thornton, Ocasio et al. 2012). Identity assists organisations to process institutional complexity and has been implicated in areas such as strategic planning and decision-making (Dutton and Dukerich 1991, Elsbach and Kramer 1996, Gioia and Thomas 1996, Glynn 2000); the challenges of organisational change (Reger, Gustafson et al. 1994, Fox-Wolfgramm, Boal et al. 1998, Corley and Gioia 2004, Chreim 2005) and an organisation's relationship with its stakeholders (Scott and Lane 2000, Brickson 2005). Identity affects how an organisation interprets and responds to institutional forces and has long been used as a basis for determining appropriate institutional behaviour. Moreover, research shows that "identities become most prominent under conditions of high uncertainty and ambiguity" (Navis and Glynn 2011, p.480). How organisations make sense of institutional complexity is more apparent when that complexity is unfolding rather than when it is settled (Smets, Morris et al. 2012).

The position of status or prestige relative to other institutions appears to be the key aspect of organisational identity (Elsbach and Kramer 1996, Navis and Glynn 2011). Status matters because it is a driver of institutional choice. Prestige, according to Durand and Szostak (2010) affords institutions the option to change what is expected and desirable. Institutions in this category are likely to be imitated by others and have better access to resources (Jensen and Roy 2008).

Coercive and mimetic isomorphism represent significant challenges to the identity of HEIs as collegial, academic organisations. Resisting these forms of behavioural

change requires strong leadership and an organisation with a strongly expressed collective identity, or both (Marshall 2010).

3.2.5.4 Performance-Based Funding

The idea that the state can steer academia from a distance is now gaining ground (Nisar 2015). In general, public universities in Anglo-Saxon countries are moving from a position of strong autonomy to one of centralised state control, while in continental Europe and Scandinavia, where strong state control was the norm, more control of higher education is being ceded to HEIs (Atkinson-Grosjean and Grosjean 2000).

The use of performance-based funding (PBF) models in higher education has become widespread practice in recent years. National systems using performance indicators for higher education funding are in place in France, Britain, Denmark, Belgium the Netherlands, Scandinavia, Australia, New Zealand (Hicks 2012), and now in Ireland. According to Atkinson-Grosjean *et al*., the purpose of these mechanisms is: "to impose accountability on public sector institutions and improve service provision, by measuring performance against managerial, corporate, and market criteria." (Atkinson-Grosjean and Grosjean 2000, p.2). Most impact assessment studies have shown that performance-based funding models have had a limited effect on the performance of institutions. Dougherty and Reddy (2011) highlight the unintended consequences of such approaches in the areas of compliance costs, a narrowing of institutional mission, grade inflation, weakening of academic standards, restriction of student admissions and the limited voice of academia in governance.

One of the explanations for the failure of performance based funding to have a demonstrable influence on HEIs is linked to resource dependency theory. The success or failure of the policy depends upon the amount of money tied up with PBF compliance and the dependence of HEIs on such sources of revenue. The reason cited for failure is that only a small portion of state appropriations were tied to PBF (Sanford and Hunter 2011).

Atkinson *et al*., (2000) find that the politics of performance is deeply embedded in the 'evaluative state' and that the trend towards performance measurement is unlikely to be reversed. With the globalisation of performance expected, these researchers find

deep flaws in the conceptualisation, measurement criteria, and impact of these models. At the technical level, they report a lack of clarity in definitions of what constitutes 'good performance', and a lack of agreement on the adequacy of specific indicators. At the broad system level, they identify increasing differentiation and stratification as universities were defined by their performance rankings as "good," "bad," or "indifferent" performers, and as either "research" or "teaching" institutions (Atkinson-Grosjean and Grosjean 2000, p.22).

Atkinson *et al*., propose that their study raises a number of empirical questions which require further study, as to the value and impact of PBF against the additional burden of providing detailed reports. According to these researchers, the fundamental problem with PBF models "is that they reduce performance to what is measurable, when so much of importance is not. Because performance models focus on instrumental and utilitarian concerns, the fear is that the intrinsic value of education may be lost." (*ibid*., p.23)

Performance-Based Funding agreements were only introduced in Ireland in 2013. The concerns identified in the literature resonate with the experience of their introduction. Performance Agreements feature strongly in the primary research.

3.2.5.5 Influence of the Environment

Faced with environmental pressures organisations do not simply react, but may adopt a proactive and controlling approach. This leads institutionalists to place conformity on a continuum of responses from compromise to avoidance to defiance to manipulation (Oliver 1991).

Figure 3.3: Degrees of Conformity

These tactics are used by organisations to gain, maintain and repair legitimacy. It is generally agreed by institutional theorists that environmental forces lead to isomorphic tendencies among organisations.

3.2.5.6 Leadership

The structure and function of higher education is changing due to institutional, national and international circumstances and is likely to continue changing into the future. Academic leadership is required to define strategic ways forward in order to handle a changing and dynamic environment and must take account of the possible versus the desirable for the future of the institution (Bladh 2012). Bladh points out the importance of engaging all stakeholders in discussions on the future direction of the institution and provides a list of tasks leaders should embrace in order to provide academic leadership:

- Analyse the trends and developments of society and place their own institution in a larger context
- Have a clear vision of the ambitions of the institution and a strategy for realising the vision
- Inspire the academic staff to share a common view
- Influence external partners with the strategic considerations of the institution
- Dare to take risks
- Be prepared to replace competition between institutions with collaboration in order to gain new possibilities for the future

(Bladh 2012, p.20)

Breakwell and Tytherleigh (2008) identify the attributes of good academic leadership as: "academic credibility, financial awareness, adaptability, confidence, strong persona, and a sense of vision/mission/strategy." The key purpose of institutional leaders is to maintain the legitimacy and survival of their institutions. There is a strong relationship between isomorphism and legitimacy: "the more prevalent an organizational structure, practice or tactic, the more legitimate it is." (Tolbert and Zucker 1983, p.580). The changing landscape of higher education in recent decades is symbolised by declining resources, the growth in student numbers, and an emphasis on quality, effectiveness and efficiency, has led to the need for strengthened institutional leadership and strategic change in an effort to stimulate innovation and entrepreneurialism (Clark 1998).

3.2.5.7 Strategic Choice

Organisations have options and can respond differently to institutional pressure (Ingram and Clay 2000). Oliver (1991) argues that organisations, under certain circumstances, have the freedom to act strategically in the face of isomorphic pressures. Strategic choice, as a model of adaptation, recognises the importance of environmental demands and the need to find a balance between the environment and the organisational structure. The focus is on selecting strategies that can modify the environment and determine the success or failure of the adaptation. Strategic choice as an approach of adaptation is defined as strategic planning (Chaffee 1985), in which organisational structure follows strategy (Hardy *et al*., 1983). It is the role of administration to implement strategies resulting from the strategic planning process (Cameron, 1983; Chaffee, 1983; Sporn, 1996 in Gumport and Sporn, 1999).

3.2.5.8 Adaptation

Organisational adaptation reflects a shift towards standardisation. DiMaggio and Powell (1983, p.150) refer to this standardisation as a form of isomorphism, or structural homogeneity. The adaptation process could be interpreted as a process linked to the continuous struggle for identity (Stensaker and Norgård 2001). Adaptation may also be defined as isomorphism or the homogenisation of organisational form (DiMaggio and Powell, 1983). Adaptation, as a manifestation of institutional isomorphism emanates from concerns about political power and legitimacy (i.e. coercive isomorphism), from imitating other organisations (i.e. mimetic isomorphism), or from the homogenisation of management (i.e. normative isomorphism) (DiMaggio and Powell, 1983).

3.2.6 Measuring Isomorphism

A key question related to isomorphism lies in what respects organisations become similar. DiMaggio and Powell (1983) are not decisive on this topic, suggesting that isomorphism can be detected by a reduction in variance around some variable. Subsequent empirical researchers were left to draw their own conclusions (Oliver 1988; Scott and Meyer 1994). The few studies that have investigated isomorphism as an outcome emphasise different dimensions and levels in their measurements of similarity.

The common feature among these empirical studies is the ambiguity of the relevant dimension and level of analysis where similarity should occur in order to confirm the presence of institutional isomorphism. It is clear that more theoretical work is required in order to confirm whether institutional isomorphism is an empirically falsifiable theoretical proposition (Greenwood, Oliver et al. 2008, p.83).

The concept of institutional isomorphism presupposes an institutional environment that an organisation can imitate. This leads to the question of how institutional isomorphism can occur where the institutional environment is homogeneous. Mohr (2005) suggests that the answer may be partly due to ambiguities in the original theoretical formulation of institutional isomorphism. Empirical research in this area also challenges the assumption that, once subjected to institutional pressures, institutions either conform or die (Perrow and Perrow 1970, DiMaggio 1988).

3.2.7 Summary

This section discussed three broad approaches to organisational change with a focus on institutional isomorphism while also recognising that the causes of isomorphism may also lead to diversity. The three approaches and their relationships are summarised in Table 3.2.

Table 3.2: Approaches to Organisational Change

Author	DiMaggio and Powell	Beckert	Scott [Bennis, Benne & Chin]
Approach	Isomorphism	Isomorphism and Diversity	Organisational Change
Mechanisms	Coercive	Power	Regulative Pillar [Power-Coercive]
	Mimetic	Mimesis	Cultural-Cognitive Pillar [Empirical-Rational]
	Normative	Attraction	Normative Pillar [Normative-Reeducative]
		Competition	[Environmental-Adaptive]

The four main mechanisms of isomorphism are broken down by indicators and drivers of isomorphism as shown in Table 3.3.

Table 3.3: Indicators and Drivers of Isomorphism

	Mechanisms	Indicators	Drivers
ISOMORPHISM	Coercive	Policy Convergence Performance-Based Funding Adaptation	Resources
	Mimetic	Identity Leadership Adaptation	Mission
	Normative	Academic Drift Vocational Drift	Ambition
	Competitive	Environment	Legitimacy Massification

The focus of this study investigates the contribution of isomorphic indicators to shifts in institutional positioning in the evolving Irish higher education system. While both sectors in the binary divide are considered, a greater emphasis is placed on the IoT sector in recognition of a more significant institutional shift, which appears to be occurring within this sector in response to the National Strategy for Higher Education and planned legislation allowing for the creation of Technological Universities.

A documentary framework, consisting of three pillars to capture evidence of drivers and indicators of isomorphism is explained in Chapter 4

This study on the influence of isomorphism on institutional positioning is the first of its kind in Ireland thereby marking an original contribution to the literature and addressing a gap in studies on isomorphism more generally.

3.3 Diversity

This section reviews the literature on diversity – the counterbalance of isomorphism. It provides a definition of diversity linked to institutional diversity, it discusses policy issues linked to diversity, and the benefits of diversity. It outlines three theoretical perspectives on diversity, as well as discussing drivers of diversity and the impact on institutional positioning.

How to measure diversity is not well addressed in the literature. Throughout the literature review, this research focuses on correlations with developments in the Irish higher education system; with the objective of identifying dimensions of diversity for analysis.

3.3.1 What is diversity?

This study concentrates on inter-institutional diversity (Meek, Goedegebuure et al. 1996). Birnbaum (1983) explains that diversity affects every aspect of higher education including institutional form, access and equity, teaching methods, student learning, research priorities, the quality of programmes, social relevance, and finance. Trow (2000) suggests that diversity is characterised by the existence of institutions within a state or nation, which differ in term of missions, lifestyles, laws and relationships to government. Lang (2003) suggests that from a planning, regulation

and funding perspective, diversity is defined as a 'policy objective'. van Vught (2008) claims that diversity relates to the variety of entities in the system. Rossi (2009) defines diversity as the range of different types of institutions present in the system, classified according to one or more specific institutional characteristics, at a certain point in time.

Diversity of higher education needs to be understood in terms of the relationship between HEIs and systems and external environmental forces and pressures. Institutional diversity is normally studied from both an external (between institutions) perspective and an internal (within institutions) perspective. Diversity between institutions concerns diversity in size, type, programme offerings, control management, and location, while diversity between institutions emphasises field of study, degree level, quality and orientation (Widiputera, De Witte et al. 2015).

It can be said there is diversity in all higher education systems. Indeed, no one institution is the same as another, each has its own particular history, its own particular faculty and students, and its own particular geographical location (Goedegebuure and Meek 1997, p.314).

Formal diversity (of institutional types) is usually linked to the establishment of binary systems which were created in the 1960s (polytechnics in the UK), 1970s (Germany) and the 1990s (Austria, Finland and Switzerland), and which, (with a few exceptions such as Italy, Spain and the UK), now characterise most Western European countries (Kyvik 2004). The professional sector of higher education was created to deal with significant increases in higher education enrolments, to provide for wider access to more diverse student cohorts, and to improve the quality of professional tertiary education, in effect, to deal with massification (Reichert 2009).

3.3.2 Why is there a need for diversity?

Provision of higher education has evolved from elite provision when enrolment was up to 15% in a country to mass provision when enrolment went up to 50%. When enrolment surpasses approximately 50%, universal higher education is deemed to have emerged (Trow 2000). The emergence of mass / universal higher education requires diversification to cater for the heterogeneous student cohort. The general consensus is that a completely homogeneous higher education system does not

work, while recognising that such a model has never existed. More feasible options include moderate inter-institutional diversity and a stronger role of intra-institutional diversity (S.Guri-Rosenblit, H.Sebkova et al. 2007).

The state's need to comply with the demand for tertiary education was complemented by pressing economic and knowledge requirements to raise the qualification levels of the population (Lucas 1988) and to invest in research and development activities (Nelson and Romer 1996). In this context, Conceicao and Heitor (2005) argue that a differentiated higher education system is necessary in order to prepare a country's socio-economic structure to perform well in competitive knowledge-dependent global markets.

3.3.3 Policy Issues

Institutional diversity is becoming a central theme of higher education policy as HEIs are attracting a greater degree of political and public attention, due to the broader remit of roles they are expected to fulfil. In addition to widening access, new roles include business innovation, knowledge transfer and continuing professional development (CPD). The expansion in function leads, in most cases, to stretching institutional resources over a wider range of strategic objectives, what Scott (2007) refers to as "mission stretch" or "mission overload" that may threaten institutional coherence and efficiency.

Diversity of institutional types in higher education systems is valued by the state because of the belief that greater institutional diversity promotes efficiency, productivity, and quality in higher education systems (Birnbaum, 1983). Introducing different institutional types to cater for increased participation ultimately leads to the process of homogeneity or isomorphism, as first identified by Riesman (1956). A variety of classifications exist to capture the diversity of higher education systems. Kyvik (2004) provides a useful overview and uses Scott's typology (Scott 1995), which illustrates higher education systems evolving from university-dominated systems, through dual, binary and unified systems, to stratified systems (Kyvik 2004, p.394). The binary system, as exists in Ireland, is the most common system in OECD countries, particularly so in Europe. Despite government attempts to maintain diversity in HE systems, questions remain regarding mission drift, institutional

leadership, and strategic choice in responding to environmental challenges (competition / market / funding), as discussed in Section 3.2.

Governments control convergence and divergence in higher education systems through the funding model. Governments can support diversity by deliberately funding experiments and variety, or they can encourage convergence between institutions through the funding model; establishing competitive bids for funds, quality assurance, fee systems and reporting mechanisms (Marginson 1999). All of these factors exert pressure on institutions to behave like corporations.

Research shows that institutional diversity will thrive provided that the system of regulation and funding does not favour a particular profile or dimensions of institutional activity over others. The values that institutions attach to diversity or convergence may differ significantly from those prioritised by the state.

3.3.4 Benefits of Diversity

Most studies of institutional diversity in higher education have espoused the positive value relating to diversity (Huisman 1995, Meek, Goedegebuure et al. 1996, van Vught 2008).
According to Birnbaum (1983) the benefits of institutional diversity within a higher education system are to:

1. Meet students' needs
2. Provide opportunities for social mobility
3. Meet the needs of different labour markets
4. Serve the political needs of interest groups
5. Permit the combination of elite and mass higher education
6. Increase the effectiveness of higher education institutions
7. Offer opportunities for experimenting with innovation

This list is similar to Stadman's (1980) earlier list of the benefits of diversity as advocated by Rossi (2009).

A few researchers have attempted to analyse institutional diversity more critically by analysing conflicting motivations and forces of convergence and divergence in higher

education systems (Kivinen and Rinne 1996). Others analyse systemic features, such as flexibility, which are needed in order to ensure the responsiveness of HE systems (Douglass 2005, S.Guri-Rosenblit, H.Sebkova et al. 2007, Teichler 2008).

At the system level, Neave (1991) maintains that the degree of homogenisation or convergence has traditionally been a product of the relationship between higher education and national governments. But with the advent of the EU, a new supranational dimension has developed into the coordination of higher education for many Western European countries. According to Neave, strengthening the European dimension, particularly in terms of removing obstacles to student mobility between countries, demonstrates an increasing impact on national systems of supranational directives, aimed at establishing some form of standardisation; thus generating pressures for homogenisation (Meek, Goedegebuure et al. 1996, p.207).

3.3.5 Theoretical Perspectives on Diversity

Different aspects of diversity are considered in studies of institutional diversity. Birnbaum (1983) was the first to propose possible dimensions of diversity including: system; structural; programmatic; procedural; reputational; constitutional; values and climate diversity.

According to Meek *et al* (1996) there are three major "theoretical perspectives on diversity":

- The "*internal perspective*": According to Clark (1983, 1996), "it is the academic discipline engine that invariably drives higher education institutions and systems to differentiation". HEIs are often categorised as professional bureaucracies, and, according to Clark, it is the differentiating nature of the academic profession that provides higher education with its diversity.

- The "*systemic perspective*": According to Neave (1996), the patterns of the higher education system are strongly affected by the actors, notably those on national and supranational levels. Neave names various "forces that work for and against homogenisation of integrity", suggesting that "no higher education institution or system moves inevitably towards either homogenisation or diversification". Neave highlights the fact that legal frameworks in which higher education systems operate are as powerful forces for diversity or convergence

as disciplinary proliferation.

- The "*environment perspective*": According to van Vught (1996) HEIs are "located within a supra-system consisting of the social, political and economic environment". Institutions of higher education "constantly survey the environment to identify opportunities and risks with respect to obtaining the resources... those institutions that 'read' the environment correctly survive, those who do not perish" (Meek, Goedegebuure et al. 1996, p.210). In principle, a varied environment leads to increased diversity, while an isomorphic environment leads to a reduction in diversity.

Meek's three perspectives on diversity broadly align with DiMaggio and Powell's three approaches to isomorphism (internal perspective – normative; systemic perspective – coercive; and environment perspective – mimetic).

3.3.6 Drivers of Diversity

The drivers of diversification or convergence that can be used to indicate a trend towards diversity or isomorphism in a given higher education system include (Meek, Goedegebuure et al. 1996, p.226):

1. The regulatory framework
2. Public funding
3. Student profiles and academic staff profiles
4. Stakeholder engagement
5. European influences: European Higher Education Area (EHEA), the focus on learning outcomes, European Credit Transfer System (ECTS), and the programme structure. Convergence in quality assurance processes aligned with the European Standards and Guidelines (ESG).
6. Internationalisation
7. Professionalisation - academic norms and values contribute to convergence due to the normative recruitment processes.
8. Institutional policies - one example is the way in which resources are allocated by management.

This set of drivers informs a typology to evaluate trends in diversity proposed later in this study.

3.3.7 Measuring Diversity

Earlier work on diversity mainly focused on policy perspectives, with less attention being paid to the empirical approaches involved in measuring diversity in higher education (Huisman and Morphew 1998). In his seminal study, Birnbaum (1983, in Huisman 1995) identifies seven forms of external diversity by using six variables: institutional control; institutional size; minority enrolment; proportion of female students; programme types and degree levels. Huisman (1995) maintains that a typology or taxonomy based on relevant variables would suffice to determine the degree of diversity, and possibly the increase or decrease of diversity within a certain population of organisations or other subjects. The choice of variable should be clear and the arguments for selection included.

A multidimensional approach to measuring trends across various dimensions of diversity was employed in this study based on the drivers of diversity identified in the literature and the dimensions identified by the researcher in support of external institutional diversity, subject to available data applicable to the Irish higher education system, as shown in Table 3.4.

Table 3.4: Proposed Typology to Evaluate Trends of Diversity

	Areas identified in the Literature	Areas addressed in this study	Mode of measurement / analysis
1.	Regulatory Framework	Legislation: current and planned.	Document analysis / interviews
2.	Public Funding	Public Funding	Empirical analysis. Diversity index
3.	Student Profiles	Access and participation	Empirical analysis. Diversity index
4.	Stakeholder Engagement	Regional engagement	Empirical analysis. Diversity index
5.	Bologna Reforms	International: EU mobility	Empirical analysis. Diversity index
6.	Internationalisation	International	Empirical analysis. Diversity index
7.	Quality Assurance	Teaching & Learning. Research.	Empirical analysis. Diversity index
8.	Professionalisation	Professionalisation	Document analysis / interviews
9.	Institutional Positioning	Institutional Positioning	Empirical analysis. Diversity index
10.	Academic Profile	Mission / Vision Programme Offerings	Survey Empirical analysis. Diversity index

3.3.8 Autonomy and Competition

Autonomy of HEIs and/or competition between institutions is likely to increase the diversity within the system (Birnbaum, 1983; Florax and van Vught 1987; Trow, 1979; Ferris, 1991 in (Huisman 1995)). Yet, while many governments are leaning towards autonomy and attempting to create more market-like competition within higher education, there does not appear to be any direct linear relationship between market competition and diversity (Goedegebuure and Meek 1997, p.313). Competition can lead to isomorphic behaviour as easily as diversity but, as noted by Karmel (1998, in Marginson 1999) there is an inherent incentive to imitate in a competitive system. Using the theoretical background of population ecology, Florax and van Vught (1987) argue that maximising institutional autonomy allows institutions to search for a niche.

The more constraints on autonomy, the greater the chances that the organisation is unable to adapt to changing environments. Lower autonomy leads to less flexibility and adaptivity of the system; eventually, this can lead to the demise of the system. Although their views seem contradictory, Florax and van Vught's (1987) analysis is not at odds with Hannan and Freeman's position about the effect of competition on diversity.

According to Hannan and Freeman, the diversity of organisational forms is proportional to the diversity and abundance of resources and constraints evident in their environments. Moreover, these authors claim that the competition for scarce resources causes competing organisations to become similar. The result is an increase in homogeneity, referred to as 'structural isomorphism' (Hannan and Freeman 1977).

However, the implementation of competitive funding is normally linked to evaluation processes. In this sense, the evaluation assessment in itself can be viewed as a central policy instrument used to foster diversity in higher education (Horta, Huisman et al. 2008, p.154). The way institutions deal with limited or reduced resources is to prioritise some activities over others; normally they prioritise activities that provide easy access to resources. The resulting institutional position will reflect the diversity (or similarity) of the environment (Reichert 2009).

3.3.9 Institutional Positioning

Institutional positioning is the mechanism by which higher education institutions' strategic intent and behaviour is connected to system diversity. In principle, positioning increases diversity, as every organisation profiles itself in a distinctive way (Fumasoli and Huisman 2013, p.6).

3.3.10 Summary

The three theoretical perspectives on diversity (internal, systemic and environment) broadly align with the three approaches to institutional isomorphism identified by DiMaggio and Powell (1983) (coercive, mimetic and normative) as discussed in section 3.2.

There appears to be a strong alignment between the areas identified in the literature as dimensions of diversity and the trends which are evident or emerging in the Irish higher education system. The freedom to select dimensions of diversity to suit a particular study, as articulated by Huisman, has relevance for this study and is discussed in Chapter 4: Research Design, which explains the development of a diversity matrix as an analytical tool for use in this study. Measuring diversity trends across various dimensions in order to determine an overall position on diversity from an Irish higher education perspective provides an evidence base to determine if there is a shift in institutional positioning.

3.4 Population Ecology

In this section, population ecology is examined as a secondary theoretical perspective.

Population ecology can be perceived as an organisational version of Darwin's principle of survival of the fittest (Hatch 1997). It has also been viewed as analogous to the economic theory of perfect competition. It concentrates on the sources of variability and homogeneity in organisational forms (Hannan and Freeman 1989). In terms of the typologies of institutions, natural selection is a very powerful paradigm. Birnbaum (1983) is the most prominent proponent of the natural selection model. Fundamentally, the model is about survival; HEIs will do whatever is necessary to survive. In the present study it is considered as a supporting and complementary theory to the main theories underpinning the research, namely those of institutional isomorphism and institutional diversity.

Population ecology theorists propose that organisations respond to their environments in similar ways as animals; they adapt or die (Kast and Rosenzweig 1973). In the case of organisations, this means that organisations that exist in the same environment, with the same resource providers and product users, would be expected to become more homogeneous over time, while greater environmental diversity results in greater organisational diversity.

Hannan and Freeman (1977) criticise the focus in organisations on their environments. They argue that most processes of structural change take place by environmental selection at the population level, rather than at the individual

organisational level (i.e. the deliberate attempts of the organisational leaders to adjust the structure to demands of the environment). Processes of structural inertia (legal and fiscal barriers, internal constraints on the availability of information, internal political constraints, and legitimacy claims) lower the adaptive flexibility of the organisation and make the impact of environmental selectivity stronger (Huisman 1995, p.71).

Population ecology examines specific areas within an environment, called "ecological niches", consisting of a resource pool for which a group of competitors, which make up the species population, compete for their survival. This is what is also known as the "natural selection model" (Scott, 1981; Hannan and Freeman, 1977). This model proposes that the environment acts in such a way as to select certain types of organisations for survival, based upon the fit between the particular characteristics of the environment and the form of the organisation. As the characteristics of the environment change, it would be expected that organisational forms would also change. The consequence of this process is that in the competition for scarce resources, those organisations that are most "fit" are those that survive (Birnbaum 1983, p.241).

Natural selection is a three-stage process:

1. 'Variation' is the first stage in the process and is manifested in higher education systems through institutional diversity. Natural selection functions only if there is a wide variety of forms: "the general principle is that the greater the heterogeneity and the number of variations, the more the opportunities for a close fit to environmental selection criteria" (Aldrich 1999, p.35).

2. 'Selection' is the second stage of the process. Through competition for resources, those organisations that match the requirements of the environment survive, while those that do not fail (Birnbaum, 1983).

3. 'Retention' is the third stage of the process. Organisations that succeed are preserved, while other similar organisations may be created (*ibid*.).

The findings proposed by Hannan and Freeman indicate that specialism is always favoured in stable environments; however generalism is not always optimal in uncertain environments. When environmental states are short-lived, specialists are

favoured because generalists that try to adapt to each state will end up spending most of their time adjusting the structure and limited time in productive action. Yet the risk involved in having the environment change is greater for the specialist - according to population ecology theory the loss of an organisation's niche leads to death (Patterson 2004).

3.4.1 Summary

Population ecology theory addresses how changes in the environment initiate and drive changes in the organisation. Elements of population ecology are evident in the Irish higher education system, particularly the resource dependency element of the natural selection process. This is addressed in more detail in the next section.

The generalist approach to programme offerings is presenting a challenge to HEIs, evident in the competition for students, arising from the close alignment between student numbers and the funding model. The higher education environment has changed in areas such as the student profile, emphasis on pedagogical approaches and delivery methods. The question arises as to whether there is evidence of HEIs engaging in isomorphic behaviour as an adaptation strategy. And this question aligns with the chief focus of this study.

3.5 Resource Dependency

The resource-dependency model (Scott, 1981; Pfeffer and Salancik, 1978; Hannan and Freeman, 1977), like the population ecology model, assumes that organisations are controlled by their environments. In addition, it proposes that organisations are resource dependent on their environments, and that an organisation-environment fit is necessary. This theory argues from an organisation-centred perspective that rather than being passively vulnerable to the environment, as in the population ecology view, organisations can respond to and manipulate their environments to fit their capabilities. In the resource-dependence model, the actors are perceived as managing their environments as well as their organisations; as such, the former may be even more important than the latter (Aldrich and Pfeffer 1976). It is an active process of selection, requiring careful monitoring of the environment, as opposed to the passivity of a process of natural selection controlled by the environment. (Patterson 1997).

In relation to investment and availability of resources, some authors maintain that uncertainty influences the level of dependency in the exchange relationship. Pfeffer and Salancik (1978, p.45-46) describe uncertainty as the extent to which an interest group has discretion over resource allocation and use. According to Thompson (2007) coping with uncertainty is the central problem for organisations. Changes to financing higher education are responses to a worldwide phenomenon of higher educational costs tending to rise at rates considerably in excess of the corresponding rates of available revenues, especially revenues that are dependent on taxation.

Three forces impacting on costs can be identified as follows (Johnstone and Marcucci 2007, p.1): (i) the increasing unit cost per student; (ii) massification or increasing participation rates; and (iii) a reduction in government revenue. Thus higher education austerity affects:

- *All publicly funded HEIs*: evidenced by factors such as overcrowding of lecture theatres; increased faculty workloads; library stock; computing facilities and support; building infrastructure; and a reduction in quality, as examples.
- *National systems of higher education*: evidenced by capacity constraints, increased demand for places in higher education, and difficulty in retaining faculty.
- *Students:* tuition fees introduced or student loan systems; student accommodation – availability and cost.

There is a view in many countries that fundamental changes must be made, to at least some institutions or to some higher education systems as a solution to the increasing austerity evident in higher education. The types of measures under consideration include (Johnstone and Marcucci 2007, p.14):

- *Sector diversification:* Sector diversification – more vocationally-orientated, and more hierarchically managed institutions, whose faculty are oriented to teaching rather than to research.
- *Mergers:* Mergers can, theoretically, lower unit costs by increasing the scale of operations and achieving savings on overhead expenditures.
- *Greater use of technology:* The increase in the use of Massive Open Online Courses (MOOCs) is an example of using technology to engage with a wider student cohort, potentially leading to the creation of the virtual university.

The basic view of the resource dependence perspective is that the survival and success of organisations depends upon taking account of other organisations in the environment. According to DiMaggio and Powell (1983) this leads to three forms of institutional isomorphism, all leading to an increasing similarity in organisational behaviour and producing a decrease of system diversity.

3.5.1 Summary

Resource dependency emphasises managing the environment instead of being subservient to it. This is achieved through environmental scanning and strategic planning to devise measures in response to the uncertainty created by resource allocation. The uncertainty linked to resource allocation aligns with DiMaggio and Powell's mimetic approach to isomorphism. The impact of universal access to higher education, coupled with the economic downturn, poses a funding challenge for Governments. Johnstone and Marcucci's (2007) austerity effects could have been written for the Irish higher education system.

While the three transformational changes identified as a response to reduced resource allocation are evident in the Irish HE system, one of them, the greater use of technology, pertains to intra-institutional diversity and is beyond the scope of this research which is concerned with inter-institutional diversity, thus the remaining two, sector diversification and mergers, are further explored in the primary and secondary research.

3.6 Higher Education Mergers in Ireland

A merger may be defined as two or more partners combining to create a single institution, which may retain the name and legal status of one of them or be an entirely new legal entity (HEFCE 2012, p.4). The National Strategy for Higher Education to 2030 makes recommendations for the future development of the higher education sector in Ireland. Stated objectives for the higher education sector include a reduction in the reliance of the sector on the Exchequer and the consolidation of smaller institutions.

Two examples of higher education mergers with lessons for planned mergers in Ireland are now discussed.

The University of Ulster (UU) provides an interesting case study on mergers from an Irish perspective. The New University of Ulster merged with Ulster Polytechnic in 1984, incorporating its four Northern Irish campuses under the University of Ulster. It is an example of a trans-binary merger, something that isn't allowed under the National Strategy in the South of Ireland. Challenges during the merger process included uncertainty and shortages of funds. Lessons for this study are found in the influence of the government in steering an involuntary merger; the logistical challenge posed by the geographical distribution of UU's four campuses operating as a unitary institution; and the demise of the binary divide in that jurisdiction (Birley 1991). Also of note is the challenge of merging cultures particularly when the partners are at opposite ends of a continuum as was the case in UU with the former dynamic polytechnic and a static university. Pritchard (1993, p.85) notes the importance of building morale and eliciting loyalty. This requires transformational leadership with the skillset to develop, share and get ownership of a new vision.

A more recent example and at this point the only example of a merger in the South of Ireland is the merger of Tipperary Rural and Business Development Institute (TI) with the Limerick Institute of Technology (LIT). TI was formally incorporated into LIT in 2011 following a government commissioned report (McCarthy, 2009), in which TI was recommended for closure due to its high cost base. Hinfelaar (2012) describes the forces that are driving mergers in the context of the emerging Irish policy as push versus pull factors. TI experienced push factors to merge as it was the only way their two campuses could survive. LIT was driven by pull factors, such as the opportunity to expand the scope and size of the organisation; acquiring TI resources; and a five-year ring-fenced funding model to mitigate any financial risks.

The merger of TI with LIT is best described as a take-over or an unequal merger. At least two of the consortia planning to become Technological Universities are in a similar position, though with the smaller partners having significantly increased scale compared to TI. While the sustainability of some of the institutions is under review by the HEA, there is no threat to their immediate viability. The UU merger is different to the horizontal mergers planned in the South of Ireland, but nonetheless highlights the role of the state and the challenges of managing a multi-campus institution.

3.7 Rankings as a driver of organisational isomorphism.

Modern day rankings emerged as a result of a lack of publicly available information about the quality and performance of higher education (Hazelkorn, 2015). Higher education is now regarded as a barometer of national and institutional competitiveness leading to global rankings assuming disproportionate significance. The "traditional" global rankings of ARWU, QS and THE, and U-Multirank are at opposite ends of the spectrum of rankings, the former rank elite universities while the latter provides for mass higher education. Hazelkorn (2015, p.87) describes U-Multirank as "part of a broader trend to recognize the wide diversity of HEIs and enable users to construct a ranking that meets his/her own requirements." International experience shows that rankings inform strategic thinking and planning, help determine priorities, aid student and academic recruitment strategies and policies, identify potential partners and collaborations, benchmark performance and quality, underpin marketing and branding, build reputation, encourage investment and philanthropy, assure investors and employers – and so on (Hazelkorn, 2015, p.130).

Enders (2014) identifies a number of side-effects of rankings, such as:
- most influential international rankings are based on research-related indicators;
- global competition is driving universities towards the pursuit of 'world-class university' status;
- rankings support organisational vertical stratification as a standard for success in the field of higher education;
- international rankings provide measures that point to success and failure of countries in a globally competitive environment.

In the context of this study, Enders identifies a further side-effect of international rankings as fuelling "organizational isomorphism within the global field of higher education leading universities to change their focus and mission in response to rankings." (*ibid*. p.20). Despite policy-makers and organisational leaders having a focus on organisational diversity, different university types are affected by the same set of ranking indicators leading to convergence and uniformity among disciplines and institutions (Pusser and Marginson 2013, Enders 2014, Erkkilä 2014, Kehm 2014).

Ireland is concerned that "no Irish third-level institution has broken into the top 200 world wide in the Academic Ranking of World Universities (ARWU)" (Donnelly 2009, Flynn 2010) although Trinity College Dublin (TCD) did so in 2014. Similarly, no Irish HEI has appeared in the THE Top 100 in recent years (Ahlstrom 2014) although TCD has been in the QS Top 100 and three HEIs appeared in the THE Top 100 Under 50 in 2014 (Hazelkorn, 2015). A significant number of HEIs are engaging with the U-Multirank survey and the HEA introduced Performance Agreements for all HEIs in 2013, a topic that features strongly in this research.

3.8 Research Questions

Following the synthesis of the literature review, the following research questions were formulated for this study:

1. Is there evidence of institutional isomorphism and/or institutional diversity in the process of and drivers to restructuring the higher education system in Ireland?

2. What is the likely impact on institutional positioning of introducing a new entity such as a Technological University, for instance, how might the likely profile, mission and strategic intent of this entity compare with Institutes of Technology and traditional universities?

3. What lessons may Ireland learn from a review of the restructuring and institutional positioning of selected higher education systems in the international arena?

4. What are potential consequences of institutional isomorphism and/or institutional diversity, specifically in relation to: (i) institutional identity; (ii) the role of the state; (iii) leadership; (iv) institutional autonomy; (v) public accountability; (vi) engagement of agencies and stakeholders; and (vii) internal actors / professional networks?

3.9 Chapter Summary

This literature review covered a broad range of topics relevant to the study of institutional positioning in the Irish higher education system. Ten global trends in higher education were reviewed and suggest that there is evidence of increasing isomorphism due predominantly to the challenges arising from increasing access to higher education, a phenomenon known as massification. Isomorphic tendencies are more evident at the national level than the international or global level and are likely to exist alongside heterogeneity and polymorphism. The strategic focus of an organisation influences how it deals with isomorphic pressures.

Three broad approaches to organisational change with a focus on institutional isomorphism were discussed in Section 3.2. This resulted in identifying four mechanisms of isomorphism, three from the perspective put forward by DiMaggio and Powell (coercive, mimetic and normative) and the fourth (competitive) presented by Beckert. As the concepts of isomorphism and diversity are so closely intertwined, Section 3.3 identified three theoretical perspectives on diversity that broadly align with DiMaggio and Powell's approach to institutional isomorphism. Sections 3.4 and 3.5 address the secondary theoretical framework, population ecology and resource dependency; both relate to the influence of the environment on institutional positioning. Population ecology addresses how changes in the environment, such as in the market, influence change in the organisation. Resource dependency emphasises the need to manage the environment through environmental scanning and strategic planning.

The isomorphic indicators and drivers identified in the literature form the basis of the conceptual framework informing the diversity typology developed as part of this study to examine trends towards isomorphism and/or diversity in the Irish higher education system, as shown in Figure 3.4:
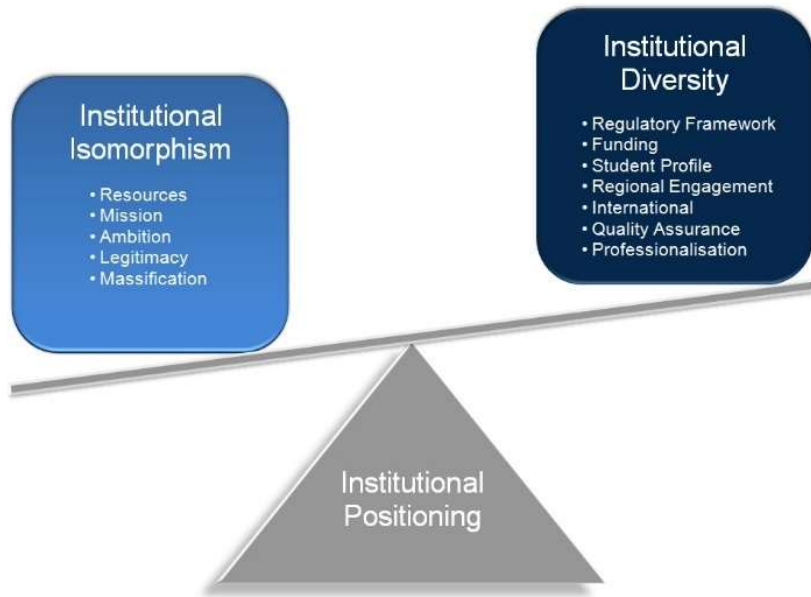
Figure 3.4: Institutional Positioning - Conceptual Framework

Chapter 4 now presents and explains the research design adopted for this study in its endeavour to examine the influence of institutional isomorphism and/or diversity in the process of and drivers to restructuring the higher education system in Ireland.

EXAMINING SHIFTS IN INSTITUTIONAL POSITIONING IN THE
EVOLVING IRISH HIGHER EDUCATION SYSTEM

Chapter 4: Research Design

Chapter 4: Research Design

The chapter begins by defining the ontological and epistemological position of the researcher. Section 4.2 discusses the research paradigms of quantitative, qualitative and mixed-methods research. The particular relevance of the pragmatism paradigm to this study is discussed in Section 4.3, leading into the specific research methods employed in the study. Section 4.5 describes how the primary research data are analysed using the Braun and Clarke (2006) thematic analysis approach. The approach to conducting documentary analysis of the secondary research is discussed in Section 4.6. The chapter concludes by acknowledging the position of the researcher as an integral component of the research process and addressing the ethical dilemma this presents in keeping with research ethics policies.

4.1 Ontology and Epistemology

The ontological and epistemological position of the researcher may be defined as a subjectivist epistemology underpinning an interpretivist theoretical position grounded in pragmatism. This theoretical position lends itself to methodological pluralism or a mixed-methods approach to research.

Building on theoretical and philosophical underpinnings, a research framework provides the theoretical background for a research project. The 'research onion' model developed by Saunders *et al.*(2003, p. 87) and illustrated in Figure 4.1 provides a format to frame this research inquiry:
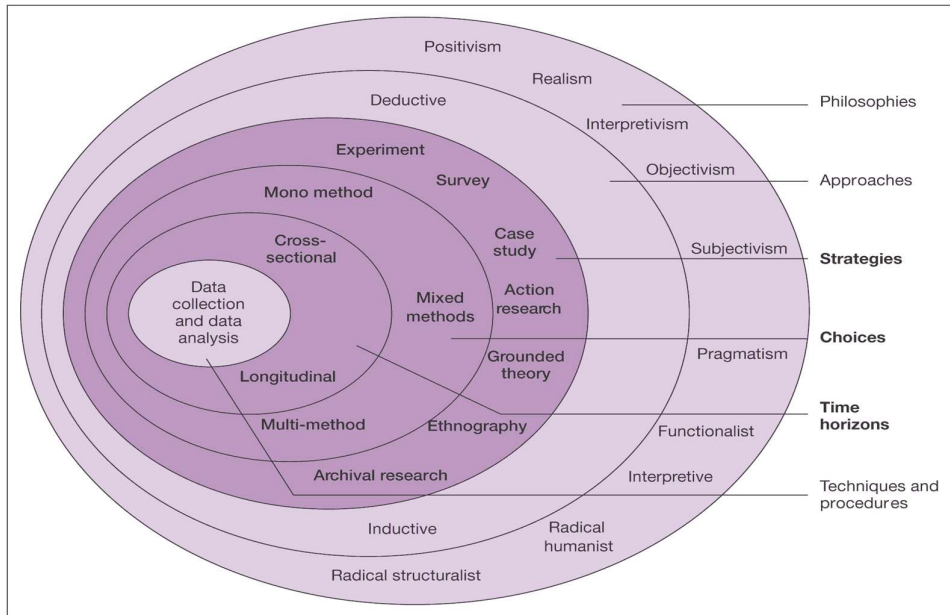
Figure 4.1: The Saunder's et al. Research Onion (Saunders et al., 2003:102)

The Saunders *et al.* model, while originally developed as a research process for the business discipline, is a framework that is more broadly applicable. Therefore, it was deemed an applicable framework to develop this research project.

There are two types of research approaches illustrated in the Saunders' 'research onion', namely, deductive and inductive. Inductive research is undertaken in situations in which a framework might be "developed from the observation of empirical reality; thus general inferences are induced from particular instances" (Collins and Hussey 2009, p.8). Inductive reasoning applies to situations where specific observations or measurements are made towards developing broader conclusions, generalizations and theories (Saunders, Lewis et al. 2003, p.87-88). The opposite to inductive reasoning is deductive reasoning, where one starts thinking about generalizations, and then proceeds toward the specifics of how to prove or implement the generalizations (*ibid*.: p.86-87), mostly applicable in disciplines where agreed facts and established theories are available (Remenyi and Williams 1998, p.75). As this research is underpinned by an interpretivistic pragmatic research philosophy, an inductive research approach is considered the most appropriate. Table 4.1 shows the main differences between deductive and inductive research approaches:

Table 4.1: Deductive and Inductive Research

Deductive Reasoning	Inductive Reasoning
Scientific principles	Gaining an understanding of the meanings humans attach to events
Moving from theory to data	
	Close understanding of the research context
Need to explain causal relationships between variables	
	Collection of qualitative data
Collection of quantitative data	
	More flexible structure to permit changes of research emphasis as the research progresses
Application of controls to ensure validity of data	
Operationalisation of concepts to ensure clarity of definition	Realisation that the researcher is part of the research process
Highly structured approach	Less concern with the need to generalise
Researcher independence of what is being researched	
Necessity to select samples of sufficient size in order to generalize conclusions	

(Saunders et al., 2003:89)

Philosophically, researchers make claims about the nature of reality (ontology), how they come to know what they know (epistemology), the role of values in the research process (axiology) and the methods adopted for use in the process (methodology), (Bloomberg and Volpe 2008, Cresswell 2009). In qualitative inquiry, the general consensus is that objective reality cannot be 'captured' (Denzin and Lincoln 2005, p. 5).

On ontological matters, this researcher takes the position that reality is subjective and therefore multiple realities exist. Epistemologically, a position based on the assumption of the existence of multiple truths linked to constructivism is proposed. Axiologically, the view of the researcher is that all research is value-laden and that biases are always present. From a methodological perspective, research processes are viewed as being inductive and emergent in nature (Cohen, Manion et al. 1994, Gall, Borg et al. 1996). Thus the research stance of this study is interpretivist, subjectivist, and pragmatic. Such an approach fits well with the researcher's philosophical assumptions.

The main purposes of this research are descriptive, exploratory and empirical. Descriptive research is an extension of the exploratory approach whose aim is to uncover more about a phenomenon and to capture it with detailed information and facts (*ibid.*). Exploratory research enables the researcher to find out "what is happening; to seek new insights; to ask questions and to assess phenomena in a new light" (Robson 2003, p. 59) by which the empirical research phase is informed.

Crotty (1998) defines a broad framework for positioning any research question. He refers to three primary epistemologies: objectivism, constructivism and subjectivism. In objectivism the position is that things exist as meaningful entities independent of consciousness and experience. As such, truth and meaning reside in them and through careful research that truth and meaning can be discovered. The second category, constructivism, rejects this view of human knowledge, and makes the claim that there is no objective truth waiting to be discovered. Rather, truth and meaning are not discovered but are constructed. The third category, subjectivism (often integrated into constructivism), considers meaning to come out of the interplay between subject and object. It is, however, imposed on the object by the subject and so meaning is imported. As such, reality does not exist in an objective form waiting to be discovered, but rather reality can be seen to be socially constructed (Goffman 1959).

Subjectivist epistemology underpins an interpretivist stance. The interpretivist theoretical perspective is the most appropriate one for a social scientific study such as this research. By extension, this theoretical perspective allows for methodological pluralism: interpretivism allows for a variety of research methods and methodologies to be used in the research process.

4.2 Quantitative, Qualitative and Mixed-Methods Research

Quantitative research methods give statistical outputs that look to confirm assumptions by proving a theory or hypothesis through numerical evidence ensuring statistical reliability by using representative sampling. Strauss and Corbin (1998, p.148) describe quantitative methods as "any type of research that produces findings that are arrived at by statistical procedures or other means of quantification". Bryman and Bell (2015, p.174) summarise weaknesses of quantitative methods including a

concern that the researcher can become over reliant on measurement tools and instruments to give a precise measurement, taking away the interpersonal relationship between researcher and participant. Creswell (2013) presents a different view that the use of multiple sources of information allows triangulation of data collected so as to build stronger assertions to complement the research findings.

Qualitative methods give "rich meaningful accounts or narratives and verbal data" (Thomas 2004, p.18) often gathered through direct contact with participants and through open questioning, for example, interviewing, allowing an interaction between the researcher and participants. Kohlbacher (2006, p.2) refers to the many debates over the acceptance and legitimacy of qualitative methods, critiquing it for being "soft, unscientific, exploratory or subjective".

The mixed-methods approach to research normally refers to a combination of quantitative and qualitative research methods. Mixed-methods have become a popular research methodology that is evolving to account for a range of ontological and epistemological underpinnings. The purpose of mixed-methods research is not to replace either qualitative or quantitative research, but rather to extract the strengths and diminish the weaknesses in both within a single study (Johnson and Onwuegbuzie 2004).

4.3 Pragmatism

Pragmatism, as the name suggests, champions only those ideas that apply practically. The theory of pragmatism is about meaning: the meaning of ideas that are positioned in their consequences rather than in the ideas themselves (James 1909). Pragmatists insist on the importance of trying different methods followed by evaluating them with regard to their effectiveness and usefulness. This position is particularly fitting for this research study. Pragmatism finds philosophy's insistence on truth and certainty to be disconcerting. Determining that we cannot solve the perennial philosophical questions and that we cannot discover the first elements of human knowledge, pragmatists contend that we should not try. Pragmatism arises then to undermine the importance of these questions by focusing on the common occurrences of practical life.

There are numerous forms of pragmatism and individuals holding a pragmatist worldview are not dedicated to any one research paradigm or philosophy. Pragmatists agree that research always occurs in social, historical, political and other contexts (Cresswell and Clark 2007). However the focus on workable solutions to research problems is preferred (Tashakkori and Teddlie 2003, Cresswell and Clark 2007). Pragmatic researchers propose that, within the same study, methods can and should be used in appropriate ways to more fully understand a research problem (Bloomberg and Volpe 2008). Therefore, pragmatists can adopt multiple data collection methods within a single study, a practice that gives rise to mixed method research approaches. Consequentially this study utilises multiple methods of data collection to best answer the research question, will employ both quantitative and qualitative sources of data, will "focus on the practical implications of the research, and will emphasise the importance of conducting research that best addresses the research problem" (Cresswell and Clark 2007, p. 23).

Pragmatism is seen as the paradigm that provides the underlying philosophical framework for mixed-methods research (Tashakkori and Teddlie 2003, Somekh and Lewin 2005). It may be said, however, that mixed methods could be used with any paradigm. The pragmatic paradigm places the research problem centrally and applies all approaches to understanding the problem (Cresswell 2009). With the research question as the central focus, data collection and analysis methods are chosen as those most likely to provide insights into the question with no philosophical loyalty to any alternative paradigm.

Pragmatists argue that the specific research question is more important than either the method of data collection or the philosophy underlying the method (Mertens 2005). It is, therefore, justifiable to combine qualitative and quantitative methods of data collection in a single study if this provides the most appropriate means to answer the research question (Morse 2003, Tashakkori and Teddlie 2003, Johnson and Onwuegbuzie 2004, McAuley, McCurry et al. 2006). For clarification purposes, a brief summary of some general characteristics of pragmatism related to mixed-methods research is provided in Table 4.2.

Table 4.2: Elements of Pragmatism Related to Mixed Methods Research

Pragmatists reject the incompatibility premise, accept pluralism, and therefore accept that qualitative and quantitative methods can be used in the same study
Pragmatists try to avoid the use of terms that perpetuate traditional dualisms like facts vs. values; realism vs. antirealism, objectivism vs. subjectivism in preference to moderate dualisms that support workable solutions to the research question
Pragmatists believe that the research question should have the greatest importance and *it*, not a method or paradigm, should drive the study
Pragmatists believe that researchers should have a freedom of choice in the conduct of the study and this choice may include the use of a variety of data collection and analysis techniques
Pragmatists accept that research is located in social, historical, political and cultural contexts
Pragmatism establishes and makes explicit the purposes for mixing qualitative and quantitative data.

(Adapted from: Creswell, 2009: 12; Johnson & Onwuegbuzie, 2004:18; Tashakkori & Teddlie, 2003: 21)

As shown above, Table 4.2 identifies the key elements of the pragmatist approach to research, in which there is acceptance of pluralism and the notion that both quantitative and qualitative methods can be used in the same study.

Beyond the general requirements of research, in terms of having a realistic problem of sufficient interest and the ability to gather the required information, consideration needs to be given to the extensive data collected during mixed-methods research (Creswell 1999). The analysis of the large volumes of data gathered clearly requires additional skills, time and resources, compared to that of a purely quantitative or qualitative project. It is for these reasons that mixed-methods research is often most successfully conducted in research projects.

4.4 Research Methods

The quantitative dimension of this research was based predominantly on analysis of secondary data, while the qualitative dimension was based exclusively on analysis of primary data generated through conducting in-depth semi-structured interviews.

4.4.1 Semi-structured Interviews

The interviewer decided to conduct semi-structured interviews, having considered both structured and unstructured interviews. While predetermined questions are used in both structured and semi-structured interviews, the interviewer has greater flexibility with the latter due to the option of changing the order questions can be asked, changing the wording of the questions, asking new questions and omitting questions should it be deemed appropriate to do so.

Wimpenny (2000) suggests that interviewing has become synonymous with qualitative research but cautions that, for the conduct of research which is both rigorous and trustworthy, the interview approach should be consistent with the adopted methodology.

Seale *et al.* (2004) suggest successful interviewing requires the interviewer to confront one of the central ironies in qualitative research: interviewees are not merely viewed as individuals relevant only in a research-laden context. More appropriately interviewees should be viewed as the product of multiple discourses, simultaneously representing thoughtful individuals, feeling individuals, and experiencing individuals. In such a scenario the interview then becomes a contextually situated practice (*ibid*.: 29), with the interviewer assuming both a data gathering and a filtering role. The epistemology of the qualitative interview is constructionist in nature as interviewees are viewed as meaning-makers (Warren 2002). During an interview, there is co-construction as the topics and meanings are negotiated in dialogue between the interviewee and the interviewer. Drever (1995) argues that an interview is not a conversation but rather it is a formal encounter with a specific purpose which may be structured or semi-structured.

Janesick (1998) suggests that it is far better to be over-prepared than to get caught in an interview without questions and she underlines the importance of composing as many thoughtful questions as possible. A novice interviewer will benefit from developing a well-prepared schedule and in developing the schedule, the starting point should be the research questions as these identify the precise area of investigation (Drever 1995).

Riessman (2008) writes about the importance of listening attentively in an interview but acknowledges that this is a complex and challenging process as the researcher

has to forget about the self and enter the world of another. It is really important to learn to listen attentively because qualitative interviewing is a way of finding out what others feel and think about their worlds. In this study every effort was made by the interviewer to have an active presence in order to encourage the participants to expand on areas that were clearly important to them. In qualitative interviewing, the researcher is not neutral, distant or emotionally uninvolved. It is important to stress that the interaction between interviewer and interviewee is highly significant. Rubin and Rubin (2011) suggest that the goal is to achieve some empathy but not so much involvement that you cannot see the negative things. Also, an interviewer must be sensitive to his or her personal biases, to the social and intellectual baggage s/he brings to the process.

4.4.1.1 Selection of the Interviewees

In order to develop deeper knowledge and understanding of the complex issue of institutional positioning related to the concepts of isomorphism and diversity, in-depth semi-structured interviews were conducted with various stakeholders involved in the evolving transformation occurring in the Irish higher education system as well as stakeholders involved in similar transformations in other higher education systems. Purposive sampling involves selecting individuals or groups for study on the basis of their relevance to one's research question and this approach was thus deemed the most appropriate for this inquiry. As Taylor and Bogdan (1984) explain, in purposive sampling "the actual number of 'cases' studied is relatively unimportant; what is important is the potential of each 'case' to aid the researcher in developing theoretical insights into the area of social life being studied" (p.83).

It was decided to expand the number of interviewees beyond twelve as recommended by Guest (2006) on the basis that the group to be interviewed is not homogenous. Thus, invitations were issued to twenty-nine potential participants based on three criteria: (i) holding a senior position in a representative or network organisation, thereby representing the views of the network, (ii) acting as a significant player or institutional leader in one of the four emerging consortia with an ambition to seek re-designation as a TU, and/or (iii) having a national and/or international profile as a policy expert or policy advisor. Twenty-six of those invited agreed to participate representing an 86% response rate.

The interview participants may be divided into three broad categories of (i) policy experts, (ii) institutional leaders and (iii) stakeholders. Further subdivisions of these categories and the numbers interviewed in each category are presented in Table 4.3, along with a code assigned for each category:

Table 4.3: Profile of Interview Participants

Primary Category	Number	Sub-category	Number	Code
Policy Experts	10	International	5	1a / 1b
		National	5	1c
Institutional Leaders	6	Institutional Leaders	6	2a / 2b
Stakeholders	10	Academic	5	3a
		Business / Industry	5	3b
Total:	26		26	

A list of the interview participants is included in Appendix 2.1.

4.4.1.2 Interview Preparation

An interview guide (Appendix 2.2) was prepared as a planning framework to ensure successful interviews were professionally conducted as part of this research study. The guide encouraged interviewees to express their views honestly and allowed the interviewer explore their answers.

Following attendance at a qualitative interview training session in Surrey University in March 2015, the 'puzzlement' approach was adopted (Lofland, Snow et al. 1971) as an aid to deciding interview questions. Three programme managers involved in coordinating and facilitating change initiatives for the West/North-West region, aligned to the National Strategy for Higher Education, were selected to engage in this methodology due to their in-depth understanding of implementing institutional initiatives of a collaborative nature across three HEIs. The 'puzzlement' approach resulted in a set of questions and prompts for the interviewer. While this was considered a useful exercise, further refinement of the questions was conducted prior to finalising the question set. The questions were ordered so that the interview would have a beginning (introduction and warm up with easy non-threatening questions), a middle (covering the main purpose of the interview), and an end (a few questions to wind down the interview). The purpose of the interview was to draw information from

the participants on the key areas emerging from the literature review (see Chapter 3: Figure 3.4. 'Institutional Positioning – Conceptual Framework').

4.4.1.3 Challenges of Interviews

Interviews, like all research methods, have to be planned meticulously in order to provide a reliable, valid and unbiased output. Several challenges exist. There are time and cost implications associated with the interview process. In general, the target group consisted of senior executives, which presented a challenge to get their commitment to participate in an interview of up to 60-minutes duration. Ensuring all interviews are conducted in the same way with broadly the same questions being asked is important as a means of limiting the potential of interviewer influence or bias on responses. A further challenge involves managing the expectations of anonymity so that the interviewees feel comfortable with talking openly about issues while simultaneously allowing the researcher enough latitude to be able to use the material from the interview appropriately.

4.4.1.4 The Interview Process

Each potential interviewee was invited by email to participate in the study. Once confirmation was received of the participant's willingness to engage, a detailed briefing note was issued that gave an overview of the research study and the areas that would feature in the interview. Participants received a consent form to provide assurances in relation to confidentiality, anonymity and to highlight the interviewer intention to record the interviews. It was sufficient to sign the consent form on the day of the interview. The interview questions were not issued in advance; however, on one occasion, an interviewee requested a copy of the questions in advance and the request was granted. Interviewing elites is probably more challenging due to their status and time commitments and whilst the interviewer would have liked to book a private room in a nearby hotel to ensure a relaxed and comfortable environment as suggested by Gillham (2005) that wasn't possible on all occasions. Two of the interviews were conducted in Finland, one in the UK, three using Skype, and the remainder took place in Ireland. On average, the interviews were between 45 and 60 minutes duration.

All interviews were recorded with the aid of two recorders. The use of a recording machine was decided upon as a precautionary backup. The interviews were then transcribed to allow a full thematic analysis to be undertaken. All interviewees were asked if they were comfortable with the interview being recorded and all agreed to the recording. The recording of interviews, while essential to capture what is said, does not fully portray the interviewees' expressions and emotions. As part of the interview analysis phase, having a recording and a transcript promptly prepared after the interview allows for prompt listening to the interviews and re-reading of the transcripts to develop insights that can often be missed during the interview process.

4.5 Primary Data Analysis

Qualitative data analysis is an ongoing process involving continuous reflection about the data, asking analytical questions and writing memos. Qualitative data analysis may be conducted concurrently with data gathering, although this happened to a limited extent in this study. Having reviewed several data analysis methods, it was decided to use a thematic analysis in this study due to its flexibility and ease of use in that it has the advantage of being suitable for deployment across a range of theoretical and epistemological positions. To facilitate data analysis and the project management of the research study, a Computer-Assisted Qualitative Data Analysis Software (CAQDAS) package, NVivo 11, was used. Use of such software is increasingly common in qualitative research (Bringer, Johnston et al. 2004). The benefits of using this approach are well documented (Coffey and Atkinson 1996, Bringer, Johnston et al. 2004, Cresswell 2013) and are discussed in section 4.5.2

4.5.1 Application of Thematic Analysis in this Study

In this approach, data are not grouped according to predefined categories, rather categories of meaning and relationships between categories are derived from the data itself through a process of inductive reasoning known as coding. This method involves breaking down the data into discrete 'incidents' (Glaser and Strauss, 1967) or 'units of meaning' (Maykut and Morehouse 1994) and coding them to categories. Lincoln and Guba (1985, p.334-341) explain that categories generated through this process generally take two forms: those that are derived from the participants' narratives, and those that the researcher identifies as significant to the research questions; the aim of the former "is to reconstruct categories used by participants to

conceptualise their own experiences and world view", the goal of the latter is to assist the researcher in developing theoretical insights through developing themes that illuminate the social processes operative in the site under study; thus: "the process stimulates thought that leads to both descriptive and explanatory categories" (Lincoln and Guba, 1985, p.334-341). Thus, over the course of the analytical process for this study, categories underwent content and definition changes as units and incidents were compared and categorised, and as both the understanding of the categories' properties and the relationship between categories was developed and refined. As Taylor and Bogdan (1984, p.126) explain, using this method "the researcher simultaneously codes and analyses data in order to develop concepts; by continually comparing specific incidents in the data, the researcher refines these concepts, identifies their properties, explores their relationships to one another, and integrates them into a coherent explanatory model".

The six step approach to conducting thematic analysis articulated by Braun and Clarke (2006) was applied to the data in this study as follows:

1. *Familiarisation with the data*: Becoming familiar with the data involved reading and re-reading the interview transcripts and noting any initial analytic observations.

2. *Coding*: This phase involved 'open coding' whereby the researcher generated labels for important features of the data of relevance to the research question. Coding is more than a method of data reduction, it is also an analytic process, so codes capture both a semantic and conceptual reading of the data. The researcher coded all data items and ended this phase by collating all the codes and relevant data extracts.

3. *Searching for themes*: This phase involved searching for themes, also described as 'developing categories'. Ten categories were identified from phase 2 and the data from phase 2 was mapped under each category. Categories in this phase showed coherent and meaningful patterns in the data relevant to the research question. This 'searching' is an active process: themes are not hidden in the data waiting to be discovered by the researcher, rather the researcher constructs themes.

4. *Reviewing themes*: This step involved reviewing the themes or categories to ensure that they 'fit' in relation to the coded extracts. The researcher reflected on whether the themes were telling a convincing and compelling story about the data, and began to define the nature of each individual theme, and relationships between themes. During this iterative process, sometimes it was deemed necessary to merge two or more categories, or to split a category into two or more categories. A number of sub-categories were identified in this phase, all of which related to the research questions and demonstrated a relationship with the high-level categories.

5. *Defining and naming themes*: At this stage, the researcher conducted and wrote a detailed analysis of each theme (asking such questions as 'what story does this theme tell?' and 'how does this theme fit into the overall story about the data?'), identified the 'essence' of each theme and constructed a concise and informative name for each theme.

6. *Writing up*: Writing is an integral element of the analytic process in thematic analysis. Writing-up involved weaving together the analytic narrative and data extracts in order to construct a coherent and persuasive story about the data, contextualising it in relation to existing literature.

4.5.2 Benefits of Using Qualitative Data Analysis Software

It is important to point out that in using qualitative data analysis software, the researcher does not capitulate the hermeneutic task to the logic of the computer; rather the computer is used as a tool for efficiency and not as a tool which in and of itself conducts analysis and draws conclusions. As Fielding *et al*. (1998) explain, qualitative researchers "want tools which support analysis, but leave the analyst firmly in charge" (p.167). Importantly such software also serves as a tool for transparency. Arguably, the production of an audit trail, sometimes referred to as a Code Book, is the key most important criteria on which the trustworthiness and plausibility of a study can be established. Qualitative analysis software's logging of data movements and coding patterns, and mapping of conceptual categories and thought progression, render all stages of the analytical process traceable and transparent, facilitating the researcher in producing a more detailed and comprehensive audit trail than manual

mapping of this complicated process can allow. The audit trail or Code Book charting the entire analytic process conducted in this study, is shown in Appendix 3.

4.5.3 Qualitative Data Analysis Framework

As the analytical process drew to a close, a sketch of a conceptual framework of the thematic analysis (Appendix 3.5) was drawn up based on the identification of three dominant themes, namely, ambition, mission, and the role of the state. The framework included all of the categories identified in phase 4, showing their relationships to each other, including an attempt to identify moderators and mediators. Conceptually, a moderator variable conditions the behaviour of another variable, and a mediator variable explains how or why another variable affects the outcome (Baron and Kenny 1986, Rothman, Greenland et al. 2008). Prior to converting the sketch to electronic format, and following some reflection, it was felt that one of the sub-categories should become a theme in its own right and be reclassified as a fourth theme, namely, higher education strategy. Conscious of the impact the Higher Education Strategy (2011) is having on institutional positioning, it was deemed deserving of equal status with the other three themes identified in the analytical process. The resultant Conceptual Framework, shown in Figure 4.2, forms the basis of the analysis emanating from the data and provides the structure for Chapter 5: Qualitative Data Analysis and Findings.
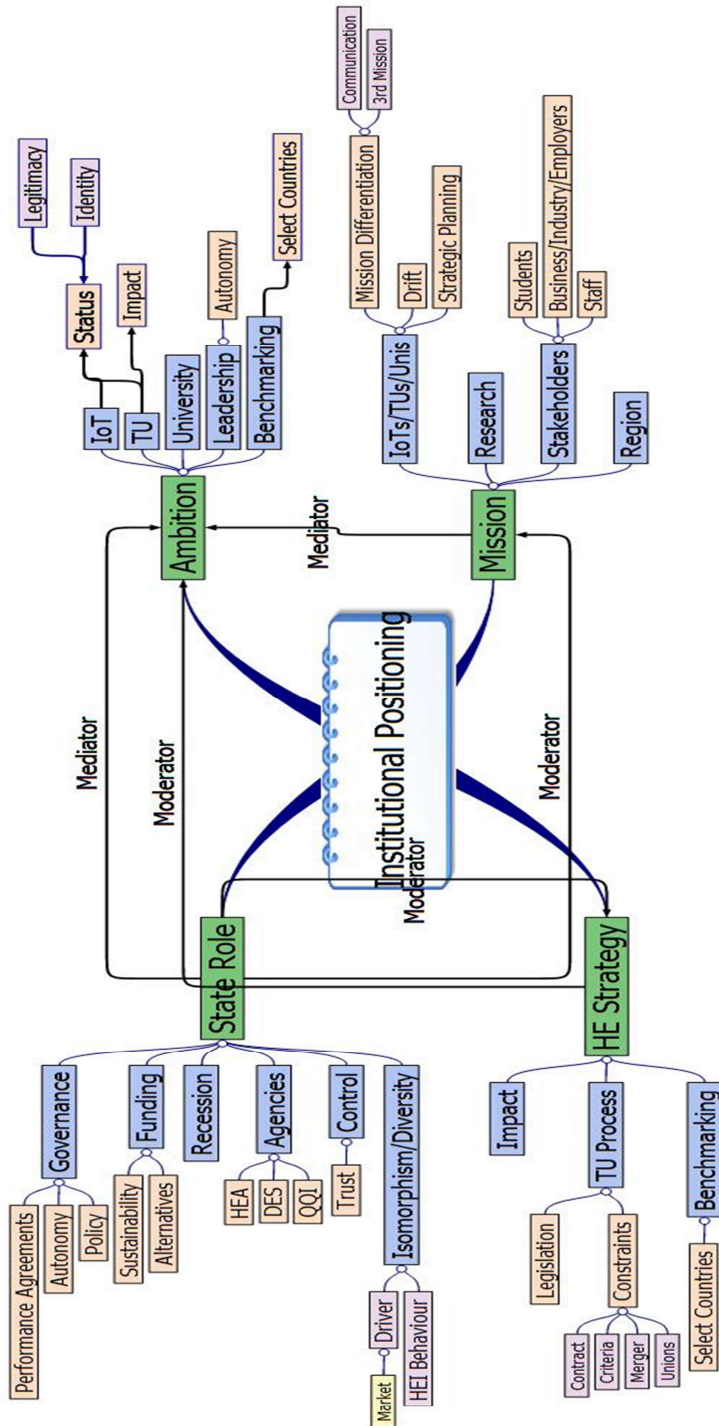
Figure 4.2:Conceptual Framework of the Thematic Analysis

4.6 Documentary Analysis

Documentary analysis was used for quantitative and qualitative data generation. The primary purpose of the documentary analysis was to mine for quantitative data. A documentary analysis framework was designed for this purpose, which relied primarily on published reports. The findings from the documentary analysis is referred to as secondary data.

Documentary analysis is viewed as being an unobtrusive technique as the data being analysed are unaffected by the process of analysis (Saunders and Lewis 2007, p.259). This differs from many other methods where research subjects are directly involved which may result in a reactive effect portrayed as altered behaviour. A key aspect of documentary analysis is establishing the context of the document, identifying who wrote it and for what purpose (Robson and McCartan 2016).

Documentary analysis as a research method is often only used as a supplement to the other research methods. However, it has been argued that this research method is as good as surveys, in-depth interviews or participant observation (Ahmed 2010, p.2). Using this type of material in a research study means that the documents are recorded as secondary data sources as they contain material, "not specifically gathered for the research question at hand" (Stewart and Kamins 1993, p.11).

The rationale for incorporating documentary analysis into the research design for this study was threefold, as it aimed to:

- Provide an evidence base to support the research question
- Supplement the main research method of semi-structured interviews
- Allow for cross-triangulation between the primary data, secondary data and the literature review.

A documentary analysis framework was designed consisting of three pillars:

1. Selected International higher education systems
2. The Irish higher education system
3. Dimensions of Institutional diversity appropriate to the Irish context

This framework is shown in Figure 4.3:
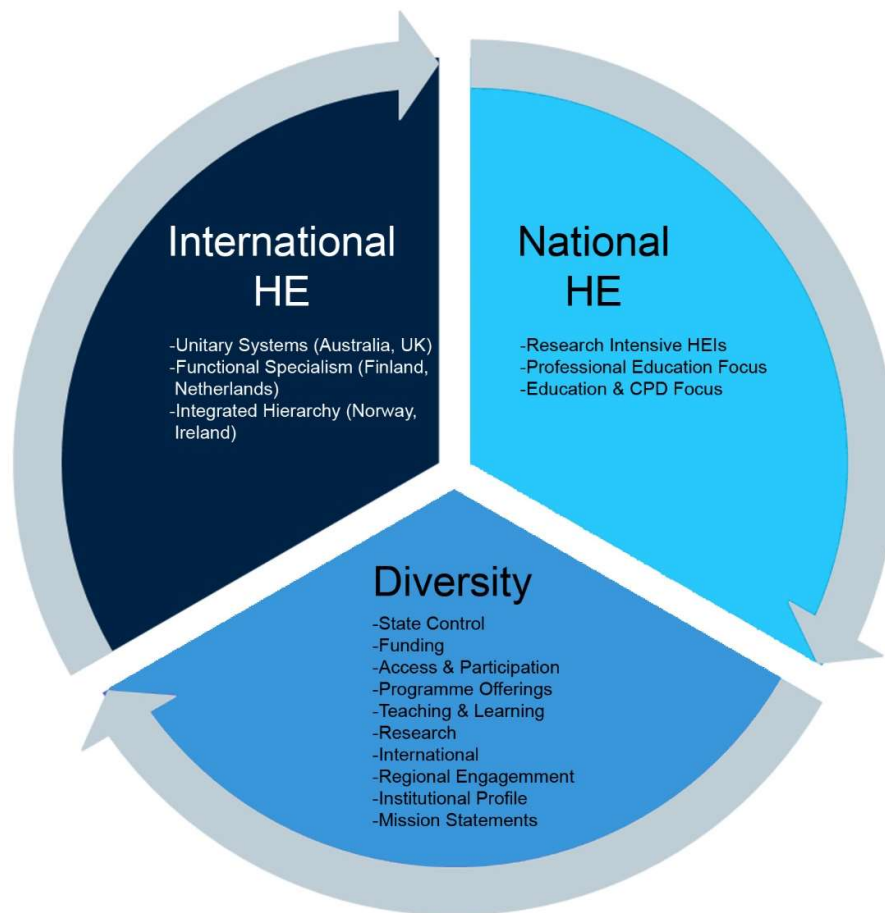
Figure 4.3: Documentary Analysis Framework

4.6.1 Pillar 1: International Higher Education Systems

A high-level analysis of the higher education system of six countries was undertaken using secondary research from the OECD Education at a Glance Report of 2015 and the EUA University Autonomy Scorecard of 2011. The countries selected were: Australia, the United Kingdom, Ireland, Norway, Finland and the Netherlands, and they were chosen because they are representative of three different higher education systems.

Australia and the UK were selected because they have transitioned from a binary system to a unitary system. In relation to the remaining four countries, analysis of higher education systems in a number of countries in Europe shows that countries can be broadly divided between those where 'functional specialism' exists and those where integration with the university sector or 'hierarchy' is more prevalent.

Finland and the Netherlands were selected as representative of 'functional specialism', which means that UAS in these countries do not have university ambition, have a specific UAS profile and pursue research niche specialisms that are not in conflict with the universities.

Ireland and Norway are representative of the integrated hierarchical approach which implies that UAS in these countries seek university status, are more likely to imitate what is going on in universities and as a consequence are more likely to lose out to universities and end up on a lower tier of the higher education system (Lepori and Kyvik 2010).

The comparative analysis of the three higher education systems was based on three dimensions from the OECD report and four dimensions from the EUA University Autonomy Scorecard. The analysis aimed to demonstrate if there is any obvious variation between the HE systems, and if not, at a minimum, to show the position of Ireland in an international context when measured against the seven dimensions of analysis.

4.6.2 Pillar 2: The Irish Higher Education System

As the key focus of this study is concerned with examining shifts in institutional positioning in the evolving Irish higher education system, analysis of documentation is important in order to gain a thorough understanding of the wider context of the institutional positioning of the IoTs specifically, and, more generally, the universities. A wide range of documents were reviewed including performance reports on the higher education system, published institutional data, government and agency reports.

The relationship of HEIs with the environment indicates their institutional positioning and reflects their strategic intent, or their capability to locate themselves in a favourable niche (Fumasoli and Huisman 2013). The resource dependency perspective considers universities as managing their interdependencies with the environment according to the rationales of power and control (Pfeffer and Salancik 1978). Thus positioning may be considered as a trade-off between autonomy and survival through which resources can be gathered. Along this line of reasoning,

positioning increases or decreases diversity, depending on the actions taken by the higher education institution in order to ensure its resources.

In principle, positioning increases diversity, as every organisation would profile itself in a distinctive way. According to Davies (2014) there is a spectrum of positioning possibilities or models of TU and he proposes the following three models:

1. TUs with a primary focus on education and CPD for business, industry and the professions, with a predominantly regional and national role, and with appreciable applied R&D and consultancy. Examples in this category include Orebro and Oulu.
2. TUs with a strong focus on professional education, but with a formidable applied research, R&D and knowledge exchange base. Examples in this category include RMIT, Queensland UT and Eindhoven.
3. TUs of acknowledged international excellence as research intensive, graduate universities with strong commercialised R&D, highly elitist CPD, and which invariably score highly as leaders in global rankings. Examples in this category include Caltech and MIT.

This classification framework serves as a tool to classify HEIs in Ireland as part of this research.

4.6.3 Pillar 3: Institutional Diversity

According to the higher education literature, diversity is one of the major factors associated with the positive performance of higher education systems (van Vught 2008). The corollary of that statement suggests that institutional isomorphism, the opposite to diversity, may have a negative impact on the performance of higher education systems. Greater institutional diversity facilitates greater learning options for students, recognises the diversity that exists in society and allows the higher education system to respond to societal change in a timely manner (Morphew 2009). Governments assume that by allowing institutional specialisation the effectiveness of the overall higher education system will increase, thereby helping to develop the knowledge economy.

As explained in Chapter 3, Huisman (1995) maintains that a typology or taxonomy based on relevant variables would suffice to determine the degree of diversity, and possibly the increase or decrease of diversity within a certain population of organisations or other subjects. The choice of variable should be clear and the arguments for selection included. Thus, the drivers of diversity as identified in the literature (see Table 3.3) were used to design a typology to measure trends in dimensions of diversity (see Table 3.4).

Ten dimensions of diversity were identified, mostly on the basis of available data. Data in relation to each dimension was sourced for the IoTs and the universities at two points in time, generally five years apart (2010 and 2014). This model allowed for comparisons to be made between the different institutional types in addition to a trend analysis over the five-year period. One or more key performance indicators (KPIs) was attached to each dimension, and the ten dimensions of diversity identified comprise:

1. Performance Evaluation
2. Funding
3. Access and participation
4. Programme offerings
5. Teaching and learning
6. Research
7. International
8. Regional engagement
9. Institutional profile
10. Mission statements

Dimensions 2-9 relied on published statistical data provided mostly by the HEA and this data was amenable to quantitative analysis. Dimension 1 was a mixture of quantitative and qualitative analysis, relying on published evaluations of HEIs by the HEA. Trend analysis wasn't possible for dimension 1 as there was only one dataset. Dimension 10 was based on primary research conducted by the researcher at his own institution by surveying middle and senior managers to determine if there is differentiation of mission between the different institutional types in Ireland, focusing on universities and IoTs.

A diversity matrix, based on a formula was devised to measure the trend towards diversity or isomorphism for forty-nine elements across eight of the ten dimensions. The 'performance evaluation' dimension 1, was excluded as it relies on an evaluation at one point in time and therefore lacks the quantitative data for comparison over a number of years. Similarly, the tenth dimension on 'mission statements' was not included as it was dealt with separately.

The key limitations to this approach include the subjectivity in the selection of the dimensions, and the timeframe over which the trend analysis was conducted. However, while recognising the limitations of this approach, it is nonetheless a unique perspective on higher education in Ireland and therefore adds to the original contribution of this study.

This three-pillared documentary analysis framework forms the structure for Chapter 6: Documentary Analysis and Findings.

4.7 Ethical Considerations

As with any form of research, it was a priority that an ethical framework be considered and developed. As Saunders *et al.* (2007, p.178) proffer, the consideration of ethics in the research arena: "refers to the appropriateness of your behaviour in relation to the rights of those who become the subject of your work, or are affected by it." As recommended by Robson (2016) the observation of the principles of anonymity and confidentiality in all aspects of the research was aspired to in this study.

Two strategies were undertaken to protect the participants' confidentiality. Firstly, a covering letter was enclosed with the questionnaire explaining the research and assuring the participants of confidentiality and anonymity. Secondly, all participants' names were omitted and a numeric coding system was assigned.

The following specific criteria have been applied:

- All interviews were digitally recorded
- Participation in the research was voluntary
- Participants remained anonymous throughout the study

- The researcher undertook to follow ethical research procedures and to report the research findings in a truthful way
- Confidentiality, anonymity and privacy was assured and all inputs made were treated accordingly

The main objective of ethics review is to minimise harm to research participants. "Ethics has to do with the application of moral principles to prevent harming or wronging others, to promote the good, to be respectful and to be fair" (Sieber 1993, p.14). In the case of research involving interviews, there is the issue of inconvenience for participants because of the length of time involved in narrative interviews. So, research participants were given information by email about the topic of the research and the involvement that would be required. In addition, participants were given time to consider whether or not they wished to participate and they were asked to sign a consent form on the day of the interview. Also, it is understood that interviews where narratives are being evoked have the potential to raise difficult and challenging issues and care was taken to avoid leaving people feeling that they had been manipulated in any way as advised in the work of Opie and Sikes (2004).

4.8 Summary

This chapter opened by discussing the epistemological and ontological underpinnings that inform the mixed-method approach adopted by this study. It described and supplied the rationale for the research design, and explained the processes and procedures of data collection and data analysis. It closed by acknowledging the position of the researcher as an integral component of the research process and addressing the ethical dilemma this presents in keeping with research ethical policies.

Chapter 5 now presents the qualitative data analysis and findings.

CHAPTER 5: QUALITATIVE DATA ANALYSIS AND FINDINGS

Four dominant themes were identified at the close of the qualitative data analysis process: higher education strategy; the role of the state; the criticality of mission, and institutional ambition (see Figure 4.2). And these four themes form the structure of this chapter.

It may be noted that while this chapter draws on the participants' narratives, discussing their articulated experiences and perspectives, the researcher is not taking a position on the views portrayed, instead ensuring that balance and objectivity is adhered to in how the data are presented.

Theme 1: The impact of the National Strategy for Higher Education (2011). Section 5.1 identifies three sub-themes in participants' narratives on this theme:

1. The process of re-designation as a TU
2. Evidence of diversity and/or isomorphism
3. Comparison with selected higher education systems

Theme 2: The role of the state. Section 5.2 discusses the role of the state in Ireland and whether the predominant approach may be considered as control or steerage. Four sub-themes were identified under this theme:

1. Governance
2. State influence on diversity and/or isomorphism
3. Resources
4. Strategic drivers

Theme 3: Mission. Section 5.3 addresses the criticality of mission under four sub-themes identified in the participants' narratives on this topic:

1. The likely mission of a Technological University
2. The future of IoTs?
3. Positioning of traditional universities
4. Institutional influence on diversity and/or isomorphism

Theme 4: Institutional Ambition. Section 5.4 deals with evidence of ambition in the IoTs under four sub-themes:

1. The role of leadership.

2. Institutional autonomy.
3. The perceived status of IoTs.
4. The potential impact of TUs.

The findings from each sub-theme are presented throughout the chapter and the chapter concludes with a summary overview of the findings.

5.1 Theme 1: The Impact of the National Strategy for Higher Education

The National Strategy for Higher Education sets out a vision for higher education up to 2030. It reaffirms the importance of excellence in teaching and learning, research, and engagement. It identifies the opportunities and challenges of dealing with projected growth in student numbers, which is a relatively unique position for Ireland in a European context. The strategy recognises the central role of HEIs in the future development of Ireland and the need for new approaches to how higher education is funded. It also proposes more effective systems to drive performance and accountability (DES 2011).

Participants' views on how the National Strategy is being implemented are generally negative, referring to the level of confusion that exists in the sector and the fact that the greatest impact appears to be on the IoTs, with relatively little impact on universities. Their narratives suggest that the committee charged with developing the strategy delivered what the Department of Education and Skills (DES) wanted; and that the timing of drafting the strategy was not ideal, occurring as it did in the middle of a recession:

> The fact that since Hunt, we went into a very deep economic crisis is probably as pertinent as anything else to this because when you have that, the centre tends to try and pull back the power from individual education institutions. [3b(i), Business Stakeholder]

> I think semi-chaos would be my interpretation and I think the problem with the Hunt Report is it tried to lay out a roadmap for education in Ireland to 2030, but I think it did very badly in terms of setting the context and the rationale. [2a(i), Institutional Leader]

The broad view of the study participants' is that reasonably little progress has been made in five years, which is partly attributable to not having an implementation plan

and implementation committee. However, not all participants viewed the implementation as negative:

> I think the Hunt Report really set out a strategy of fewer institutions and greater differentiation between institutes. Probably recognising that Irish third level institutes are going to be relatively small anyway in a global context and the more they specialised in a smaller number of areas, the more likely they were to become world class in the areas of specialisation.[2a(iii), Institutional Leader]

Later, this participant stated:

> I think one of the reasons though that nothing's being done is that there's far too much political control of education and politicians need to step back and have a strong agency run the education system and politicians simply set the policy and leave this agency to implement them.

The strongly held view regarding the rationale behind the National Strategy relates to the concerns held by the DES and the HEA in relation to institutional viability, particularly in the IoT sector. Moreover, there have been concerns raised by the IoTs in relation to lack of parity of esteem with the university sector. The strategy of offering the incentive of re-designation as a Technological University (TU) was suggested as perhaps constituting a trade-off in terms of the state achieving rationalisation:

> I think the problem that the department was trying to solve is that we have too many higher education institutions and that they would use the carrot of the Technological University-, they would never say this, but I am pretty sure this is what they are thinking, the carrot of the Technological University just to force mergers. [3b(i), Business Stakeholder]

The relative weighting of the participants' voices on the national strategy is shown in Figure 5.1
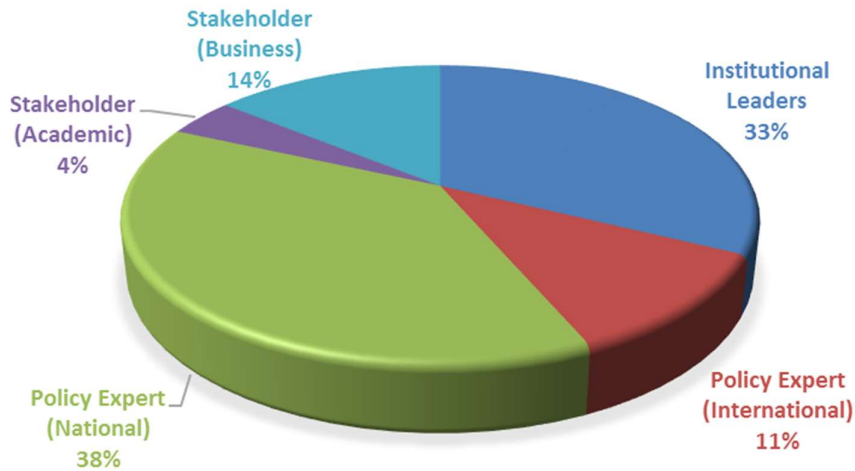
Figure 5.1: Analysis of Participants' Contribution to the Discussion on the National Strategy

5.1.1 The Process of Re-Designation as a Technological University

The National Strategy provides for the establishment of technological universities (TU) under Recommendation 20: "The institute of technology sector should commence a process of evolution and consolidation; amalgamated institutions reaching the appropriate scale and capacity could potentially be redesignated" (DES 2011, p.23).Subsequently, in 2012, the HEA issued 'Towards a Future Higher Education Landscape' that contains the process and criteria necessary to achieve re-designation as a Technological University (Appendix 1.1) (HEA 2012). This section of the strategy, more than any other, has captured the attention of the IoT sector to the extent that the HEA is now questioning if the process of re-designation is appropriate. In the context of institutional positioning the impact of offering the IoTs a pathway to become universities cannot be underestimated:

> We should relook again with the experience of knowing what is now happening in the sector in terms of institutions that are moving towards TU. Have we set criteria that are driving Institutes of Technology closer to the traditional university model than we actually intended? There may well be a perverse outcome there because I think, in the sense that the HEA in developing the criteria, were very, very anxious to ensure that the criteria would be so challenging that any TU that emerged, would be a very strong, recognisably internationally strong university or technological university and in the quest for that, we may just have tipped things to the extent that institutes that are now seeking the TU designation actually, are doing things we don't necessarily want them to be doing. [1c(i), Policy Expert]

Institutions are very good at following incentives that enhance reputation status and positioning. The above extract demonstrates that the state now recognises that the criteria may be driving isomorphic behaviour in the IoT sector, something that is at odds with the National Strategy, which talks about protecting diversity in the sector. The reference also illustrates the mindset of the state towards the IoTs. Participants agreed that the criteria are driving performance, which is a likely outcome to any criteria, but some of them complained that these criteria were, in the first instance, influenced by the university sector, and that insufficient consultation took place with the IoT sector.

> I disagreed fundamentally with the criteria. I thought the emphasis on Doctorates was wrong and I was actually quite disgusted by that whole process because I know exactly how it happened. The HEA Board, it's the university cliché really trying to set the bar at a level that would, in their view, be challenging to the institutions without looking at the broader issue. [2b(ii), Institutional Leader]

Yet, not all participants disagreed with the criteria, some were of the view that the Institutes need to 'up their game' before they would be eligible to apply for re-designation as a TU.

> …. The criteria are really also trying to copper-fasten some of the achievements of the IoTs, as in a presence in Level 6 and 7, access routes, working within the region with further education partners, closely working with industry as I've already mentioned. All of that is still there, but at the same time, you need to have your research capacity and capabilities, you need to have more staff with PhDs and that's not a bad thing and I think all the IoTs should be aspiring to that anyway. So I think it's 45% of academic staff should have PhDs. That's actually still quite low. I think we should be aspiring to that anyway, regardless. [2b(i), Institutional Leader]

> Then, if they're going to be called a university and this is to get to the nitty-gritty of it, the HEA have said the Technological Universities cannot be a relabelling of existing IoTs. I would fully agree with that and I think in terms of the academic qualifications, the percentage of Level 9s, Level 10s, I think we've got to try and protect that because if a university is to mean anything, you've got to protect that. [3b(i), Business Stakeholder]

It is interesting that this last response came from a business stakeholder as the level of understanding of what it means to be a university is quite high amongst this cohort, and it is noteworthy that the criticism of the process came from within the HE sector.

The biggest concerns institutes have in relation to the criteria is the requirement for two or more institutes to merge prior to making an application for re-designation as a TU. The fear is that if they merge, they may be left in a merged state as a large IoT as the option for re-designation as a TU may disappear. This view is challenged by the state, the HEA and the DES, who argue that even if that were the intention they would not be in a position to implement it due to the likely political backlash such a move would provoke.

> The biggest problem is that the merger is the valley of death and it's viewed with huge suspicion because it appears that it's a merger agenda rather than a TU agenda. [2a(i), Institutional Leader]

> By absolutely insisting on merger, there's no question that there's an attempt to rationalise in terms of the number of institutions and there are other pushes going on in terms of rationalisation. [2b(ii), Institutional Leader]

> What I would like to see I suppose, is institutes recognising the value of merging as institutes in order to have a better offering for their students in the first instance and for the particular region in which they serve and indeed more of an impact nationally and internationally so, with a TU then as being if you like, the cherry on top of all of that. But if it's just we'll only merge if in fact we're guaranteed TU, I think it's just looking at the wrong end of the stick so to speak. I don't think there should be a suspicion of government in its broader sense, of which the HEA and the department are part, that this is some kind of clever ploy to tempt institutes into merging and then the trap closes once they're merged and they say, "You're fine now, you're a nice big Institute of Technology and you shall so remain." I think that first of all, that's imputing a degree of Machiavellian thinking to the HEA and DES, which they are incapable of practising, but also it comes back to my point, it doesn't take account of the political reality of such an approach. [1c(i), Policy Expert]

It is clear that the value of merging and the rationale and benefit for same, is not fully understood by the IoT leadership; leaving them to form their own views as to what is the intention of the state in this regard:

There was a big view about the merger being a precondition. So it doesn't get blown out of proportion, it was really about size, about actual capacity and critical mass and maybe there are other ways to look at the landscape, but that was really where it was coming from and some of it makes sense. [1c(iv), Policy Expert]

If they want to be a TU just for the sake of the title, then I think they're probably wasting their time anyway. If they merge and they create a strong Institute of Technology, over time and with good leadership, they almost certainly will become a technological university. [1c(i), Policy Expert]

The state is quite strong on the rationale for TUs and insists that the process is not going to be a relabelling process similar to what happened when the RTCs were relabelled as IoTs. Nonetheless, progress on the re-designation process has virtually stalled due to the lack of legislation; the expectation that the promised revised legislation will address the merger concerns institutes have; and trade union opposition to the process, citing a lack of communication from institutional management leading to a breakdown in trust between staff and institute management.

The view is often expressed and it equally surfaced in this research as to whether the DES and the HEA were correct to allow institutes the freedom to decide who to partner with, considering the cost to senior management time in terms of failed relationships and alliances. Questions that surface include: Was there a better way? Would the concept of a National Technological University be more acceptable? How committed is the HEA? What is the view of the DES? Participants attempted to address some of these questions:

We wish that the HEA had told us what they wanted because it would have been easier. [3a(iv), Academic Stakeholder]

Shorthand, it's an Irish solution to an Irish problem. The Irish problem really, was that there was a space within the university set, Section 9, which allowed for new universities to be formed. The university system, IUA, was against anymore universities and hence, we came up with this jumble called Technological Universities. [1c(iv), Policy Expert]

So it would have been a lot better to have a model where you'd have a National Technological University with constituent colleges and within that, mergers may or may not have happened, depending on whether they actually stacked up from looking

at lots of other different reasons and logic behind that. Mainly financial, maybe other. [2b(i), Institutional Leader]

In the Department of Education, we had a discussion with various people on one occasion and the consensus was that, if we're going to have a TU obviously, the Dublin one would be the strongest by virtue of size and scale and experience and tradition and so forth and it's the nearest thing we have to a Technological University at the moment. If we were to have a second one, the consensus of people was that the two anchors should be Cork and Waterford, with possibly Tralee and Carlow as really satellites. [3a(ii), Academic Stakeholder]

An element that is missing from the process of re-designation is the IoT academic staff contract and how problematic it is for IoTs, not to mention TUs. IoT staff are required to lecture up to twenty hours per week at the start of their career, with no allowance for research. The duration of the academic year also poses problems for consortia aspiring to be TUs, with staff on holidays from June 20th to September 1st. All participants questioned on this agreed that the contract is not fit for purpose for IoT staff and therefore cannot transfer across to TUs.

……. what we should be having a discussion about is, how can we modernise our delivery model and how can we create the space for all these other things we should be doing as institutions, including research, including knowledge transfer, including engagement with the community, but also lengthen the academic year to actually be able to deliver on all of those. So you wouldn't have the teaching load. They're all complaining that the teaching load is too high. So the weeks that they're actually here yes, they're very, very busy.
…… So you should reduce the teaching load, lengthen the number of weeks because otherwise, you can't be a university, it doesn't make sense, but everyone is shying away from that discussion. It's an elephant in the room; massive. [2b(i), Institutional Leader]

The contract was also deemed unsuitable to support industry/business engagement, primarily because business operates twelve months a year. Despite the highly unionised environment that exists in higher education in Ireland, participants speculated that staff interested in working in a TU would be willing to work under a different contract:

I'd imagine a lot of staff would welcome the developmental nature of being part of a technological university and the quid pro quo to that may be that they have to give a

degree of flexibility to how their contracts are arranged and implemented. [1c(i), Policy Expert]

The relative weighting of the participants' voices on the process of re-designation is shown in Figure 5.2

Figure 5.2: Analysis of Participants' Contribution on the Process of Re-Designation as a TU

Analysis of references from each participant type in relation to the key topics of this section, which include the criteria, mergers, and the contract is contained in Appendix 5.1.

The findings from analysis of participants' narratives on the impact of the national strategy may be summarised as follows:

1. Little progress is being made in implementing the National Strategy.
2. Rationalisation, particularly of the IoT sector, is the key objective of the National Strategy.
3. The criteria for TU re-designation may be pushing the IoTs too much in the direction of imitating university behaviour and may have an unintended negative consequence on the overall diversity of the system.
4. IoTs are not of a standard to apply for re-designation as a TU; hence the need for the criteria.
5. The fear institutes have of merging prior to the re-designation process and of being left in the merged state is without foundation.

6. IoTs do not appreciate the value and benefits of merging.

7. The process for re-designation involves two or more institutes merging and then applying for re-designation as a TU. The rationale for this two-stage process is unclear, leading to suspicion and lack of trust by the HEIs of the state. The HEIs fear the state is more interested in rationalising the IoT sector than creating TUs.

8. The state is determined that TUs will not be created as a result of a relabelling exercise. The university brand has a status and the IoT brand has a different status. Relabelling the IoTs as universities will not bestow university status on the IoTs.

9. There was a lack of planning as to the most desirable outcome for the IoT sector and the system as a whole.

10. The importance of good leadership in steering the process was acknowledged by the participants.

11. The university sector exercised undue influence in the shaping of the criteria.

12. The universities did not want more universities created under the existing university legislation.

13. IoTs should be aiming to achieve the criteria, irrespective of TU ambition.

14. The National Technology University (NTU) option did not get due consideration.

15. Institutional leaders, in the main, considered the concept of a National Technological University (NTU) a better model than the present process of creating TUs.

16. The view of the Department of Education and Skills (DES) is that there would be, at most, two TUs created, one in Dublin and one in the South (Cork and Waterford).

17. The IoT academic staff contract and its unsuitability for a TU is a cause of major concern. The concern is compounded by the fact that there is no dialogue taking place to consider alternative solutions.

18. There is evidence of inertia in moving the process forward due to political instability, a lack of enabling legislation, and a trade union embargo on staff engaging in the process in protest at lack of communication and consultation.

5.1.2 Evidence of Diversity and/or Isomorphism

In general, participants were not familiar with the word 'isomorphism', but understood it once it was explained. There is widespread agreement among the participants that isomorphism exists in the Irish higher education system, particularly in the IoTs, but also in the universities. Dealing initially with perceived causes of isomorphism, it was noted by one Institutional Leader that the system has contributed to the phenomenon:

> We've had an awful lot done in the system to, in a sense, put the Institutes of Technology in the same world and to a certain degree, on the same footing as traditional universities. Everything from qualifications frameworks to moving them into the funding regime, the HEA and all that kind of stuff. [2b(ii), Institutional Leader]

The impact of the market as a driver of isomorphism featured in the narratives, particularly the increase in Level 8 programmes in the IoT sector:

> Yes, definitely, the Level 8s, you look at the change in profiles of any of the IoTs in the last ten years, it's huge; the number of Level 8 programmes and now Level 9 programmes. [3a(iv), Academic Stakeholder]

The area of research was generally regarded by the participants as a key differentiator between institutional types in a higher education system and is therefore a good dimension to explore in the context of diversity and/or isomorphism:

> Between the IoTs and the universities, I would have said that the research mix in the universities should be different in that there should be more blue skies research going on, more publishing of papers, but unfortunately, the criteria set for the TUs militate against that differential at the moment and I'd like to see those criteria reviewed to place less emphasis on staff with PhDs and more emphasis on staff with a lot of industry experience where that industry experience is technologically intensive. [2a(iii), Institutional Leader]

In essence, the area which is probably having the greatest impact on isomorphism, since the National Strategy was published, is the ambition of IoTs to become universities. Participants suggested it is all about getting the word 'university' into their title - mostly based on their perception that they are already operating as a university and therefore this is a natural progression in their organisational lifecycle.

Within that one word that's where I see unmistakeable and practically irrefutable evidence of the isomorphism that you have in your title. [3a(i), Academic Stakeholder]

While the National Strategy espouses the notion of diversity, both the primary and secondary data for this research suggests there is no such strategy in relation to isomorphism, but that it is occurring as a consequence of the National Strategy. The consequences of the higher education system transitioning to homogeneity are many and are likely to have a significant impact on the system going forward. The blurring of boundaries between the IoTs and the universities is one obvious consequence, resulting mainly from mission drift, academic drift on behalf of the IoTs, and vocational or professional drift on behalf of the universities.

Yes, I think I do believe in a drift to the middle and there are aspects that I don't think are healthy because I think that it forces-, I think it is forcing a level of vocationalisation on universities and less so in the IoT sector and I think that's probably not healthy. If you believe in diversity in education, I think it's not good.

What I should say for balance, is that one could also argue that there's a level of homogenisation happening in the university sector that some might argue against as well. So yes, I think some might say that you know all Irish universities want to be research intensive universities and we've had this thing about, there should be only one university in Ireland, only one research intensive university in Ireland, which I don't agree with, but I do think that the research piece has come to dominate policy thinking in institutions to a large extent. [1c(ii), Policy Expert]

There undoubtedly has been some mission drift in both directions. I think that's unmistakable. Nevertheless, if you look at the profiles that the HEA have published of the Institute of Technology sector and the university sector and then the two combined, they are two very different profiles. So the actual system is actually quite diverse. [1c(i), Policy Expert]

There is a related point again, which probably-, around this diversity is the desertion of Level 6, Level7 by the IoTs, which is part of this conversation, which from an industry point of view would be a matter of huge concern because there are good intermediate skills jobs out there. [3b(i), Business Stakeholder]

Interestingly, one participant was of the view that the demise of the binary classification does not indicate greater homogenisation as all institutions are different and there may be a better way to represent diversity.

So yes, there is quite a diversity there and if you were to take all higher education institutions, you could place them along a spectrum and ignore the whole thing about binary, we're actually on the spectrum anyway. Now that's not something that's currently being viewed in the policy as a runner, but in actual fact, it isn't one half over here, one half over there. [2b(i), Institutional Leader]

The participants urged caution in relation to the potential negative consequences of isomorphism:

I think that imitation is death because you can't win. You wouldn't mind being excellent and different [1a(ii), Policy Expert]

Later in this chapter, the topic of isomorphism and/or diversity is revisited in the context of state and institutional influence. The relative weightings of the participants' voices on diversity and/or isomorphism is illustrated in Figure 5.3.
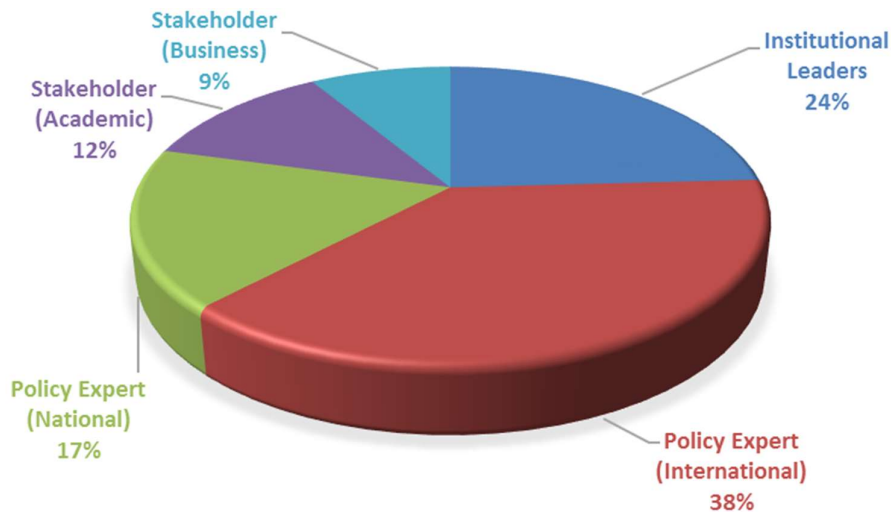
Figure 5.3: Analysis of Participants' Contribution on Diversity and/or Isomorphism

Analysis of references from each participant type in relation to isomorphism, diversity, the market and research is contained in Appendix 5.3. It is clear that diversity does not feature as strongly as isomorphism in the data; in particular it was international policy experts who referenced it the most.

The findings from analysis of participants' narratives on diversity and/or isomorphism may be summarised as follows:

19. Isomorphism exists in the HE system, especially in the IoT sector.
    a. The infrastructure of the system is a driver of isomorphism, examples of which include: qualification frameworks, the HEA, and the funding model.
    b. Other drivers include: the market; research; the National Strategy; mission drift; profile of programme offerings; and performance agreements.
20. The impact of the funding model on programme development is a likely contributor to mission drift, particularly in the IoT sector.
21. The participants suggested that Ireland is no longer classified as having a binary system of higher education.
22. The demise of the binary system is not an indication of greater homogenisation as it is probably more appropriate to place all HEIs along a spectrum of institutional types

5.1.3 Comparison with Selected Higher Education Systems

Similar to the IoTs, the Universities of Applied Sciences have an applied focus. However, isomorphic tendencies are emerging in other jurisdictions, similar to Ireland.

> There has been a tendency of the universities of applied sciences to move towards universities, Masters programmes and even talk of Doctoral programmes [1a(i), Policy Expert]

> I think the polytechnics have moved gradually more towards being research driven and all that, but then again I suppose, the universities have more recently emphasised the real-life connections and collaboration with industry. So they have in that sense merged somewhat. [1a(i), Policy Expert]

One key difference identified by international participants was the idea of merging where the impetus comes from within the universities, based on a belief of the genuine benefits of merging, without state influence. Mergers are more common in the university sector and even though it is rare, mergers are beginning to occur across

the binary divide in some European countries. The allocation of funding, particularly when the UAS were established, was a cause of concern to the universities, not dissimilar to the concerns Irish universities have in relation to the establishment of TUs.

> I think when the universities of applied science and polytechnics were formed in mid-90's, they were invested a lot of attention also from the political side and there were quite, quite heavy investments made and I think universities were a bit jealous about this attention and these investments. And now I think we are in a situation where I think both sides of the higher education sector are realising that if we want to get higher education better resourced, we have to cooperate; both sectors have to cooperate but there are nuances there, what people mean with cooperation. [1a(iii), Policy Expert]

Research was identified by the participants as the area of differentiation between the institutional types, with the universities striving for excellence and the UAS attempting to get into the research space in order to become more like universities.

One participant suggested that merging institutions and maintaining a multi-campus structure poses a challenge:

> It's an immense project but the idea is that you can't get all the good things out of the merger if you don't put students and faculty on the same campus and that's the process which is now ongoing. [1a(iii), Policy Expert]

In the Netherlands, again similar to Ireland, Government policy aims to protect the diversity of the binary system, which is particularly evident in the research area.

> They are focusing on a different kind of mission where the universities are leaning more towards the traditional idea of research, classical research, knowledge for its own sake. The Hochschulen are working towards applied research with direct impact, business, industry, region and it resonates a little bit with your definition of an Irish Institute of Technology or a Technological University. [1b(i), Policy Expert]

Some mergers that occurred in the Netherlands retained the multi-campus network. Performance agreements are being introduced by the state in order to encourage institutions to do different things, not necessarily to do things better, as there is a realisation that universities are performing well in the rankings. Overall, the

consensus view of the international participants was that mergers lead to a more efficient system.

> I'm convinced that there has been an efficiency gain in those systems; the Dutch system, the Flemish system and the Norwegian system and Australia as well. [1b(i), Policy Expert]

And this participant does not agree that it is necessary for non-university institutions to have the word 'university' in their title in order to be successful, in relation to internationalisation or otherwise.

> No, I don't think so and I think the examples from my current country and from the Netherlands, Finland, Norway prove that point and also Germany. There are a lot of non-university institutions in these countries who are very successful when it comes, for instance, to the third mission, business and industry engagement, maybe even more successful than some of the top universities. Some of the non-university institutions are also very successful when it comes to internationalisation. [1b(i), Policy Expert]

The problem for UAS type institutions is they feel they are not valued. This is understandable in the context of the established rankings where research is the main dimension that is measured. The introduction of the U-multirank framework has changed this as it allows institutions to showcase multi-dimensional profiles.

The trend in a number of countries appears to be towards isomorphism and governments are reacting by taking more control in terms of steering systems towards further diversity:

> I think not only in Ireland, but increasingly a number of other countries as well, we see a move back towards more steering again, exactly for the reasons that we just discussed there, like the trends to isomorphism, institutions not delivering on a number of different targets etcetera. [1b(ii), Policy Expert]

Taking the UK as an example, one participant noted that changing the title or rebranding, does not necessarily lead to a change in mission.

> If you look at the UK, the post-1992 universities, most of the work that's been done on them suggests that they've still retained a lot of their identities in terms of what they

do, but some of them have been able to do it better, some of them have developed their research, but they still remain very committed teaching institutions. [2b(ii), Institutional Leader]

The contributions for this section were dominated by the international policy experts, and the relative weighting of their voices is shown in Figure 5.4.
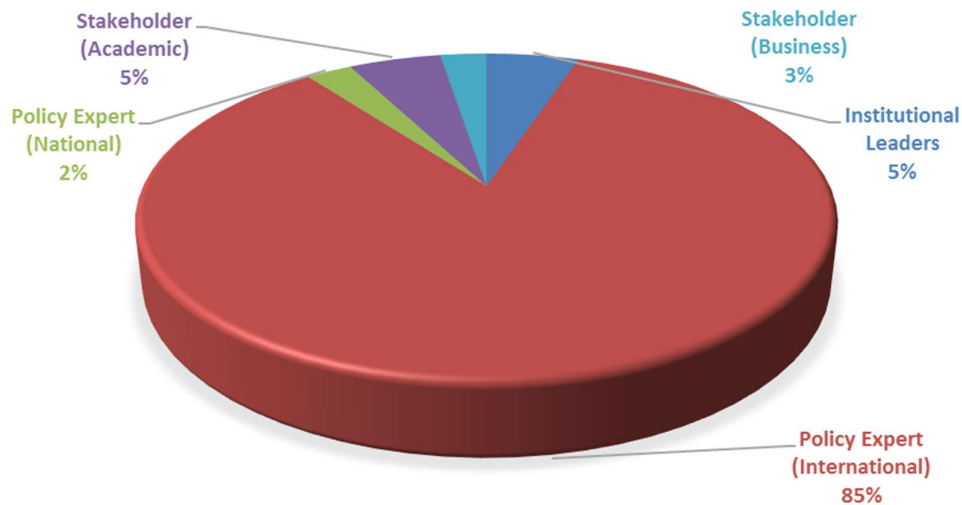
Figure 5.4: Analysis of Participants' Contribution to Comparisons with Select Higher Education Systems

The findings from analysis of participants' narratives on comparison with selected higher education systems may be summarised as follows:

23. The trend towards isomorphism is evident in other HE systems, particularly binary systems.
24. In Ireland, there is an organic shift towards isomorphism. In other jurisdictions there is an organic shift towards merging from the HEIs, with a greater realisation of the benefits of merging.
25. The value and benefits of merging cannot be realised on a multi-campus structure (Finland).
26. A different research mission is identifiable for different institutional types in the Netherlands.
27. It is possible to retain identity following re-designation, taking the UK system as an example.
28. Performance agreements between the state and the HEIs are common in a number of countries.

29. The impact on funding existing universities when new institutions are created is a cause of concern to the existing universities.

30. The state is taking more control to protect diversity in the system and reduce homogeneity.

5.2 Theme 2: The Role of the State

This thematic area comprises four elements: governance, strategic drivers, resources, and state influence on diversity and/or isomorphism. Of the four, governance had the highest number of references (68) coming from nineteen participant interviews. Figure 5.5 illustrates the relative weighting of each element.
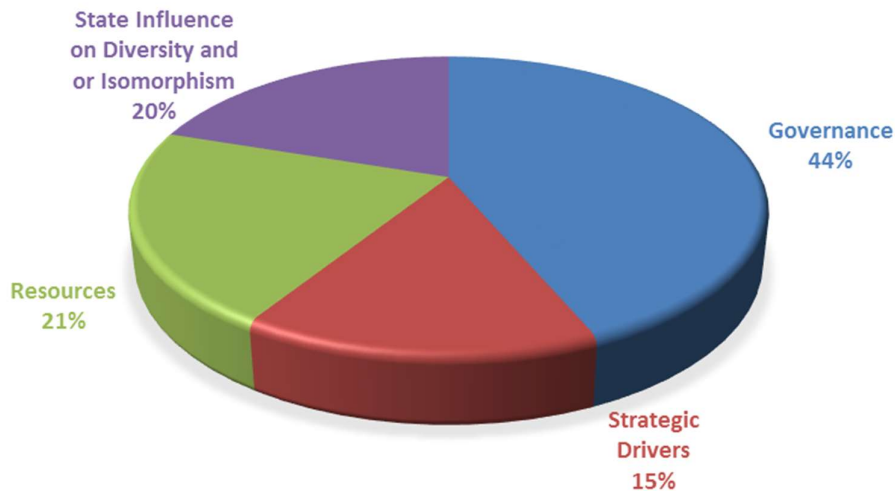
Figure 5.5: Components Considered Under the Role of the State

5.2.1 Governance

One of the central questions regarding the degree of state influence on institutional behaviour leading to isomorphism may be framed as follows: How is the role of the state viewed, particularly the HEA, in relation to how it interacts/engages/governs the HEIs? The state's ability in exercising governance and its lack of understanding regarding its exact role was questioned by the study participants:

> To me, it comes back to a complete lack of a philosophy for education, a complete lack of a government intellectual analysis of the role of education in society; the reason I say that is that if a state has a very clear rationale and policy for education and that

it's defined in the context of social development, then the individual institutes can define their contribution to that and how they actually contribute to delivery of government philosophy on education. Then the autonomy comes from that. [2a(i), Institutional Leader]

I don't think the state is equipped to oversee the institutes effectively because that role is carried out by people who, by background and makeup, are essentially civil servants. Civil servants are only equipped for policymaking and administration, they're not equipped to oversee implementation. [2a(iii), Institutional Leader]

The poor governance evident at governing body level was regarded by participants as symptomatic of poor governance right up the line through the HEA, the Department and Government itself, and results from ineffectiveness at each level. The draft TU legislation was seen as an opportunity to improve the governing body composition, thereby improving how they operate, however, participants suggested, this will likely be another missed opportunity:

Yes, I think the critical thing about governance is composition of the governing body. I think it's very strange that the Chair is elected by the governing body because that, if you like, puts the chair in a subservient position to the members. I think the Chairs should be appointed by the Minister and I think that's a start. I think the governing bodies should not be representative of different groups. I think they should be individuals with the right background to contribute at the strategic level and at a governance level to the institute. If you set up a strong governing body with people of that background, the fact that its multi-campus would become secondary in my view. It could be dealt with by having the right kind of management structure. [2a(iii), Institutional Leader]

We need to be able to pick and have access to a pool of talent at governor level that actually fits with the mission of our institutions; we don't have that, we have a completely not fit for purpose structure. [1c(ii) Policy Expert]

A lack of trust by the state in the management of HEIs and a suspicion or belief that the state is not getting value for money and that higher education could do more has led to the introduction of performance agreements, similar to what is occurring in other countries, but maybe not for the same reasons:

The way I look at it is it's trying to find a balance between State control because we can't trust people, let's be honest. [1b(i), Policy Expert]

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The other thing is that all governments are increasingly under pressure in terms of funding issues and in terms of accountability on what's happening and for a lot of governments, Ireland included, higher education systems are very opaque. It is very hard to know exactly what it is that goes on in them and there is a distinct suspicion that a lot of academics are doing SFA. So government is suspicious and the suspicion is aided by the opacity of the systems and the institutions themselves, but I would hope the strategic dialogue process and the kind of performance reports that we have, will give an opportunity to demonstrate to government what it is the higher education system is delivering. [1c(i), Policy Expert]

The line between institutional autonomy and state steering appears to be confused. While institutional autonomy is discussed in more detail in a later section, it is worth considering here based on the concept of governance.

Over the years, I have become convinced that complete autonomy and so called, complete academic freedom cannot be related to system steering in higher education. So, you need some frameworks set around these super levels of autonomy in order to show to people that they cannot just spend tax-payers' money for their own wishes and things that they find important. [1b(ii), Policy Expert]

Furthermore, if the state is serious about protecting the diversity of the system, it needs to provide some direction and guidelines.

The arguments for state steerage aren't helped by the 'me too' policies of all the institutions so, there does need to be some sort of guidance. For some others the state as the funder for the education sector it needs to have some sort of role in strategic guidance in stopping 'mission creep' and in stopping institutions from replicating one another exactly in everything that they do because it doesn't benefit the country. [1c(v), Policy Expert]

The performance agreements are perceived by institutions as steering institutional behaviour towards isomorphism, on the basis that everybody has to respond to and engage with the seven objectives set by the state. However, some participants suggested that this argument misses the point that within that framework, institutions have the freedom to exercise autonomy in response to the objectives in order to counteract homogeneity:

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I think those instruments, compacts, contracts, agreements are excellent tools in order to diversify higher education. Particularly, if an institution and the funding organisation, the authority or whomever, can agree on the various elements of a profile for an institution and have a contract on it and the money is provided given the fact that the institution is willing to try to deliver according to the contract elements, then I think in principle, there's a perfect steering capacity to keep the institutions working in their various missions, which they themselves choose. They choose them themselves and then there's an agreement; that would allow a process in which this implicit isomorphism is being countered in the sense that institutions then go for their own thing, they're different or they're in different groups of institutions and therefore, there is less of this threat from homogeneity. [1b(ii), Policy Expert]

I'd be very opposed to performance-based agreements because who decides what performance and what constitutes performance based funding? This whole thing about-, you know the phrase is, "When you can't measure what's valuable you end up valuing what's measureable." [3a(i), Academic Stakeholder]

In Ireland, the state justifies its approach to steering the higher education system to achieve national objectives on the basis that it provides over 80% of funding towards higher education. HEIs believe that they do not have sufficient autonomy to steer their individual missions. This is particularly evident in the IoT sector where the lack of a borrowing framework impacts on autonomy and the ability to respond to environmental challenges, such as the increasing student demographic. The role the state plays in governing the system is sometimes referred to as 'micro-managing'. This is evident in how it engages with trade unions, where it is accused of doing unilateral deals without consulting with the management staff of HEIs. Having identified concerns, some positive and some negative, related to the governance role of the state, some participants suggested possible improvements to the governance model of HEIs in the future:

So I think a reformed, professionalised HEA, independent both culturally and from a governance point of view from the department. Strong governing bodies that are not representative, that are just bright people with the right mix of backgrounds, a department that confines itself to a policy role and a political input that confines itself also to policy and doesn't interfere in the day-to-day decisions and if you got all that right, things would start to improve down the line. [2a(iii), Institutional Leader]

The relative weighting of the participants' voices on the topic of governance is shown in Figure 5.6:
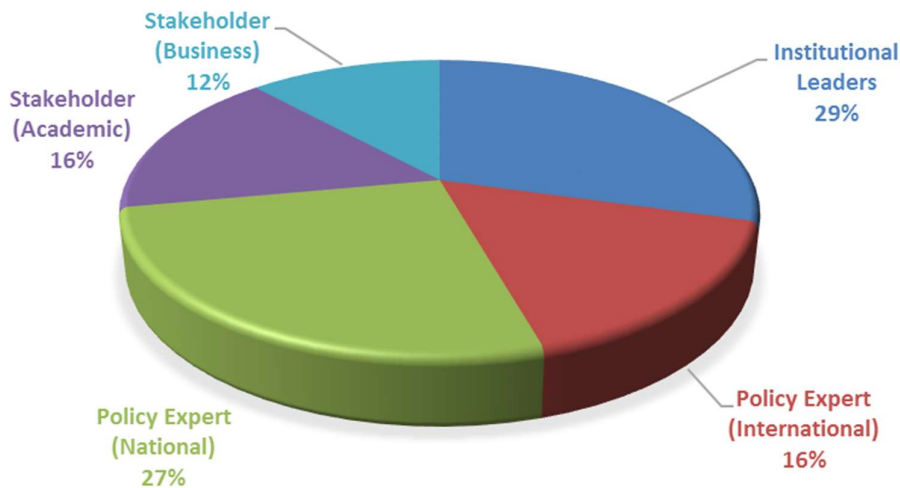
Figure 5.6: Analysis of Participants' Contribution to Governance

The key topics that featured in this section on governance are further analysed in Appendix 5. These topics include: state steerage and control; and the issues of trust, autonomy, and performance agreements. Overall there was a good spread of contributions from all participants on the topic of governance.

> The findings from analysis of participants' narratives on the topic of governance may be summarised as follows:
>
> 31. The proposed changes to Governing Body composition, outlined in the draft TU legislation, was seen by the participants as a missed opportunity for reform of Governing Bodies and how they operate.
> 32. The state does not trust higher education management and believes it could do more to support national priority objectives, hence the rationale for the introduction of performance agreements.
> 33. There is a lack of confidence by institutional leaders in the state's ability to manage the higher education system.
> 34. In a constrained funding environment, where HEIs receive 80% funding from the state, the idea of 'institutional autonomy' is contested by the HEIs.
> 35. Institutional autonomy has to be within boundaries as HEIs are dealing with tax-payers' money.
> 36. The state should be more proactive in stopping 'mission creep' and protecting diversity.

37. The freedom that institutions have to diversify and steer a distinctive profile under the performance agreement framework is not widely understood by HEIs.

38. Performance agreements are viewed by HEIs as instruments of isomorphism and they are viewed by the state as protecting diversity of the system.

5.2.2 State Influence on Diversity and/or Isomorphism

Twelve participants made 31 references to the topic 'state influence on diversity and/or isomorphism', making it the second highest priority of Section 5.2

The likely demise of the binary system with the introduction of TUs, instead of enhancing system diversity is in danger of creating confusion as to the status, identity and reputation of all HEIs. In the run up to that scenario the impact of the criteria has been discussed as well as the positive and negative consequences of performance agreements as influencers of institutional positioning. Participants acknowledged that the state has a steering role, perhaps even a controlling role, in relation to higher education and part of that role centres on policy development and policy implementation:

> In order to create a more diversified system and have these various types of institutions really trying to reach their ambitions and missions, you need to indeed steer them and keep them apart in these different categories as you say and that implies more, rather than less governmental steering or some steering by the authority and it implies also using the funding mechanism in order to do so. [1b(ii), Policy Expert]

Participants also acknowledged that the state has the mechanisms to steer institutional behaviour in particular directions. However, what is not clear is if the direction in which institutions are heading, specifically the IoTs, is the direction intended by the state. As such, participants were unclear on this topic:

> This is all the consequences of the way the state is operating. We're looking for diversity and yet we're taking actions that move us towards isomorphism. [3a(ii), Academic Stakeholder]

Yes, I absolutely agree and it's driving not just towards similarity, but towards duplication. [2a(iii), Institutional Leader]

Amid such confusion, the state needs to reassert its role if it is to promote and protect diversity, as recommended by the National Strategy.

Figure 5.7 shows the relative weighting of the participants' voices regarding state influences on diversity and/or isomorphism.
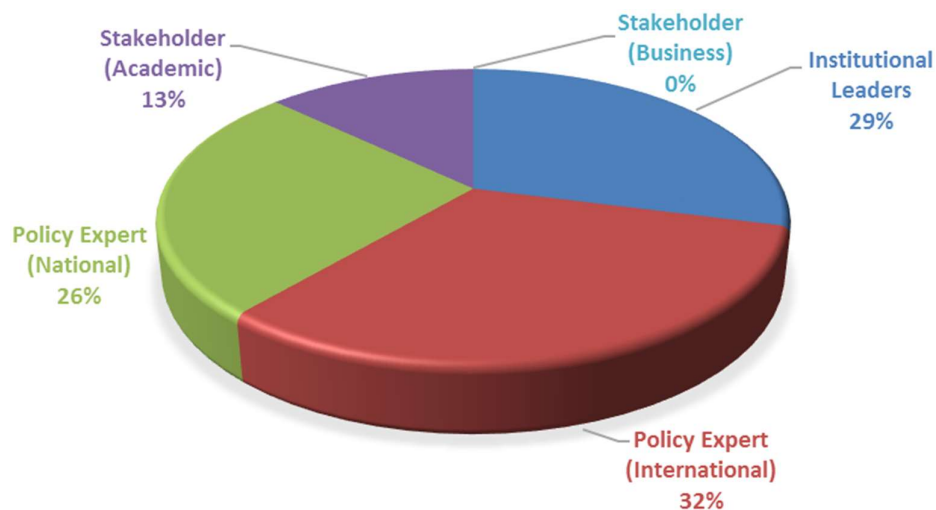
Figure 5.7: Analysis of Participants' Contributions to State Influences on Diversity and/or Isomorphism

The findings from analysis of participants' narratives on state influence on diversity and/or isomorphism may be summarised as follows:

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39. The state has a role in steering HEIs in order to create a more diversified HE system.
    a. The performance agreements appear to be steering HEIs more towards homogeneity than diversity.
    b. Performance agreements should be additive and not punitive.

5.2.3 Resources

The funding model is the main focus of this section on the resources in HEIs, with 22 references from 11 participants. The impact of the recession was also of concern to participants, but not to the same extent as the question of resources.

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The need for a new funding model for the planned TUs is an area the HEA appears not to have addressed. It was acknowledged that the current funding model is not fit for purpose and the HEA initiated a review of the model in January, 2017 in order to address concerns raised by institutions and identified in their own report (HEA 2016b). How the universities and IoTs are funded could be described as a mechanism to protect diversity; however, one participant described it as discriminatory against the technological sector:

> Yes, I mean the big elephant in the room is going to be funding anyway because of course, the funding model that we now have, as I've already mentioned, really discriminates very much against the technological sector and I think certainly, a very important reason why the seven universities are so adamantly opposed to TUs because they can see that some of the funding is going to have to be rebalanced and that's obviously not in their interest. So yes, I think any TUs that end up being formed will be clamouring for parity in how they are treated by the funding system. [2b(i), Institutional Leader]

Other concerns identified in analysis of the data in relation to how resources are impacting on institutional positioning include research and CPD to meet the criteria:

> …. going back to the IR, HR piece of it, you can't do university type research in the context of an IoT contract and we know that because we know that the IoTs that are doing it are having to buy-in people out of the teaching component of their contract to do it or to substitute funding if you like, for that. [1c(ii), Policy Expert]

The issue of sustainability, viability and even survival due to reduced funding being allocated by the state is a major concern for all HEIs in the sector. It is driving institutions to engage in seeking supplementary income streams, such as internationalisation, purely from a financial perspective instead of from an educational perspective:

> Survival is a big one and people realise the funding is very, very tight so, people are looking to alternative sources of funding. [3a(iv), Academic Stakeholder]

> I think it's potentially healthy, provided that funding doesn't distort the mission of the institute. [2a(iii), Institutional Leader]

To drive additional and then become reliant on additional income through internationalisation, I think it will come to a very nasty end. [1c(iv), Policy Expert]

There's absolutely zero investment in infrastructure in third level, which is totally contrary to the whole philosophy of the economic development of Ireland and to Ireland as a global centre for international business. [2a(i), Institutional Leader]

I think the amount of money available for institutions to do everything that they want for society again, will be limited and as a consequence there will be more driving around performance. [1c(iv), Policy Expert]

While supplementary income streams, such as internationalisation, may be necessary to counteract reduced funding from the state, institutional leaders don't believe they will gain increased autonomy should state funding fall below the threshold figure of 50%:

There had to be some sort of strategic oversight if you were getting more than half your funding from the state. The strategic oversight was designed to stop homogenisation. [1c(v), Policy Expert]

Graduates are in high demand and possess a skill set sought after by industry and the business community. Nonetheless, industry and the business community are not prepared to shoulder the cost or even a portion of the cost of higher education:

I think the question of funding through industry becomes quite a challenging one because in the first place, how could you even decide what's an appropriate level? [3b(v), Business Stakeholder]

The state appears to be creating a perception that it is only the IoTs that are in financial difficulty. This perception is supported by the HEA conducting a financial review of the IoTs in 2016, however, the reality may be somewhat different:

…. while some of the IoTs are in a worse financial position than the universities, all of the universities now are getting very close to teetering on the edge of deficit. [1c(ii), Policy Expert]

The relative weighting of the participants' voices on the question of resources is shown in Figure 5.8:
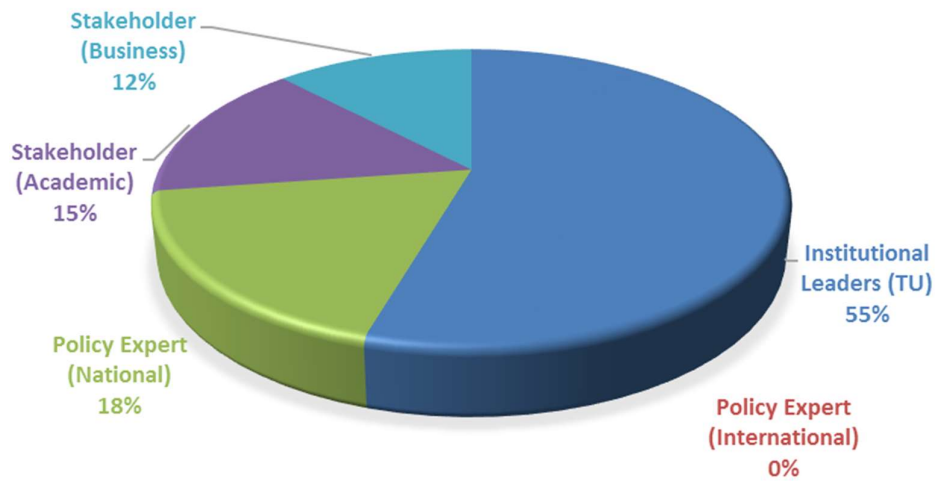
Figure 5.8: Analysis of Participants' Contribution to Resources

Issues around the funding model were the most talked about issues as may be evidenced in Appendix 5.7. All participants had something to offer on supplementary income streams and most of them commented on issues related to sustainability and viability.

> The findings from analysis of participants' narratives on the question of resources may be summarised as follows:
>
> 40. The current funding model is not fit-for-purpose. No dialogue has taken place in relation to the funding model for the planned TUs.
> 41. HEIs don't believe the state will cede increased autonomy irrespective of the percentage of funding allocated from the state.
> 42. It is unlikely that industry/enterprise will contribute to funding higher education.
> 43. IoTs are not in a position to do the type of research carried out by the university.
> 44. The challenge of sustainability is driving institutional behaviour in directions that may not be appropriate for IoTs, for example, internationalisation.

5.2.4 Strategic Drivers

Participants' focus on strategic drivers centred on performance agreements, attracting 18 references from 10 participants. The performance agreements, also

known as 'Performance Compacts' were regarded by the study participants as an instrument employed by the state to ensure national priority strategic objectives are implemented. As such, and considering that all HEIs are required to engage with, respond to, and provide evidence for the same set of objectives, these compacts illustrate the influence of the state on institutional behaviour. Performance agreements are clearly linked to resource allocation and, analysis suggests, are challenged by institutional leadership as being punitive and prescriptive, instead of being regarded as additive and promoting diversity and differentiation. Fundamentally they were viewed by the participants as a state control mechanism and a driver of isomorphism:

> What we have always consistently said about that is that performance based funding should be additive. Additive in two senses, in the sense that first of all you've got a sustainable core funding regime. So you can't take a performance funding top slice out of a fundamentally unsustainable funding regime, number one. Number two, it has to be additive in the sense it has to be incentive-based, not punitive. [1c(ii), Policy Expert]

> I think certainly, the department saw it as a way of implementing policy. [2a(iv), Institutional Leader]

> So yes, there is isomorphism, we're all operating to the same seven headings in terms of our higher education institutions and aligning our own strategy with the national strategy because there's 10% of our funding tied up in it. Of course it's isomorphism. Now within that then clearly, you have your own accent, you can accentuate particular things, you can choose where you want to prioritise resources, but you're all operating in that space, under those headings. [2b(i), Institutional Leader]

The view that the HEA is introducing too much change at a time when most of the IoTs are also working to meet the criteria for re-designation as TUs, and the impact this is having on sectoral coherence is a cause of concern for some of the participants:

> There's certainly a perception that the IoT sector has been in a degree of turmoil and I have certainly found that unhelpful because I think its' diminished sectoral coherence on some of the issues that we want to address with the state. [1c(ii), Policy Expert]

The relative weighting of the participants' voices on strategic drivers is shown in Figure 5.9:
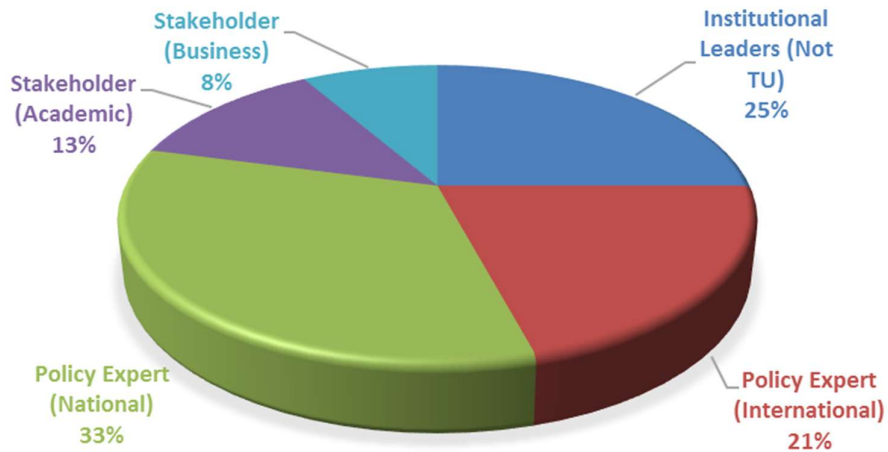
Figure 5.9: Analysis of Participants' Contribution to Strategic Drivers

The findings from analysis of participants' narratives on strategic drivers may be summarised as follows:

45. The amount of change taking place is impacting on sectoral coherence.
46. The IoT sector is in a state of turmoil since the National Strategy became policy in 2011.

5.3 Theme 3: The Criticality of Mission

Questions related to mission are frequently asked by staff when management engage in consultation on the benefits of becoming a TU. Staff are unclear on what the mission of a TU will be and how it should compare with the mission of the existing institutional types. The four areas identified in analysis of participants' narratives in relation to mission are represented in Figure 5.10.
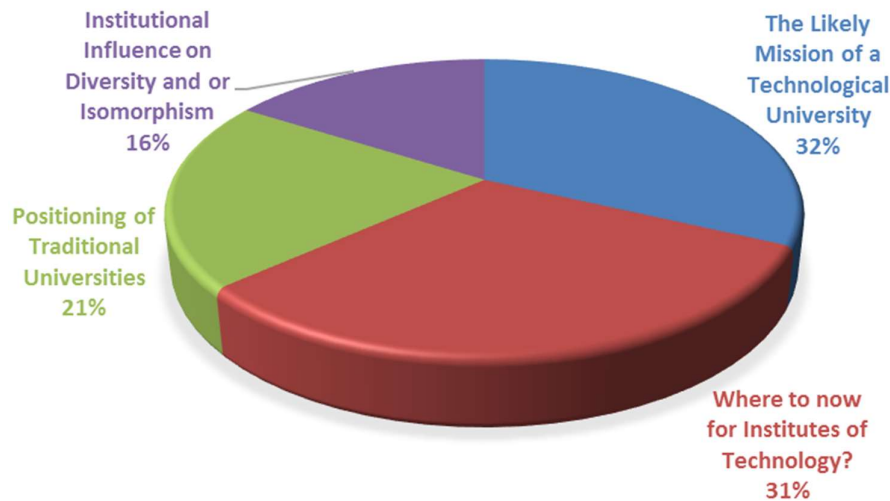
Figure 5.10: The Relative Contribution of the Four Areas from the Data Supporting Mission

5.3.1 The Likely Mission of a Technological University

20 participants made 56 references to this topic, making it the topic of most concern under the theme of mission. Responses varied along a continuum of: (i) the current mission of IoTs is good enough for TUs, (ii) the proposed mission should be broadly similar to IoTs, to (iii) the mission of TUs needs to be different, not just to IoTs but also to the mission of the traditional universities. Participants' responses suggest confusion in relation to mission, but they also offered constructive suggestions as to what the mission should look like. The 'third mission' featured quite strongly in their narratives, namely the engagement with industry and enterprise and, allied to this, the need for TUs to be flexible, agile and responsive to the needs of industry by being 'all-year round' institutions. The primary reason why TUs are required in the Irish HE system was outlined by one participant:

> It goes back to the Hunt Report. It's about creating a dynamic for enhanced performance in the IoT sector. The enhanced performance is to come about through enhancing scale through mergers and enhancing performance and the quality of outcomes through meeting the criteria. Self-designation powers or not is neither here nor there, performance enhancement is the key thing to technological universities. [1c(i), Policy Expert]

The uncertainty around the mission of a TU was also raised:

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It isn't clearly defined and that's a problem. That's a problem when you're trying to sell the concept to people, that it's not just another IoT by another name or a second-rate university. [3a(iv), Academic Stakeholder]

I think that as a concept, it is still essentially around the alternative to the traditional university and that debate has been going on, you know in higher education globally for a long time. [2b(ii), Institutional Leader]

It was noted that the current IoT mission works equally well for a TU:

That mission that the IoTs have is actually-, there are strong roots for it so, transmuting it into a new title, I think the mission remains valid. [2b(ii), Institutional Leader]

The notion that missions should not be seen as hierarchical or elitist, but different, which doesn't mean better, was evident among participant responses:

I myself don't see it as a hierarchical continuum, I see it as a diverse set of missions. Now, the mission of the three that you mentioned, the IOTs, TUs and the research intensive universities are clearly different. [1b(ii), Policy Expert]

The need for a different mission for a different institutional type was strongly emphasised:

That is a different type of institution with a different mission and you should not compare a University of Technology with a comprehensive research intensive university because it's a different ballgame that they are trying to play and similarly, IoTs. [1b(ii), Policy Expert]

The idea that individual TUs should also be different to each other was highlighted:

Technological Universities, I don't think they're going to be identical and I would seriously hope they're not going to be identical because I think if that happens we will reduce, from an Irish policy perspective, the diversity of what we need to offer. [2a(ii), Institutional Leader]

An interpretation on the official position on the mission of a TU was outlined:

Certainly, my take on what the policymakers say it is, is that it is a comprehensive institution. As in from Level 6 to Level 10, but with a distinctive mission and a mission

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that is distinctive from what the policymakers call a traditional university or a comprehensive university, distinctive in the sense of having a distinctive regional focus and a distinctive focus in terms of being closer to the market, if I could put it that way, in the content and probably, the structure of its programmes. So that's my take on what their definition of it is. [1c(ii), Policy Expert]

However, not all participants agreed with the proposed mission of TUs.

The problem with the TU is that when you look at it, it's expecting an organisation to be able to go from trades right up to PhDs. So in a way it's nonsensical. [2a(i), Institutional Leader]

Participants recommended key elements that should be included in the mission of TUs.

For TUs actually, the distinguishing mark for them is going to be how they innovate in themselves. So if they simply appear to be slightly different versions of traditional universities, they've missed the point right. [1c(iii), Policy Expert]

I suppose my hope would be that the TUs would be so close to the enterprise base that they would be tackling problems that mean a lot to the enterprise base. [2a(iii), Institutional Leader]

Well, I think there's no question, the research intensity on a Technological University and the whole centrality of research to teaching, but also to innovation is the central piece of the TU. So I do think the attachment to professional development will be stronger in the Technological Universities also. [1c(iii), Policy Expert]

So the domain of the classical universities, it's never going to go into those domains, it's always more grounded in industry, the community, and practical application. Then of course, it does need to be at a level of excellence which would take you right from the Level 6's up to the Level 10's. In an ideal world, that's what it would be. [2b(i), Institutional Leader]

There is this alternative model of higher education which is needed, which is more professionally oriented, which has this access mission that they're not supposed to be elite institutions, that has a notion of research that-, although the research community might baulk at the term, applied, but it is or certainly close to business and all of those classical concepts that you get within the alternative model within a binary

system of higher education. I think they are still very much at the heart of what a Technological University is. [2b(ii), Institutional Leader]

Analysis of participants' narratives suggest that there is a good level of understanding as to what needs to be included in a mission for a TU. However, despite this strong endorsement of mission attributes, concerns were expressed in relation to the mission and where it sits with the existing institutions. Participants spoke about the fear of trying something new in an uncertain environment where risk is not something that is rewarded. Concern was expressed that everything TUs propose to do is already being done by the traditional universities, which raises significant questions about the rationale for creating TUs. It will take time for the new institutions to prove themselves and in the interim, stakeholders, including industry in particular, will need reassurance in relation to quality and standards. Participants also expressed concern about the ability of TUs to protect the valued applied learning ethos of IoTs:

> So focusing very clearly, they're all running after-, but what's also happening is that many of the same things that you might have ascribed to these new TUs around-, well, access might be one, but forget access, regional engagement, commercialisation, application focused or user focused, research focus, applied research and so on, the universities are doing that also. So you begin to ask yourself, what exactly are we doing here? [1c(iv), Policy Expert]

> I think more broadly, I would have some concerns on the basis of balance between practical learning and the more conceptualised academic learning from a university perspective. I think that if everyone became a technical university with university status, I would worry about some of the pipeline of talent that legitimately goes through the technical college system and comes out the other end as well qualified and into roles, which they can perfectively fulfil within organisations. I think that if we lose that strata of education, I think societally, we might be cutting ourselves short because where does that then go? [3b(v), Business Stakeholder]

The importance of institutional leaders having the support of staff in implementing this new type of mission was emphasised, as was the importance of institutions believing in themselves, having confidence in what they do, and pursuing excellence in all its facets for the benefit of students and graduates:

> You want to make sure that the people working in the institution with you and particularly, the academics are enthusiastic about that mission and are willing to

contribute to just do it. What I would hope is that the institutions, if they apply for a new status, understand that they will become something different than they now are, not necessarily something better, but different. [1b(ii), Policy Expert]

Internationalisation is frequently used as an argument to justify the need for university status on the basis that it is difficult to communicate what an IoT is. This argument was echoed by participants, with some expressing concern in relation to the need to pursue university status in the first instance:

> Well, if we want to promote internationalisation, we have to have a recognised label or brand of universities that other countries such as India and China and so forth, would recognise and be willing to send their young undergraduate and postgraduates to this country at significant cost. [3a(v), Academic Stakeholder]

The relative weighting of the participants' voices on mission is shown in Figure 5.11:
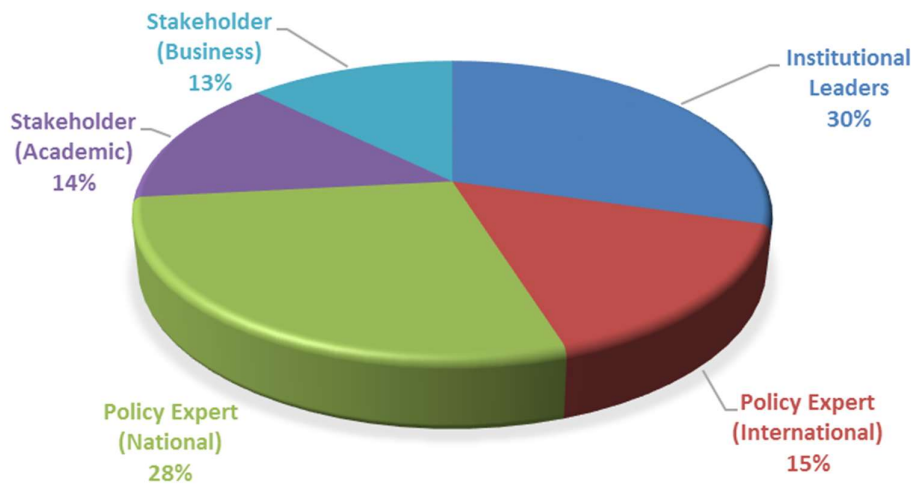
Figure 5.11: Analysis of Participants' Contribution to Mission

The key topics featured in this section are further analysed in Appendix 5. The 'third mission', was most talked about by business stakeholders. The area of flexibility and responsiveness was equally talked about by institutional leadership, national policy experts and business stakeholders, representing a grouping with most interest in this topic. The areas of professional development and regional engagement was talked about by all stakeholders.

The findings from analysis of participants' narratives on the likely mission of a TU may be summarised as follows:

47. There is evidence of confusion in relation to the mission of a TU, but the consensus is that it needs to be different to the existing HEIs.
48. The freedom should exist for each TU to devise its own mission, depending on its own circumstances and regional remit.
49. The mission of a TU should include:
    a. A focus on innovation,
    b. Close relationship to enterprise (third mission),
    c. Strong emphasis on applied research and professional development,
    d. A distinctive regional focus,
    e. Offering programmes from L6 – L10 on the NFQ.
50. There is a concern that the applied learning ethos of IoTs will not translate to TUs, and the cohort of students served by IoTs will be disadvantaged should all IoTs become TUs.
51. It is important for leadership to get staff support and ownership of the new TU mission.

5.3.2 The Future of Institutes of Technology?

> There's a serious question over the future role of those institutes that stay as Institutes of Technology and where do they lie along a spectrum of education provision. [2a(i), Institutional Leader]

Institutes appear to be unhappy with their current status. There is a lack of belief and conviction emanating from them in what they do, which further impacts on how they are perceived. The view from within the IoT sector is that gaining TU status is a game changer and will provide the status and identity they claim is currently lacking. Participants suggested that IoTs are indeed necessary and perhaps IoT management don't fully realise the important role they play.

> I think the IoTs are hugely valuable as they are, hugely valuable from a business perspective and I'm not sure whether the TU thing is going to be a game changer in that sense. [3b(i), Business Stakeholder]

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So I've 22 years of hearing IoTs wanting to be called universities and my response is this, "Why can't you just be the best IOT you can be and forget about being a university? There's a demand for what you do. You're a different kind of institution." We need technologically focused, vocationally focused, enterprise focused higher education institutions, whether you call them Institutes of Technology, TUs or whatever the hell you like, we need them both and they're different and they do attract different kinds of people and why wouldn't they? There are different kinds of people in our society who have different needs. [1c(i), Policy Expert]

The case for IoTs and the role they play in the education ecosystem was well understood and emphasised by both the national and international policy experts:

I would say that regional colleges that have a large impact on the regional socioeconomic developments are crucial for the country, perhaps not for research impact, but they are crucial for new businesses, for impact in an economic sense, for new jobs etcetera and that's certainly also the line that the European Commission has been taking for the last five, six years in the so called modernisation agenda for higher education, away from every institution trying to become a research intensive, comprehensive university. [1b(ii), Policy Expert]

The option of remaining as a stand-alone IoT appears not to have been clearly communicated during the initial consultation on the National Strategy and consequently may not have received due consideration by institutes in deciding where to position themselves. Equally, this communication may have been lost due to the significant change in leadership positions since the National Strategy was launched in 2011. However, four institutes have now decided to remain as stand-alone IoTs and are not pursuing re-designation as a TU. They are Athlone, Limerick, Dundalk and Dun Laoghaire.

Business stakeholders stressed the necessity of IoTs as integral to providing vocational education. It is likely with the emergence of TUs that IoTs will have a reduced role in engaging with applied research. However, as one participant suggested, there is a serious opportunity to explore relationships with further education providers:

So I think that what will happen is that eventually, if the TUs do emerge, what you will find is that the institutes that remain behind will really refocus on their original core role in education, which is the vocational side. I think the research element will either

be conducted in collaboration with the TUs, but it will become less important. I think an interesting challenge for the institutes that stay as Institutes of Technology is going to be their relationship with further education and I don't think anybody has looked closely enough at that because even now, further education is involved in trades and nobody has said, "What's the relationship between that?" [2a(i), Institutional Leader]

Participants suggested that industry, in particular, has concerns in relation to the shift in educational provision occurring in IoTs as evidenced in the increase in Level 8 programmes at the expense of Level 6/7 programmes. Industry would like that IoTs remain into the future and, where they transition to a TU, it is the desire of industry that the applied ethos of IoTs be not lost:

> I would not place a limit on their ambition, but they can't lose sight of the fact that the core mission originally-, the original mission was level six and seven. [1c(v), Policy Expert]

The state has a duty to ensure that consortia who obtain re-designation as a TU are deserving of that status. The view from within the IoT sector appears to be that institutes are entitled to this status based on performance, while the view externally is that the IoTs need to 'up-their-game' before they are eligible to become TUs.

> …. we are definitely on a par with what the universities are achieving with the resources that we have and the student profile that we have. If you look at what we are achieving in the IoT system compared with some other countries where very similar institutions do have the university title, that's even more apparent. [2b(i), Institutional Leader]

> So I think it's good that they want to move on, even if some of them want to move on simply to get the status and I think the onus is on the state to make sure that they don't move on unless they up their game. [2a(iii), Institutional Leader]

> I guess my personal view is that the Institutes of Technology evolved from local technical colleges, which became RTCs, which became Institutes of Technology and if they're not to stagnate in their current form they need to advance and the logical place for them to advance to, would be to become universities, which are now very focused on producing skills required by the enterprise base. [2a(iii), Institutional Leader]

There is a reputational risk for IoTs seeking TU status. Firstly, it makes a statement that there is a problem with the current status and secondly, should an application be unsuccessful, the institute then remains in a self-designated lower status tier:

> It does certainly send out the signal that what we have now isn't good enough. So therefore, we need to seek this Holy Grail which is at a higher level and then if that fails, then by implication we're still in the space where we're not good enough. So yes, there is a lot at stake if you look at it in that way, yes. [2b(i), Institutional Leader]

Interestingly, commentary from the participants suggests that IoTs are not as highly regarded as the Regional Technical Colleges (RTCs) had been in the past. Upgrading the RTCs, it may be said, was merely a rebranding as opposed to an upgrading exercise; and the state may well be determined to resist repeating a 'me too' approach as evidenced in the published criteria for re-designation as a TU.

> Within the IoT sector there would have been differentiation, it was an RTC sector in those days, but a marked differentiation in terms of skills; now they want to be all things to all men and women. [1c(v), Policy Expert]

> We migrated from RTCs to Institutes of Technology, the brand had no meaning because there was no process by which there could be a badge of a particular level of performance. [2a(i), Institutional Leader]

Institutional management and leadership was generally regarded by the participants as not fit for purpose and this issue is considered in more detail later in this chapter. It is considered here in the context of the future of IoTs and how their future is viewed externally to the sector:

> I think the institutes have not done well articulating a vision of themselves, collectively or individually. I think they have not grounded their vision in the richer, yes or no about it, but there is a huge intellectual resource about higher education and I'm not aware that it informs any of the decision-making. [1c(iv), Policy Expert]

From these views it appears that IoTs will have to improve their performance irrespective of where they plan to position themselves in the future.

> If they want to become something else, they will have to be able to show how they can do these other things better than what they are doing now I would say. I think

you're better off if you have a clear mission and if you're able to deliver according to a mission as a first class IoT than if you have become, in name something else, let's say a Technological University, but you're seen as a second class university. [1b(ii), Policy Expert]

Figure 5.12 illustrates the relative weightings of participants' voices on IoT positioning:
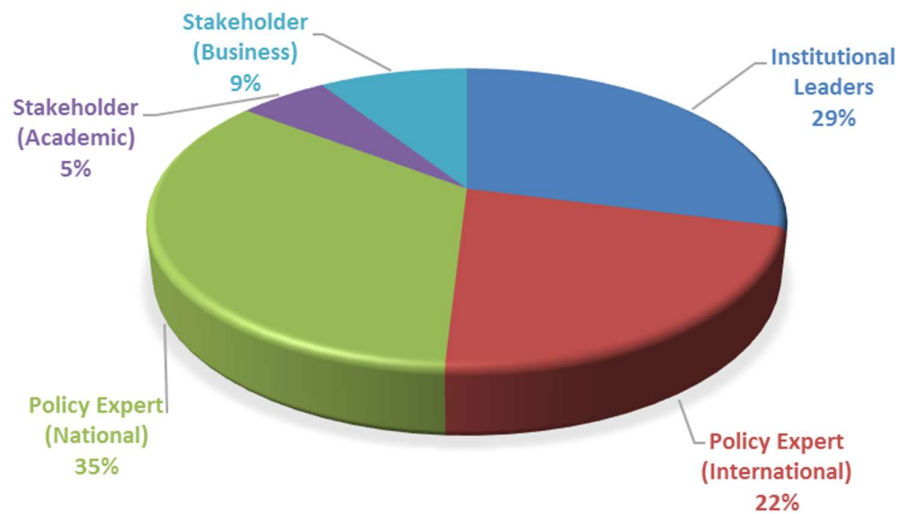
Figure 5.12: Analysis of Participants' Contribution to IoT Positioning

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The findings from analysis of participants' narratives on the future of IoTs may be summarised as follows:

52. IoTs are necessary and perhaps don't fully realise the important role they play.
53. It is not clear if the option of remaining as a stand-alone IoT was clearly communicated in the early stages of implementing the National Strategy.
54. With the emergence of TUs, IoTs will likely have a reduced role in engaging with applied research.
55. There are untapped opportunities for IoTs to engage with the Further Education sector.
56. Industry is supportive of the retention of IoTs and recommend they retain provision of programmes at Level 6 and Level 7.
57. Should IoTs not be successful in seeking TU status, there is a serious reputational risk having decided the IoT status is deficient.
58. IoTs are not as highly regarded as RTCs were in the past.

59. The leadership of IoTs is responsible for the status and identity of this sector. It is the general consensus of the study participants that the leadership has failed in this regard.

60. There is a mismatch between how IoTs perceive themselves and how they are perceived by others. The view from within IoTs is that they are already operating at the level of a university. The view from external observers is IoTs are not operating at the level of the university and need to 'up-their-game'.

61. The pedagogical approach inherent in the IoT sector needs to be preserved.

62. It is better to be a first class IoT than a second class university.

5.3.3 Positioning of Traditional Universities

The traditional Universities are not impacted to the same degree by the National Strategy as the IoTs. Nonetheless, the outcomes of implementing the strategy, such as the creation of TUs, will likely impact on their positioning within the system:

> The Hunt Report really had very little impact, in my opinion, on the university sector and I don't see that they're particularly worried about it. [3a(iv), Academic Stakeholder]

> But my perception is that to a degree, they wouldn't be bothered to be in there if the title 'university' wasn't in the title and it's that they're defending the integrity of the word 'university'. [3a(i), Academic Stakeholder]

The view of TUs from within the university sector appears to be on a continuum from 'we couldn't care less', to 'we are worried':

> While we're in a situation where our funding model is fundamentally driven by student numbers, then everyone is in competition for students. So therefore, the more in competition for students you are, then probably the more you care about TUs. [1c(ii), Policy Expert]

IoTs do not enjoy the same level of autonomy as universities. This is embedded in legislation and is a source of tension for the IoTs in particular:

> We have a distinct concern that the universities get preferential treatment in comparison to the IoT sector. [3a(v), Academic Stakeholder]

The ability of the traditional universities to adapt to a changing environment was acknowledged by the participants, even though they may not be as responsive or as flexible as the IoTs.

> You will always have the traditional universities, who are not unchanging of course, the reason why they've survived so long is that they are adaptable. [2b(ii), Institutional Leader]

In the context of mission drift, IoTs are frequently accused of academic drift, but mission drift works both ways and universities are equally guilty of vocational drift, or convergence towards the centre:

> Absolutely, all of the universities are doing work placement, engaging with industry. So they're moving into the IoT space and if you like, the IoTs are moving into their space. [3a(iv), Academic Stakeholder]

> The universities' primary objective should be to produce human capital, not to be hand in glove with industry and their research. [2a(iii), Institutional Leader]

The correct positioning for the traditional universities is the pursuit of knowledge for knowledge's sake and engaging in blue skies research:

> I would love to see a mixed economy where you do have your traditional universities that do just look for knowledge for knowledge sake. It's there everywhere in the world and then you have another set of institutions that are able to take that knowledge and teach it and in different ways, apply it in terms of research development and all of that. I suppose from an institutional perspective, it's a very difficult situation that we now face trying to position yourself. That's the fundamental problem. [2b(ii), Institutional Leader]

> The research intensive universities of Ireland are not amongst the best in the world, neither are the Dutch, perhaps a little better, but still and this goes for all of them. [1b(ii), Policy Expert]

The views from participants concerning the degree to which the seven universities are regarded as a homogenous group varies widely.

To a significant degree, yes. Now they vary obviously, to some degree in terms of scale and precisely what they do. [1c(i), Policy Expert]

No. They're very good at presenting themselves in the media and coming up with agreed positions and statements, but they're not a homogenous group at all. Really, they're on the spectrum ranging from the classical traditional university to the more regionally based, industry focused university and everything in between. [2b(i), Institutional Leader]

The relative weighting of the participants' voices on university positioning is shown Figure 5.13
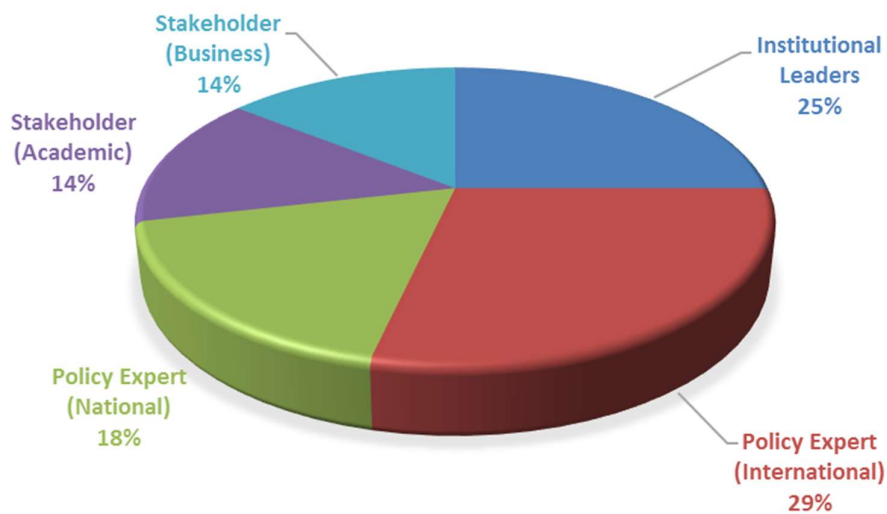
Figure 5.13: Analysis of Participants' Contribution to University Positioning

The findings from analysis of participants' narratives on positioning of traditional universities may be summarised as follows:

63. Traditional universities are not impacted by the National Strategy to the same degree as IoTs.
64. Traditional universities are mostly concerned with the likely impact on their funding resulting from the establishment of TUs.
65. The impact TUs might have on the market for students is a cause of concern for the traditional universities.
66. Universities are actively involved in mission drift, more appropriately called 'professional drift' in their case.

5.3.4 Institutional Influence on Diversity and / or Isomorphism

The influence of leadership on steering an institution can lead to either diversity or isomorphism:

> If the leadership is unable to bring that energy towards the mission of the institution, if you see what I mean, then I think it's this organic process of institutions drifting up towards trying to reach higher levels of research intensiveness and therefore, an implicit drift towards more isomorphism in the system. [1b(ii), Policy Expert]

Diversity of the system is achievable by having diverse missions for each institutional type. Some institutions may need steering from the state to achieve this:

> So rather than employing this implicit feeling of reputation hierarchy, I would argue that keep them apart and make them diverse in terms of missions, which will decrease therefore, as you understand of course, the homogeneity isomorphism trends in the system. [1b(ii), Policy Expert]

The blurring of the boundaries between IoTs and universities is already evident in the context of mission creep in both directions. An outcome of this appears to be the dissolution of the binary classification as a description of the higher education system in Ireland, moving possibly towards a more comprehensive unitary system:

> I think as well, in a way the binary system, people understood it. It's changed, but they did understand it, but if we do end up with IoTs, TUs and then traditional universities, it'll probably actually-, instead of enhancing system diversity, probably actually the opposite because nobody will know how anyone is placed as such. I don't know, we'd be better off just having universities and be done with it. [3a(iv), Academic Stakeholder]

Competition, linked primarily to the funding model and market influences can result in isomorphism as easily as in diversity. While the higher education market is predominantly made up of Leaving Certificate students, there is a shift occurring as evidence of a more diverse market emerges made up of people in the workplace wishing to upskill and reskill, unemployed people wishing to reskill, enterprise requirements to retain their competitive edge and a general focus on lifelong learning as the new norm. The literature supports the notion that competition in general leads

to homogeneity and hence isomorphism, nonetheless, offering niche programmes to address the diverse market offers opportunities for diversity and differentiation:

> Competition for students is increasing all the time. So I think people are trying to differentiate themselves, but when they go to differentiate themselves, they actually just look at what other people are doing. [3a(iv), Academic Stakeholder]

> I think it is also true to say that there is competition obviously, within the system. So it's logical then, that some of the universities try to also offer programmes that are more explicitly focused on specific fields of work, which would class them as professional/vocational. [2b(i), Institutional Leader]

Even when TUs are created, or in the process of creation, the possibility of isomorphism exists in relation to mission:

> I think that the few TUs that should be there should have the freedom to set out their own mission, but I suspect that their missions will be very similar to the missions of institutions currently labelled as universities in their vicinity. [1c(v), Policy Expert]

The relative weighting of the participants' voices on institutional influence on diversity and/or isomorphism is shown in Figure 5.14
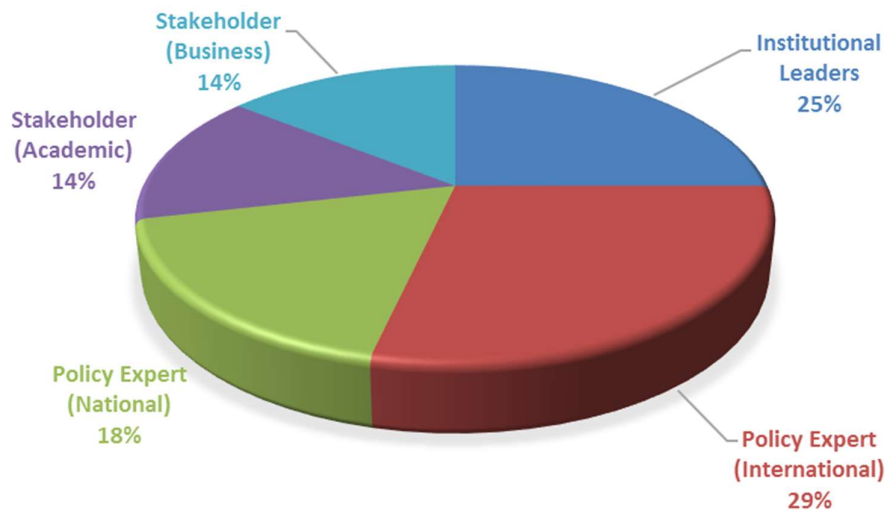
Figure 5.14: Analysis of Participants' Contribution to Institutional Influence on Diversity and/or Isomorphism

The findings from analysis of participants' narratives on institutional influence on diversity and/or isomorphism may be summarised as follows:

67. Institutions will likely shift towards isomorphism in the absence of decisive leadership.
68. In order to protect and enhance diversity the state should steer different institutional types towards diverse missions.
69. Competition for students is resulting in greater, not less, homogeneity.
70. The direction of the evolving higher education system needs steering from the state as participants are unclear if it will be a ternary system, a comprehensive unitary system or something in between.
71. TUs, where created, are likely to engage in isomorphism by imitating the mission of traditional universities.

5.4 Theme 4: Institutional Ambition

Institutional ambition is the fourth major theme identified in the data analysis process. Its four sub-themes and the proportion of references attributable to each sub-theme is illustrated in Figure 5.15.
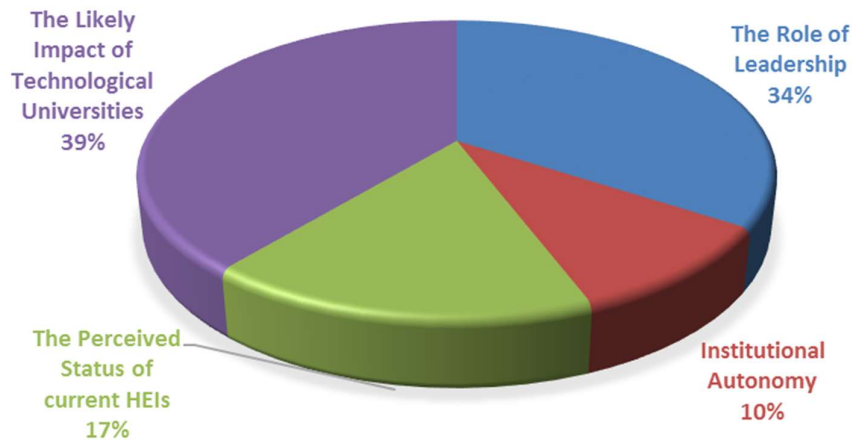
Figure 5.15. The sub-themes relating to institutional ambition

5.4.1 The Role of Leadership

The relationship between the role of leadership in IoTs and institutional positioning or ambition featured strongly in the participants' narratives. The link between this

relationship and isomorphic behaviour of the sector also featured quite strongly. Participants described leadership as "not fit for purpose", "weak", "responsible for the poor status enjoyed by the IoT sector", and "weaker than previous leadership regimes". In defence of the allegations levelled against the current IoT leadership, the role of the state should also be considered as it has not provided the management tools requisite to effective management and leadership. A further constraint to effective leadership lies in the recent introduction of short term-contracts (generally of five years' duration) for IoT Presidents. This constraint occurs particularly where institutions are part of a consortium engaged in the process of re-designation as a TU:

> I'm not sure that the governance and strategic leadership and management is at the level that's appropriate for leading institutions further into the 21st Century. That would be a big question in my head. [1c(iv), Policy Expert]

> I think all of those things could work, but it would require a leadership that transcends pettiness and individuality. I think some of it too is the current-, in previous generations we had a more inspirational set of leaders. I think some of it now is to do some of the contracts are short-term and all that kind of stuff because of the lead into TU and that has knock-on effects down the institution as well. [2b(ii), Academic Stakeholder]

The participants suggested that lack of leadership is impeding the implementation of the National Strategy. This leadership deficit is resulting in a lack of trust between management and staff, and between management and trade unions to the extent that progress has stalled, requiring the intervention of government to get it back on track. This demonstrates the subservient nature of the IoT leadership and it leaves the door open for the state to take a stronger role in controlling the sector, if not the system:

> In terms of managing the process, I think there were serious errors made. What happened then was, it ignited a resistance and a resistance that was building, this whole thing about trust, "We don't trust what's happening and we're not involved." [3a(v), Academic Stakeholder]

> It takes a bit of courage to trust your staff and to trust your colleagues and it's an absence of courage and an absence of ability when you need to micromanage them. [3a(i), Academic Stakeholder]

In addition to impeding the implementation of the National Strategy, this lack of leadership is impacting negatively on the status of IoTs and how they are perceived both internally, nationally and internationally. The Institutes of Technology, Ireland (IOTI) was the representative body for all the IoTs, which transitioned to the Technological Higher Education Association (THEA) in 2016. Participants anticipated that THEA will likely be more effective in fulfilling its remit:

> There is a fundamental deficit in terms of our sector articulating its role in Irish education, its future direction. I've been hugely disappointed in the inability of our sector to articulate a philosophy for the sector to actually then drive that in national debates, to inform education and the political establishment of what our role is [2a(i), Institutional Leader]

> Whereas, if you did have a more collaborative collective approach, you would have been more influential as a sector. Whereas, we've generally tended to really lack influence as a sector because we can't come up with a clear position because we don't seem to be able to. [2a(ii), Institutional Leader]

Participants acknowledged that there are challenges facing HEI leadership:

> I think it's simple unsustainability. That's the biggest challenge for any institution. [3a(ii) Academic Stakeholder]

> I think the core challenge of leadership is to differentiate yourself and that involves setting out your strategy and communicating until people are sick to the teeth of hearing you talking about your strategy and it should be a strategy that is linked into your region and into your local community and into your regional needs rather than, "We are going to become Trinity College." which I fear is the aspiration now. [1c(v), Policy Expert]

> If over 80% of your costs are tied up in personnel and you can't reward and you can't fire, how are you going to exercise any kind of leadership? I know theories of constrained leadership, but this is constrained to a completely ridiculous level. [3b(i), Business Stakeholder]

Other challenges for leaders were identified by participants, such as the requirement to collaborate via clusters, in addition to pursuing TU ambition:

Well, I think the biggest challenge really is to sell the concept to their people and get the vast majority of them on-board and pushing in that direction. [2a(iii), Institutional Leader]

So the good old days of just doing the best for your institution are more or less gone. There's a lot more collaboration, a lot more negotiation, therefore. So it will require a different skill set from the past and you have to be able to stand your ground and at the same time engender the trust of whoever your partners are. [2b(i), Institutional Leader]

Recognising the challenges of leadership and conscious of the deficits that exist in that space, leadership is likely in itself to contribute to isomorphism as articulated by this participant:

Anyway, I think the challenge for the leadership is enormous, I don't think it's an easy job at all. As a matter of fact, I think many colleagues of ours …. fail in the end in profiling their own institutions and are rather, only imitators of other institutions, which is a pity. [1b(ii), Policy Expert]

To conclude this section on a positive note, the attributes of good leadership are briefly considered. It is important that current and future leaders of higher education break away from the shackles of the past and re-imagine a different future:

Again, the quest for leadership comes as huge in this and I find a lot of people are captive to the way things are and actually, we need people who would say-, like George Bernard Shaw: "You see things; and you say "Why?" But I dream things that never were; and I say "Why not?"" and really, it's the second category that we need a lot more of. [1c(iii), Policy Expert]

…. leadership is everything. Leadership is content, it's also tone and culture and optimism. [1a(ii), Policy Expert]

I think the key thing about leadership is to develop a share of understanding in their institution, of what it is the institution wants to be and how it's going to achieve that. It's a combination of skills of being visionary I suppose, being strategic, but also being able to bring your people with you, to be able to create a level of trust and engagement, but you certainly need to know where it is they take an institution. [1c(i), Policy Expert]

There is one upside here because governance is so chaotic because there's a lot of freedom for a very, very good and capable and motivated President to achieve things, but it's a matter of chance as to whether you have that kind of President or not and therefore, we see all kinds of different approaches in different institutes. So until the other things change, the best thing to play for in the short-term is that kind of super effective President. [2a(iii), Institutional Leader]

The relative weighting of the participants' voices on the role of leadership is shown in Figure 5.16 and a more detailed breakdown of this analysis is included in Appendix 5.11.
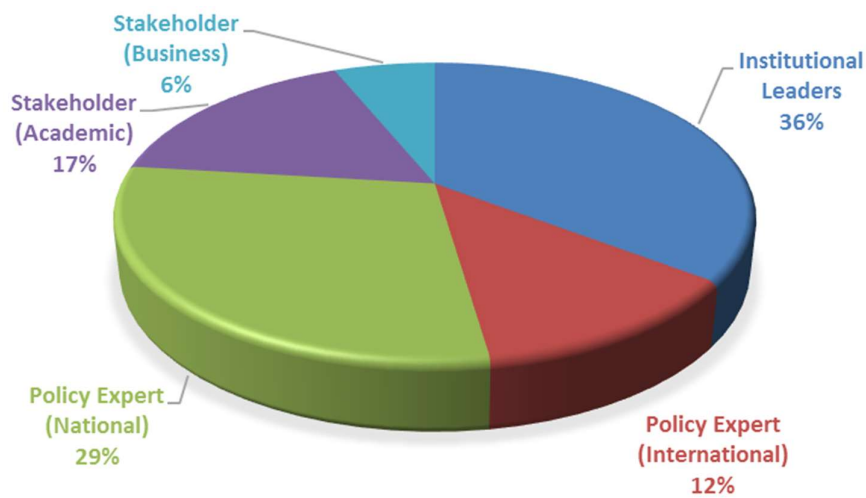
Figure 5.16: Analysis of Participants' Contribution to the Role of Leadership

The findings from analysis of participants' narratives on the role of leadership may be summarised as follows:

72. There is a leadership deficit in the IoT sector currently, which raises concerns around the ability of leadership to steer IoTs towards TU re-designation.
73. The leadership deficit is impacting on the status of the IoT sector nationally.
74. There is evidence of a lack of trust between leadership and staff, and between leadership and the state.
75. Sustainability is the biggest challenge facing institutional leadership. Other challenges include:
    a. Operating under a constrained leadership framework
    b. Pursuing niche markets in a competitive environment
    c. Communicating a clear and distinct mission

> d. Collaborating with competitors, taking clusters as an example
>
> 76. The attributes of good leadership were acknowledged by the participants and the sector, if not the system, needs visionary and innovative leaders
>
> 77. Mentoring supports could, perhaps, be provided to new leaders to ensure their acquisition of the skills necessary to carrying out their roles effectively

5.4.2 Institutional Autonomy

There is a tension in relation to institutional autonomy between the state and the HEIs. The state holds that due to the increased importance of higher education to the economy, it has a role in exercising control over the institutions and ensuring they are accountable. This is particularly evident in the area of human resources (HR), where national agreements control all aspects of recruitment including permanency, redundancy, redeployment and dismissal. The institutions hold that they lack the autonomy to run their business as they see fit, while accepting that they are accountable to the state. The state argues that the Irish higher education system is more autonomous than other jurisdictions, particularly in the area of programme provision, curriculum design and research. Institutions argue the lack of autonomy is impacting on the positioning of the IoTs in particular. As an example, the idea of a National Technological University received minimal consideration by the committee responsible for the National Strategy; yet this idea remains very popular with institutional leaders. The state argues that the need for tighter control is related to the lack of trust between government and higher education, which is a phenomenon that is not unique to Ireland.

> …. across all the jurisdictions there is a decreasing level of trust between government and higher education and I think it's borne out of a number of things. One is higher education has become bloody important to governments in terms of the economic development, social development, but particularly economic development of countries. Skills are so important. So it's all very well for universities-, if you go back 20, 30 years ago when 15% - 20% of kids were going on and it was a whole lot of other work for people without skills. Universities were there in the background, they were quiet and the government was conscious of them, but took no interest in them. Today the government are madly interested in universities and higher education, I'm using the word generically to cover all higher education institutions. [1c(i), Policy Expert]

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The fact that the option of establishing a National Technological University (NTU) received minimal consideration signifies the low impact of the IOTI leadership in terms of influencing policy.

> If we could do what we wanted-, I personally would have liked to have seen a National Technological University. Genuinely, I do think it could be a good model. I think it could be a model that doesn't necessarily mean that all the 14 institutions would remain as they are and wouldn't merge over time, but I think you would have maybe four of the larger institutions that met certain criteria, would form the university element of it. [2b(ii), Institutional Leader]

> Well it was never given detailed consideration, like to the extent that I really only ever heard about that in conversation with xxx xxxx, there was never a significant policy debate about that and I say that in the same way that there was a policy debate about the merger of IoTs with universities, which seemed to me to be entirely logically inconsistent because I fail to see how it can be logical to have a comprehensive Level 6 to Level 10 institution composed of two IoTs or more, who merge, but not a university and IoT that merges. [1c(ii), Policy Expert]

If institutions are to have more autonomy going forward, two changes are required. Firstly, the whole area around HR and staffing needs reform; and secondly, HEIs need to reduce their reliance on the state, aiming for public funding to fall below 50%, thereby restoring increased autonomy to the institution. Even if this were to happen, some participants suggested, the state would likely find ways to exercise control above its entitlement:

> If you could get to the 50% mark, you'd actually be in a good-, the game would be completely different and that's ambitious and I think unless you do or get towards that, you're not going to get the kind of freedoms around how people are employed and who is employed and all that kind of stuff that that state controlled system by its nature has to demand accountability in relation to all of those. [1c(iii), Policy Expert]

The relative weighting of the participants' voices on institutional autonomy is shown in Figure 5.17
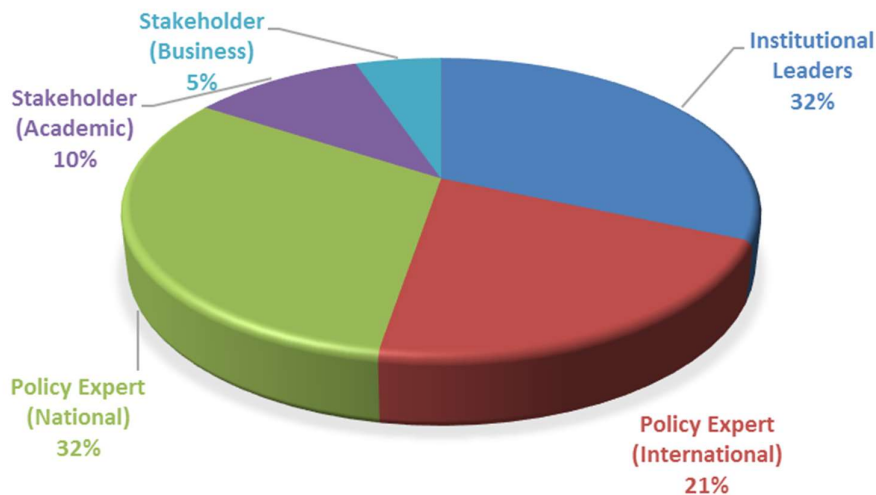
Figure 5.17: Analysis of Participants' Contribution to Institutional Autonomy

The findings from analysis of participants' narratives on institutional autonomy may be summarised as follows:

78. The increased importance of higher education to the economy is resulting in reduced autonomy at institutional level, due to the increased role of the state.
79. The option of establishing a NTU is still considered a better solution to the current process of establishing TUs.
80. For institutions to have increased autonomy in the future, there is a requirement for a new HR framework and a reduced reliance on public funding.

5.4.3 The Perceived Status of the IoTs

This section considers the positioning of IoTs and concentrates on the dilemma they face in pursuing the ambition to become a TU or the resolve to remain as an IoT. The drivers to become a TU are linked to: the fear of being regarded as 'a third rate institution'; the fear of increased state control in relation to the level of programme offerings; and the fear of not being allowed to engage in applied research.

> Nobody wants to be left behind and be seen as a third tier or a third rate institution and that's driving part of it. [3a(iv), Academic Stakeholder]

Some participants viewed having the resolve to remain an IoT as commendable, along with their aspiration to improve performance and continue to pursue excellence.

.... some IoTs are happy to be IoTs and that's why I think that role is there and by the way, there can be as much ambition reflected in doing that really well as there is in going a different road, [1c(iii), Policy Expert]

Regardless of whether or not institutes pursue the TU option, the fact that this option is available has resulted in all institutes improving their standards, a positive outcome of the National Strategy. Unfortunately the state is perceived by participants to have a negative view of the institutes, regarding them as:

.... insufficiently reflective of the environment in which they were operating, insufficiently adaptive to the environment in which they were operating, insufficiently strategic about what their future should be and what it is they need to do to get there. That sense of drifting along in the hope that something will turn up, that's absolutely not the way an institution-, any institution that operates on that basis is almost certainly going to fail and deserves to fail. [1c(i), Policy Expert]

Furthermore, the highly unionised environment that exists in the IoT sector and its protectionist agenda has resulted in staff challenging transformational change, a stance that is viewed negatively by the state and, to an extent, by institutional management:

I think the culture in IoTs and in my mind-, …the TUI culture, which is not pulling things up, it's dragging things back and I would love to see them engage in a different way. [1c(iii), Policy Expert]

And this negativity extends to how all institutions are managed:

I think that universities are thinly managed and IoTs are in a worse situation than that in the sense-,and I say that in terms of both central management and distributed management. [1c(ii), Policy Expert]

Participants suggested that becoming a TU will likely solve all the problems that exist in the IoT sector and the status / institutional positioning of TUs will be higher than IoTs, thereby attracting a higher calibre of student. Not all participants were of this view however, some suggested that the IoTs are already operating at the level of

universities and therefore have an entitlement to be redesignated as TUs, in a manner similar to the way RTCs were rebranded as IoTs. In other words, this next step is viewed as a natural progression in the institutes' life-cycle.

> I have heard people for whom I have a high regard in the IoT system saying they should be universities as they are. Technically, you could maybe make that argument that as they are, they're second class universities. [2a(iii), Institutional Leader]

The state is of the view that the IoTs are beyond reform and appears to be placing its faith in the creation of TUs as a means to drive the national policy agenda. The state's view of the poor performance of the IoTs is likely linked to the leadership style that exists in IoTs:

> I do think we need a stronger collective identity. It confuses me when I see the way our Presidents actually seem to think that if they contribute to the collective, their own institution would be diminished. Whereas to me, it's the opposite. …. I think deep down and this is why I think TU status is important. I think there's a lack of confidence actually that we feel deep down, inferior and that we're always-, and this is the way we deal with the state, we look for handouts. The universities don't operate like that. [2b (ii), Institutional Leader]

The relative weighting of the participants' voices on perceptions of IoTs is shown in Figure 5.18
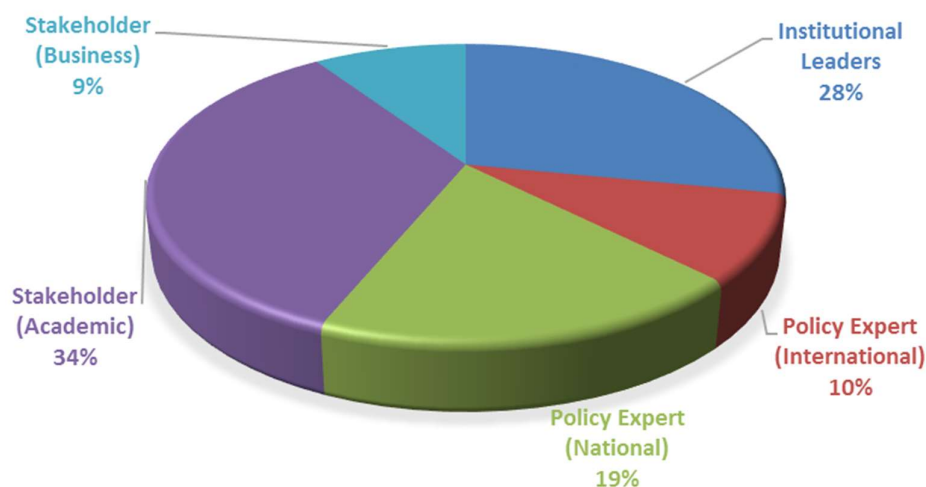
Figure 5.18: Analysis of Participants' Contribution to the Perceived Status of IoTs

The findings from analysis of participants' narratives on the perceived status of IOTs may be summarised as follows:

81. The ambition to pursue TU status is driven more by fear of the consequences of not being a TU than the benefits of being a TU.
82. Trade Unions in the IoT sector are viewed as resisting change.
83. Despite the negative view of the state towards IoTs, the National Strategy has resulted in institutes improving their standards.
84. Institutes feel an entitlement to university status, in the belief that they are currently operating at the level of the university.

5.4.4 The Potential Impact of Technological Universities

Participants speculated on what it will mean to be a TU. The critical point raised by participants, particularly the policy experts, was that TUs need to be different and excellent. They need to be better than IoTs, though not necessarily better than existing universities. This raises the question: can TUs forge a new mission, sufficiently different from the IOTs?

> So if the new TUs find ways to add value effectively, their status will go up as well. If however, they turn out to be simply groupings of IoTs that stay much the same as IoTs, they will be regarded as second class universities. [2a(iii), Institutional Leader]

Participants suggested that the opportunity the creation of this new institutional type presents needs to be wholeheartedly embraced. Participants referred to the opportunity to engender a different culture in higher education, in the anticipation that Ireland will be a better place as a result of the creation of TUs. The TUs will concentrate more on research and facilitate stronger professional development linked to industry and enterprise. In addition, staff will be more engaged and more excited working in this new environment and the graduates will take pride in their university parchments:

> What really excites people, I think about this, is the opportunity that I found what really gets them going is when you start talking about an opportunity to create something new. It excites most people, particularly people who are by definition bright, thinking, enquiring, looking at new ways and so on. It would be a great tragedy if we don't succeed in harnessing that excitement to engage differently with people so that we

actually engender a different culture. I would actually say, from a national point of view, the only point of doing this is that it's about our national capability, that's the way I see it. It's about ratcheting up, it's about giving government and tax payers and the public a good reason to invest more in higher education because they see real impact coming through from this brave new initiative. [1c(iii), Policy Expert]

One participant noted that all members of a consortium are not required to be at the same level in terms of quality, status and identity, at least when the TU is created:

The TU is a wide spectrum organisation and not all of the spectrum needs to be delivered from every college for it to be a viable TU. I also feel that even the smaller IoTs, if they play their cards right, can contribute across the spectrum, albeit with a narrower focus. [2a(iii), Institutional Leader]

A related benefit of TU status will be that it will obviate the need to explain what an IoT is, particularly in the international arena. Participants also anticipated that academic staff will buy into this concept and embrace the status of working in a university. Perhaps one of the most important positive impacts of TU status will be the benefit to graduates of having a university award:

Yes well of course, university status does drive everything and it's really also to not having to explain what an IoT is any longer because that does get very tiring. [2b(i), Institutional Leader]

Possibly the key potential impact of TUs identified by participants will be the benefit of having the word 'university' in the title. Some participants questioned the need to have 'technology' in the title:

Well, why call them a Technological University? If you're telling us that these have university status and they can do everything a university can do. "Well, why don't you just call them a university?" [3a(v), Academic Stakeholder]

Really, it's the university title I think. [2b(i), Institutional Leader]

Some participants expressed the view that while the word 'university' is important in the title, what is more important is how the institution performs:

I think the university label is important, but I think that we have a major fixation of it. I think we just have a hang up about labels and hierarchy and reputation should not be built on the basis of a label, but on the basis of what you're doing, what you're delivering in terms of research and in terms of scholars and in terms of graduates. [1c(v), Policy Expert]

If universities perform you can be called whatever you like, but I think the term 'university' is the thing, not the technology term. The technology term probably helps us to differentiate. [1a(ii), Policy Expert]

Participants commented that the impact that TUs will likely have on the higher education system is far from clear. Perhaps the system will develop towards a unitary system or perhaps a ternary system. TUs, and traditional universities. Participants also suggested the interesting possibility of some of the existing universities migrating to the TU space:

So I think that if we look ahead in say ten years' time, I think the TU space will be filled by some of the institutes who have migrated across and have merged, probably not before the TU, I think that will change in the legislation, but merging will remain, but post-delegation, but I think you can see and they wouldn't agree with me, but I think universities like University of Limerick, like DCU, will become part of that bigger community. [2a(i), Institutional Leader]

This I think, was always one of the major risks of the TU project and I think we probably did say it at the time, the danger was that you're going to end up with a so-called 'ternary system' and the parity of esteem arguments that were frequently advanced by the IoT sector. Rather than solving that 'problem', you actually nearly create a worse problem and I think it creates potentially, real problems for IoTs who don't become Technological Universities because even from a perspective of perceptions of prestige, what's it going to do to parental and student perceptions of prestige? So I think that's a danger. [1c(ii), Policy Expert]

Linked to this issue of prestige, or lack of it in the case of an IoT, is the likelihood of students migrating away from IoTs to TUs. This, in itself would cause a downward trend in status and reputational positioning and further impact on the sustainability of the remaining IoTs. This trend is already evident where IoTs and universities co-exist in the same city where the top 10% of students migrate to the university (HEA 2016c).

A further system impact relates to the necessity to continue collaborating. Collaboration within cluster groupings of HEIs is already a national priority objective but may be difficult to maintain once the TUs are established should universities view TUs to be a greater competitive challenge than IoTs:

> I think we've got to work together, we're small, we've got to work together to produce international impact and that international impact benefits students because if the quality mark of the Irish higher education system is maintained, that's the best inheritance we can give to any young person coming out of the education system in Ireland. [1c(iii), Policy Expert]

The fourth key impact TUs are likely to have is that they are expected to succeed where the IoTs are deemed to have failed. The concept of a TU as described by one participant is exactly the raison d'être of IoTs:

> So what I believed at that stage was that the whole concept of the technological university was borne out of two things. One is a government and a civil service looking at a huge amount of investment and not seeing the type of impact that they wanted to see and secondly, looking further afield maybe for once and saying that these Technological Universities seem to be the type of structures who are more strongly linked into industry. [2a(i), Institutional Leader]

The viewpoint was very strong among participants that IoTs are not good enough and have failed to deliver on their mission. Nonetheless, industry and enterprise, regarded as strong supporters of the IoT sector, welcomed the establishment of TUs as it would mean fewer HEIs to engage with, suggesting that currently there are too many HEIs:

> It's to say that this is different, but equivalent. As opposed to different, but somehow or other substandard [2a(ii), Institutional Leader]

> I think from our point of view, the key issue would be the opportunity to work with fewer entities. [3b(iv), Business Stakeholder]

The rationale being put forward for the need for TUs could equally be interpreted as a recognition that the IoT brand is not working:

> I think one of the nice things about changing the name is it legitimises who you are. [3b(iv), Business Stakeholder]

Participants suggested that the weakness within the IoT sector is linked to its failure to communicate its successes and the impact it is making on several fronts. This is one of the key areas that the TUs are expected to improve on:

> I think we have a lot of good stuff in the institutes, I think we don't sell it. I do actually think that TUs could be a vehicle for selling it and just letting people know what we offer, what we do. [2b(ii), Institutional Leader]

Finally, the double-barrelled title of 'Technological University' is likely to present a problem as it is the university title, and only the university title, that IoTs are interested in. This suggests that the quest for positioning will continue and likely drive further isomorphic behaviour until the next re-designation or rebranding process is initiated by the state following pressure from the TU sector:

> I think of the two-word title, there's no doubt about it, what they're chasing is the latter word. It's the 'university' they're chasing. They've already had technical or technological or technology in their titles all along so that's where they want to come from and where they want to go to is 'university'. [3a(i), Academic Stakeholder]

The relative weighting of the participants' voices on the potential impact of TUs is shown in Figure 5.19:
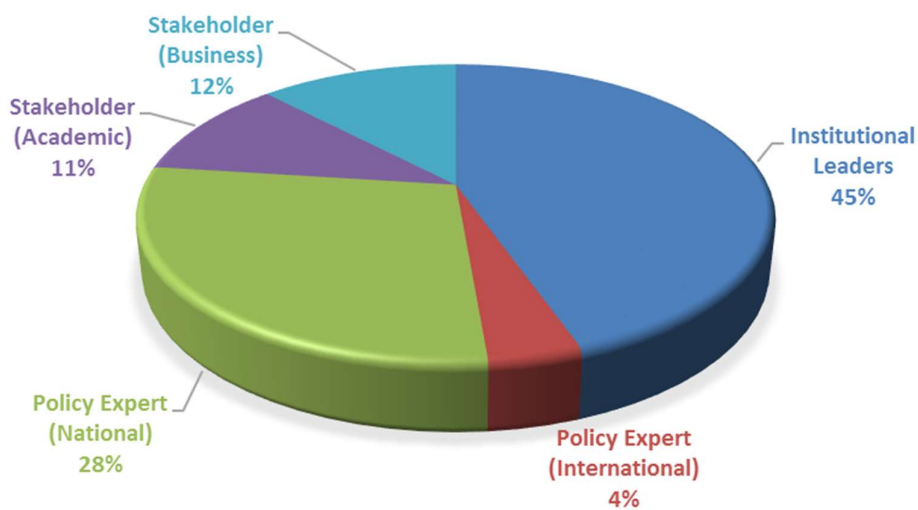
Figure 5.19: Analysis of Participants' Contribution to the Potential Impact of Establishing TUs

The findings from analysis of participants' narratives on the potential impact of TUs may be summarised as follows:

85. TUs will succeed if they are sufficiently different and better than IoTs, and sufficiently different than traditional universities.
86. The distinction between TUs and traditional universities will be challenged until the word 'technological' is dropped from the title.
87. It is unclear if the system will develop into an integrated hierarchical structure (a ternary system), or settle along a spectrum of institutional types.
88. Ireland is fascinated with labels, when the emphasis should be on what institutions do and not what they are called.
89. The likely 'pull' of students away from remaining IoTs towards TUs will negatively impact on the sustainability of IoTs.
90. There is an expectation that the draft legislation will change to allow mergers post- designation.

5.5 Summary

This chapter presented the findings from qualitative analysis of participants' narratives under four dominant themes: the impact of the National Strategy for Higher Education (2011); the role of the state; the criticality of mission; and institutional ambition. The number of findings under each of these themes is shown in Table 5.1:

Table 5.1: Thematic Areas and Related Findings

Thematic Areas	Number of Findings
Impact of The National Strategy for Higher Education (2011)	30
The Role of the State	16
The Criticality of Mission	24
Institutional Ambition	20
Total:	90

The key findings emanating from each theme are now summarised.

Theme 1: The impact of the National Strategy for higher education addressed three sub-themes and the key findings are:

1. The process of re-designation had the highest number of findings. Some of the key findings point to the unintended negative consequences of the criteria

for TU re-designation; the challenges of the academic staff contract; and the need for strong leadership in steering the process of re-designation.

2. The second sub-theme found that there is evidence of isomorphism in the Irish higher education system, especially in the IoT sector.

3. The third sub-theme compared selected higher education systems and the key findings were that isomorphism trends are evident in other higher education systems; the state is intervening to protect diversity of the system; and re-designation does not necessarily lead to a change in identity (citing the UK system as an example).

Theme 2: The role of the state addressed four sub-themes and the key findings are:

1. Performance agreements featured strongly under the sub-theme of governance. The study found performance agreements were viewed differently by the state and the HEIs. Another key finding was the bi-directional lack of trust between the state and the HEIs.

2. The study found that the state has a role in steering HEIs to protect the diversity of the system.

3. The key findings in relation to resources were IoTs pursuing activities outside of their mission to supplement lack of funding from the state, which highlighted difficulties with the funding model.

4. The fourth sub-theme of strategic drivers found that the amount of change taking place since the National Strategy became policy is impacting on sectoral coherence.

Theme 3: Criticality of mission addressed four sub-themes and the key findings are:

1. The key findings in relation to mission were concerns that the pedagogical approach evident in IoTs would be lost when TUs are established; and the lack of clarity in relation to what a TU mission should be.

2. The sub-theme on the future of IoTs found that IoTs will likely have a different mission, as in less applied research and greater engagement with the further education sector.

3. Traditional universities are not as impacted by the National Strategy as IoTs and are mostly concerned with any impact on their funding that might result from the establishment of TUs.

4. The fourth sub-theme found that institutional influence will continue on a pathway of isomorphic behaviour in pursuit of traditional university status.

Theme 4: Institutional ambition addressed four sub-themes and the key findings are:

1. The role of leadership was strongly criticised, while the challenges facing leadership were acknowledged.
2. For institutions to have increased autonomy in the future, the study found that a new HR framework is required and a reduced reliance on public funding.
3. IoTs appear not to appreciate the benefit of TU re-designation, regarding TU re-designation as an entitlement.
4. TUs are expected to succeed provided they are different to the current HEIs.

Chapter 6 now presents and explains the documentary analysis and findings.

EXAMINING SHIFTS IN INSTITUTIONAL POSITIONING IN THE
EVOLVING IRISH HIGHER EDUCATION SYSTEM

CHAPTER 6: DOCUMENTARY ANALYSIS AND FINDINGS

The rationale for incorporating documentary analysis into the research design and methodology of this study is threefold, as it aims to:

- Provide an evidence base to support the research questions,
- Supplement the main research method of semi-structured interviews,
- Allow for cross-triangulation between the primary and secondary data.

As explained in Chapter 4, a documentary analysis framework was designed consisting of three pillars: selected international higher education systems; the Irish higher education system; and dimensions of Institutional diversity relevant to the Irish context; and these three pillars form the structure of this chapter.

Pillar 1: Section 6.1 benchmarks the Irish higher education system against five selected European and international systems. These countries were selected as they represent three different higher education systems: a unitary system (Australia and the United Kingdom), a functional specialist system (Finland and the Netherlands), and an integrated hierarchical system (Norway and Ireland). The conceptual purpose of this analysis is to investigate if there is any obvious variation between the different higher education systems and if restructuring is more evident in one system over another.

Pillar 2: Section 6.2 takes a more in-depth look at the Irish higher education system to evaluate the impact of the National Strategy five years after it has been adopted as government policy. This analysis is conducted by evaluating state published reports on HEI performance. Evaluating performance of the whole higher education system is a new phenomenon in Ireland, introduced by the HEA in response to one of the recommendations in the National Strategy (2011). The results of these evaluations are used as tools to explore shifts in institutional positioning in the evolving Irish higher education system.

Pillar 3: A diversity typology is designed in Section 6.3 using eight dimensions of diversity for which data are available. The diversity typology builds on the model proposed in Chapter 3 (see Table 3.4) and is designed to evaluate trends identified

from the literature. Eight dimensions are benchmarked against available data at two different time intervals, generally five years apart, to map to the timeframe of this study. A formula to measure the trends is devised and is used to track variation in 49 elements linked to the eight dimensions. A ninth dimension relies on findings from a survey of the missions of universities and IoTs to determine if it is possible to identify institutional type from analysing mission statements. Finally, strategic plans of the 21 HEIs are analysed to identify common themes or themes more aligned to one institutional type. This section relies on both primary and secondary research methods with the objective of addressing concepts emanating from the literature that are of relevance to this study.

6.1 Pillar 1: International Higher Education Systems

6.1.1 Introduction

This section benchmarks the Irish higher education system against five selected European and international systems. These countries were selected as they represent three different higher education systems: a unitary system (Australia and the United Kingdom), a functional specialist system (Finland and the Netherlands), and an integrated hierarchical system (Norway and Ireland). The secondary research for this section is drawn from the EUA University Autonomy Scorecard of 2011 (Estermann, Nokkala et al. 2011) and the OECD Education at a Glance Report of 2015 (Valle, Normandeau et al. 2015).

The comparative analysis of the three higher education systems is based on four dimensions from the EUA University Autonomy Scorecard and three dimensions from the OECD report. The analysis set out to demonstrate if there is any obvious variation between the HE systems, and if not, at a minimum, to show the position of Ireland in an international context when measured against the seven dimensions of analysis.

6.1.2 EUA University Autonomy in Europe Scorecard

The EUA University Autonomy in Europe Scorecard was used to compare five of the six higher education systems. Australia, not being part of Europe is not included. At the time of writing, the UK is still a member of the European Union having voted to leave and negotiations are in place regarding the process. The University Autonomy Tool allows comparisons of university autonomy to be made across 29 countries in

total. It provides detailed information on four dimensions of autonomy: organisational, financial, staffing and academic, and ranks countries according to the level of autonomy they have in each of these dimensions. The Autonomy Tool concerns the relationship between universities and the state. It measures how flexibly universities can take decisions in the context of the rules and regulations that govern their higher education system. A high score on an autonomy dimension indicates that the relevant regulations provide a legal framework without restricting universities in conducting their business. The scorecard uses 38 indicators across the four dimensions of autonomy.

For this research, the data relevant to each of the five countries was analysed (see Appendix 4.1) and a summary of the ranking of each country under each of the four dimensions are presented in Table 6.1. Countries are grouped as per the different higher education systems of integrated hierarchical (Ireland and Norway), functional specialism (Finland and the Netherlands), and the UK representing a unitary system.

Table 6.1: Ranking Of Select Countries Using the EUA University Autonomy Scorecard

	Ireland	Norway	Total	Finland	Netherlands	Total	UK
Organisational	6	8	**14**	3	13	**16**	1
Financial	12	21	**33**	16	5	**21**	3
Staffing	11	16	**27**	6	13	**19**	2
Academic	1	2	**3**	5	23	**28**	3
Total	**30**	**47**	**77**	**30**	**54**	**84**	**9**

This data indicates that the UK higher education system has the highest level of autonomy. The top ranking score achievable across the four dimensions is 4, while the lowest score achievable is 116 (29 x 4). There is no significant difference in the autonomy of countries classified as functional specialists (Finland and the Netherlands) compared to the countries pursuing an integrated hierarchical approach (Ireland and Norway). Despite the limitations of reviewing just five of the twenty-nine countries, this research is pointing towards unitary systems as having a higher degree of autonomy when compared to other systems.

Ireland is in a good position in terms of autonomy in comparison to the other countries, with the UK indicating the highest degree of autonomy. Ireland's best performance was in the area of academic autonomy, scoring highest across 29 countries. One manifestation of academic autonomy relates to research awards whereby IoTs have

authority to award doctorate degrees, compared to other binary systems (Finland and the Netherlands) where doctorate degrees are only awarded by universities. This autonomy analysis did not reveal any significant variation between the three higher education systems. As data isn't yet available for Australia, it was not possible to map it to the autonomy rankings in Table 6.1. Therefore, there is insufficient evidence to conclude that unitary systems are more autonomous than integrated hierarchical or functional specialist systems; particularly as Norway could also be classified as a unitary system.

6.1.3 OECD Education at a Glance

A more detailed review of the higher education system in each country, mostly relying on the "OECD Education at a Glance" report (Valle, Normandeau et al. 2015), reveals a number of interesting insights. Three of the countries, Ireland, Finland and the Netherlands, are classified as having a binary system of higher education. Research is a key differentiator within the three binary systems, with the IoTs having the highest level of autonomy in that space. However, in Ireland, IoTs lack autonomy compared to universities in relation to the academic contract. Other areas of significance are: IoTs do not receive funding to support research, while universities do; and IoTs are prevented by legislation from borrowing, unlike universities where legislation permits borrowing frameworks. In Finland there is a different governance model for UAS compared to universities. There is also a different focus on research for each institutional type, and regrettably for the UAS, their awards are accorded a lower status in society. In the Netherlands it takes one year longer to complete a degree in the UAS sector than in university and there is a different disciplinary mix of programmes offered by each institutional type.

All countries fund higher education, but to varying degrees (43% to 96%). Norway provides the highest level of support at 96% and Ireland is next at 82%. Despite the classification of a unitary higher education system in Australia and the UK, there is evidence of a hierarchical order of universities in both systems, the Group of Eight in Australia and the Russell Group in the UK. This suggests that the binary/unitary classification may be outdated and categorising higher education systems on a continuum or spectrum may be more appropriate. According to Davies (2014), there is a spectrum of positioning possibilities or models of TU and he proposes a framework that encompasses three broad positions.

1. TUs with a primary focus on education and continuous professional development for business, industry and the professions, with a predominantly regional and national role, and with appropriate applied research and development, and consultancy.
2. TUs with a strong focus on professional education, but with a formidable applied research, research and development, and knowledge exchange base.
3. TUs of acknowledged international excellence as research intensive/graduate universities with strong commercialised research and development, highly elitist continuous professional development, and which invariably score highly as leaders in global rankings.

This researcher contends that this positioning spectrum should be open to all HEIs and not limited to one institutional type. The position of an HEI on the spectrum should be linked to individual performance. While bunching of TUs would likely occur around category 2, it is likely that some traditional universities and some IoTs would occupy the same space, clearly indicating the demise of the binary divide. An interpretation of how this positioning spectrum might apply to the Irish higher education system is illustrated in Figure 6.1:

Figure 6.1: A Positioning Spectrum as it Might Apply to the Irish Higher Education System.

Reviewing the six countries through the higher education dimensions and indicators reported in the OECD Education at a Glance report (Valle, Normandeau et al. 2015), demonstrates that Ireland is performing well compared to the OECD average (Table 6.2). Ireland exceeds the OECD average in four of the five indicators relevant to higher education

Table 6.2: Benchmarking Ireland (Adapted from OECD Education at a Glance – Key Facts – 2015)

Dimensions [Indicators]		OECD average	Ireland	Norway	Finland	Netherlands	UK	Australia
Educational Access and Output								
1	Highest educational attainment level of 25-64 year-olds	2014	2014	2014	2012	2014	2014	2014
	Tertiary:	34%	41%	42%	40%	34%	42%	42%
Economic and Labour Market Outcomes								
2	Unemployment rate of 25-64 year-olds	2014	2014	2014	2012	2014	2014	2014
	Tertiary:	5.1%	6.1%	1.9%	4%	3.9%	2.5%	3.2%
3	Average earnings premium for tertiary educated 25-64 year-olds (upper secondary = 100)	2013	2013	2013	2012	2013	2013	2013
	All tertiary:	160	184	128	147	156	151	134
Financial Investment in Education								
4	Annual expenditure per student (in equivalent USD, using PPPs)	2012	2012	2012	2011	2012	2012	2012
	Tertiary (including R&R activities):	15028	14922	20016	18002	19276	24338	16859
5	Total public expenditure on primary to tertiary education	2012	2012	2012	2011	2012	2012	2012
	As a % of total public expenditure:	11.6%	14.2%	14.1%	12%	10.8%	11.9%	13.5%

Despite investing the least amount per student, the 'average earnings premium for tertiary educated 25-64 year-olds' in Ireland is both higher than the OECD average and the five other countries reviewed. This represents a good return on investment in higher education for Ireland.

This section reviewed the position of Ireland against a selected number of European and international countries. All of these countries, including Australia, have a high degree of autonomy. Five of the six countries were ranked using the EUA University Autonomy Scorecard and featured in the top half of the rankings (Figure 6.2).

Figure 6.2: Position of Five of the Countries on the EUA University Autonomy rankings

In conclusion, the lessons learned for Ireland from a review of the five selected higher education systems are:

1. Ireland enjoys a high degree of autonomy as evidenced by the EUA University Autonomy Scorecard.

2. The review of the six countries did not support the assertion in the literature in relation to three different higher education systems. The integrated hierarchical system appears to be the most dominant of the three.

3. The existence and prominence of the binary system appears to be stronger in other countries (Finland and the Netherlands) compared to Ireland. The boundaries are blurring in Ireland, likely due to the high degree of autonomy enjoyed by IoTs.

4. For reasons stated, the binary distinction no longer represents reality in Ireland and a positioning spectrum for all HEIs, as described, might be more appropriate to represent the current institutional positioning in the system.

6.2 Pillar 2: The National Higher Education System in Ireland

6.2.1 Introduction

In Ireland, the *National Strategy for Higher Education* (2011) sets out a vision for higher education to 2030. It reaffirms the importance of excellence in teaching and learning, research, and engagement between higher education and society. It also identifies the opportunities and challenges of dealing with projected growth in student numbers, which is a relatively unique position in the European context. The National Strategy recognises the central role played by Irish HEIs in the future development of Ireland and the need for new approaches to funding higher education. It also proposes more effective systems to drive performance and accountability (HEA 2013).

In order to evaluate the current status of the higher education system five years after the adoption of the National Strategy as policy in Ireland, a number of reports are considered. These include three reports from the HEA (the statutory planning and development body for higher education in Ireland) and one from Quality and Qualifications Ireland (QQI), the national agency for quality. This secondary research analysis also highlights institutional positioning in the evolving Irish higher education system. The first report on performance evaluation (Section 6.2.2) illustrates the role of the state in steering the behaviour of HEIs. No distinction is made in the Performance Agreement Template between institutional type, resulting in all HEIs benchmarked against the same objectives. This indicates that the state itself is a driver of isomorphism, a view that is shared by the IoTs and features later in the primary research. In Section 6.2.2, the report is reviewed by reference to each objective in the context of the overall higher education system. However, a comparative analysis of the performance of the two sectors is conducted in Section 6.3, where a diversity typology is explored.

6.2.2 Higher Education System Performance 2014 – 2016 (HEA 2016a).

The HEA defines itself as the funding, regulatory and steering agency for higher education in Ireland working closely with the Minister for Education and Skills in evaluating the Higher Education System Performance Framework. This description of function signals a change in how the HEA interacts with the HEIs, from a budget-driven process to a broader approach involving funding and driving performance of HEIs against objectives set out in the framework.

The most recently published report shows a higher education system that is performing well against many of the objectives in the framework, but there is also evidence of concern and risks particularly around the sustainability of this performance. The decline in public funding and the increase in student numbers are two of the main risks facing the system. The following sections briefly comment on the seven objectives that were used to evaluate the performance of the higher education system from 2014 – 2016.

6.2.2.1 Objective 1: Meeting Ireland's Human Capital Needs

It is now generally accepted that Ireland is entering a period of economic recovery having come out of a seven-year recession. The recovery is creating strong demand for graduate-level employment and the higher education system is responding well to those challenges. As indicated by the HEA (2016, p.10) the "performance of the system in meeting human capital needs is also strong by comparison with other European countries: Ireland has one of the highest rates of 30-34 year-olds with higher education attainment, and Ireland performs particularly strongly in terms of graduates with Science, Technology, Engineering and Maths (STEM) qualifications when considered against fellow EU member states.

6.2.2.2 Objective 2: Equity of Access and Student Pathways

The number and share of students from disadvantaged backgrounds and those with a disability continue to increase. However, the number of mature students aged at least 23 years of age is declining.

6.2.2.3 Objective 3: Excellence in Teaching and Learning

A new Irish Survey of Student Engagement (ISSE) provides the main source of data on teaching and learning in Ireland and is showing high levels of student satisfaction. At the system level, student retention is high, but certain disciplines, such as engineering give cause for concern.

6.2.2.4 Objective 4: Excellent Public Research System

Ireland ranked first in the EU Commission Knowledge Transfer Study in 2013, demonstrating that the research system is performing well. However, the level of investment in higher education research and development (HERD) is declining, reflecting the overall budgetary pressures facing the higher education system; with a decline in 2015 in Irish citation levels.

6.2.2.5 Objective 5: Globally Competitive and Internationally-Oriented Institutions

The number of international students Ireland attracts is increasing. The figures for 2014/15 show an increase of 7% in terms of student numbers from 2012/13. However,

Ireland's international performance is below the OECD average and considerably below high performers such as Australia and the UK.

6.2.2.6 Objective 6: Restructuring for Quality and Diversity

This is one of the most ambitious objectives of the System Performance Framework, involving institutional mergers and collaborative alliances. Ten of the fourteen IoTs have formed four individual consortia in pursuit of the objective of being redesignated as Technological Universities. Two of the consortia (Dublin and Munster) are at the final Stage 4 of the process (see Appendix 1.1 for details of the re-designation process). The two remaining consortia (the South East and the Connacht-Ulster alliance (CUA)) are progressing towards a Stage 2 submission.

Collaboration is a key policy objective for the HEA and the Government. It is approached through the establishment of clusters of HEIs and regional skills fora of enterprise and HEIs. Incentivised funding, such as the PRTLI and SIF, that was so successful in the past, is not expected to form part of the funding model in the future. Instead, the state will focus on supporting inter-institutional collaboration in response to innovation strategies devised by the HEIs. "In addition to the merger projects, work is ongoing on greater inter-institutional collaboration, through regional clusters and skills fora, in order to enhance the ability of the institutions to respond to regional needs" (HEA, 2016a, p.13). In evaluating objective 6, the HEA acknowledges that there is considerable evidence of diversity between the universities and IoTs (inter-institutional), but less evidence of diversity within the sectors (intra-institutional).

6.2.2.7 Objective 7: Accountability for Public Funding

The report notes that there is a good return on public funding invested in the higher education system at a time of austerity when it was necessary to reduce budgets. The audited accounts show a number of institutions running operational deficits; this has raised significant concerns in relation to the sustainability of a number of institutes. The HEA responded by conducting a Financial Review of the IoTs, which is discussed in the next section.

Finally, the report concludes that the introduction of the strategic dialogue process between the HEIs and the HEA, and linking this dialogue to institutional performance

and performance- based funding has been "a significant development, and the HEA will continue to use this lever for change, as appropriate, to encourage progress towards the performance objectives" (HEA, 2016a, p.13).

6.2.2.8 Summary

The Higher Education System Performance 2014 – 2016 (HEA 2016a) report provides evidence that the higher education system in Ireland is performing well against a background of financial constraints and increased student demographics. Going forward, compliance with performance objectives set by the Government will continue to be a feature of interaction between HEIs and the HEA. The impact of declining resources and increasing student numbers does not yet appear to have affected the student learning experience, based on recent responses to ISSE. Consortia are progressing towards their ambition of being redesignated as Technological Universities. There is evidence of diversity in the binary sector, which is presented in Section 6.3. The HEA proposes to use the strategic dialogue process to protect and maintain this diversity while attempting to increase intra-institutional diversity. Inter-institutional diversity between universities and IoTs is considered in more detail later in this chapter.

6.2.3 HEA Financial Review of the IoTs.

Due to concerns raised by the IoTs regarding their financial health, the HEA conducted a financial review of the sector in 2016. The review provides evidence that six of the fourteen institutes face immediate sustainability challenges, with a further four potentially at risk due to limited reserves and current or projected deficit positions. As indicated by the HEA (2016b, p.5), the change in financial performance in recent years is stark "with the sector generating an overall surplus of €40.8mn in 2008/09 yet incurring an overall deficit of €2.7mn in 2014/15." The inflexibility around staffing and pay costs remains a major barrier to financial performance, particularly as pay costs account for up to 80% of total IoT expenditure. The review illustrates that the level of capital investment is inadequate and there is an over dependency on a devolved grant (provided for temporary capital development) in order to sustain operations.

Despite the difficult operating environment since the recession of 2007/08, some institutes appear to be coping better than others by demonstrating "a greater ability to redeploy and retrain staff in growing areas; develop new market-responsive programmes; find new ways of delivering learning; diversify their revenue base; and, most of all, demonstrate a clear strategic vision and focus around future plans" (*ibid*., p.6). The review notes that differentiation of the IoT offering is key to success and recommends that innovative HEIs pursue new approaches in programme provision and supplementary income streams. Furthermore, there is a need for institutes to differentiate their offering from the university sector as well as from other IoTs, particularly as there is a concern that the discipline mix across the IoT sector is quite generic.

By 2020, it is projected that student growth will increase by a further 12%, placing additional pressure on the system. There is a demographic trend towards the East of the country in terms of opportunities. The HEA is concerned that this growth is unachievable without significant investment, combined with innovative changes to the operations model. Indeed the HEA has indicated that it is not ruling out placing a cap on student intake in order to ensure a minimum quality of provision is maintained. Finally, the review acknowledges that the positioning of the IoTs is further compounded through legislation, which prevents institutes raising loans, often referred to as the absence of a 'borrowing framework'.

In summary, this financial review illustrates the inadequacy of the current resource allocation model for the IoTs and the importance of IoTs being ready to adapt and innovate in order to survive. The review supports and encourages the concept of 'institutional diversity' in the context of programme offerings and the need for institutes to differentiate themselves from each other and from universities. Further consideration is given to diversity and isomorphism later in this chapter.

The HEA's current approach to funding HEIs consists of three components: the block grant; directed top-slice allocations; and performance-based funding. The funding of higher education is changing, with the role of, and accountability for public investment. Public investment needs to evolve as a diversified revenue base that drives institutional behaviour and performance (HEA 2017). The current approach to block grant funding via the HEA was introduced for universities in 2006 and was phased in for IoTs from 2009. The combination of a differentiated free-fees system and a recurrent grant allocation model (RGAM) driven by student numbers to provide a

block grant to each HEI ensures that Exchequer funding broadly reflects costs of provision and offers institutional autonomy in relation to spending (*ibid*., p.7). In relation to this study, the RGAM is not allocated on the basis of institutional type, but in recognition of the costs involved in offering different categories of disciplines. In this context, arguments can be proffered which support both homogenisation and diversity.

6.2.4 'Quality in an Era of Diminishing Resources: Irish Higher Education 2008-2015'

In 2016, Quality and Qualifications Ireland (QQI 2016) published an analysis of the statutory institution-led quality review reports produced by HEIs in the period 2008 – 2015. The period under review coincided with a global recession and severe austerity measures for the Irish economy. During this period, the state grant for HEIs fell by 34%. Overall funding fell by 13.5%; at a time when full-time student numbers increased by 24%. This report provides a thematic overview of the commentary evident in institution-led quality review reports on the impact of this reduction in funding to institutions, in relation to the quality of learning and teaching in the Irish higher education system over the seven-year period.

As noted by QQI (2016, p.37) evidence from the reports "points to the cumulative effects of reduced funding, reduced staff numbers, increased teaching burdens, the casualisation of staffing and promotion limitations for staff." The report also highlights the impact of reduced funding on infrastructure, materials and supports. Some academic departments have reached a 'tipping point' where their sustainability will be called into question, should this reduced funding continue. Efforts to recruit international students as a supplementary income stream are commendable, but the challenge involves competing in a global market where HEIs need to offer a well-resourced learning and teaching environment.

The Cassells Report (2016, p.4) on the future funding of higher education in Ireland, notes that "The funding system is simply not fit for purpose. It fails to recognise the current pressures facing higher education institutions or the scale of the coming demographic changes. It also fails to fully recognise the pressures on families and students, not just because of the €3,000 fee but also the high living and maintenance costs associated with studying and successfully progressing through college." The QQI report concurs with this finding and concludes by commending staff commitment

in coping with the increased pressures and efforts to protect the quality of the student learning experience. The QQI and Cassell's reports illustrate that the sustainability of HEIs is the major challenge facing HEI leaders and the priority is to secure increased investment for higher education 'to ensure quality across all disciplines and activities.'

Interestingly, QQI has come through a restructuring process as a result of merging four organisations (HETAC, FETAC, IUQB, and NQAI) in 2012. One of the key challenges facing this new organisation is building a relationship with the university sector as up until 2012 the universities had autonomy in relation to quality assurance. Conversely, QQI is delegating increased autonomy and authority to the IoT sector, recognising the maturity of that sector while attempting to treat both sectors with parity of esteem, a behaviour that could be interpreted as supporting homogenisation.

6.2.5 HEA: 'A Study of Progression in Irish Higher Education 2012/13 to 2013/14'

The successful retention and progression of students is a key policy objective for the HEA and the Irish Government. Available data (HEA 2016c) shows that 16% of new entrants to higher education in 2012/13 did not progress from year one of their studies. This figure compares favourably internationally and has remained stable since 2007/08, despite increasing student numbers and a challenging fiscal environment. Student enrolments show an increase of 14% over the last five years, reflecting an increasing demand for higher education in Ireland.

Academic achievement and prior educational attainment are key indicators in determining non-progression of students into year two of their studies in higher education. Analysis shows that there are sectoral differences between universities and IoTs in terms of student intake and their Leaving Certificate results (final second level exams). Table 6.3 shows the number of acceptances to university and IoTs (excluding DIT) and the 2014 Leaving Certificate points attained. The maximum number of points available in 2014 was 625.

Table 6.3: Student Acceptances of HE Courses in 2014: HEI Types and Points Band (HEA, 2016c)

HEI Type	600+	550-599	500-549	450-499	400-449	350-399	300-349	250-299	200-249	150-199	100-149	-100	TOTAL
IoTs (excl. DIT)	1	22	117	328	960	1836	2218	1664	881	276	51	2	8356
Universities	449	1673	3249	3832	3461	2309	729	57	1	0	0	0	15760

Table 6.3 shows that 60% of students accepting a university place have 450 points or more, compared to 5.6% for IoTs. It also shows that over 90% of students accepting an IoT programme had between 200 and 449 points, compared to 42% for the universities for the same points range. The data are presented graphically in Figure 6.3. This report also shows there are notable differences in terms of gender, age and social mix of students attending Universities and IoTs.
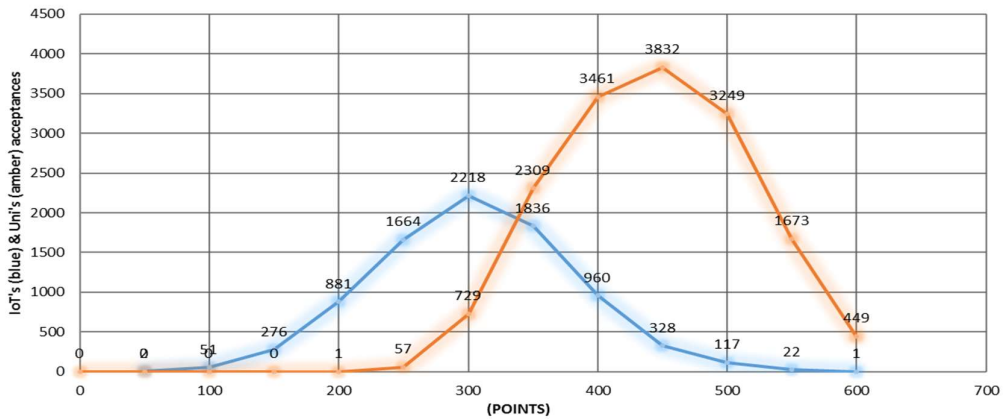
Figure 6.3: Graphical Representation of the Data from Table 6.3
(Note: IoTs: blue, Universities: orange)

Table 6.4 illustrates the non-progression rates by sector and suggests that there is a correlation between non-progression and prior educational attainment at the point of entry. The overall non-progression rate in IoTs is approximately 50% higher than universities.

Table 6.4: Non-Progression Rates by Sector and NFQ Level 2012/13 vs. 2011/12

SECTOR	Level (% of New Entrants in IoTs in 2012/13)	% Non-Progressed (2012/13)	% Non-Progressed (2011/12)
Institutes of Technology	Level 6 (14%)	26%	30%
	Level 7 (42%)	28%	29%
	Level 8 (44%)	17%	17%
	All New Entrants	23%	24%
Universities	Level 8*	11%	10%
Colleges	Level 8	6%	4%
All institutions	Level 8	12%	11%
All institutions	All New Entrants	16%	16%

* There were 3,587 new entrants at Level 8 across all sectors in 2012/13. 58% of these students are in the university sector (N=2075), 39% in the IoT sector (N=1,415) and 3% in the college sector (N=97)

Source: HEA (2016c)

In the context of this study, this HEA report illustrates that universities attract the more academically prepared students who then have a better chance of progressing and completing their studies. It further illustrates that there are clearly two distinct profiles of students entering higher education, which may have implications for student support and pedagogical approaches.

6.3 Pillar 3: Evaluating Trends towards Diversity and/or Isomorphism

6.3.1 Introduction

Methods of measuring diversity were reviewed, such as that used by Birnbaum (1983) and Simpson (1949). Simpson's indicator is often used in ecology. It gives the probability that two institutions drawn at random from the population of higher education institutions belong to the same institutional type. Birnbaum suggests several ways of measuring diversity, one of which is diversity increases as the total number of institutions are spread over a larger number of institutional types. A second method is diversity increases as clustering decreases. Both Birnbaum and Simpson use large data samples which are not available for this study. Following detailed consideration, it became obvious that it isn't possible to compute a justifiably meaningful figure akin to those produced by Simpson or Birnbaum within the limited scope of the available data. Similarly, consideration was given to using the 'coefficient of variance' but was deemed to be neither appropriate nor even possible to apply to the data available for this study.

Taking some consolation from Huisman:

> I maintain that a typology or taxonomy based on relevant variables would suffice to determine the degree of diversity and possibly the increase or decrease of diversity within a certain population of organisations or other subject. The choice of variable should be clear and the arguments for selection included.

(1995, p. 80)

A diversity typology was devised to indicate trends over a five-year period, between the university and the IoT sector. The diversity typology includes ten dimensions for analysis, nine of which data are available from published reports, mostly from the statistical unit of the HEA. While recognising the limitations of this approach and the complexity of measuring diversity, nonetheless, this empirical research makes a unique contribution to the knowledge base on diversity from an Irish higher education perspective. The ten dimensions of diversity identified are listed in Table 6.5.

Table 6.5: Ten Dimensions of Diversity

1. Evaluating Performance	2. Funding	3. Access and Participation
4. Programme Offerings	5. Teaching and Learning	6. Research
7. International	8. Regional Engagement	9. Institutional Profile
10. Strategic Planning		

Trends emanating from the ten dimensions of diversity are now discussed.

6.3.2 Evaluating Performance

Performance-based funding is the key performance indicator (KPI) reviewed for this dimension and relies on the HEA published response to individual institutions following evaluation of institutional progress against performance agreements. HEIs are assigned a classification of category 1, 2 or 3 with 3, being the weakest

performance. The HEA initiates a range of actions depending on the classification assigned to the institution. This dimension is deemed suitable to demonstrate how the state evaluates performance since the introduction of performance agreements in 2013. The evaluations are based on progress reports submitted for 2014. The distribution of institutions across the different categories is shown in Table 6.6:

Table 6.6: HEA Evaluation of HEI performance

Institutional Type	Category 1	Category 2	Category 3
University	7	-	-
Institute of Technology	6	6	2

The HEA findings conclude that for the whole sector (Universities and IoTs), there is poor evidence of benchmarking against international norms at institutional, faculty and disciplinary level. Secondly, there is a need to ensure that objectives in the performance agreements are appropriately linked to the overall institutional strategy.

Comparing IoTs with universities, it is noticeable that:

- All universities were placed in category 1, while more than half of IoTs were placed in category 2 or 3.
- A number of IoTs were said to have issues with research, while all universities were said to have performed well in this area.
- No university was noted to have any financial difficulty, while two IoTs were told to prioritise a return to financial stability. Other IoTs struggled to achieve growth in income.
- For IoTs collaborating with the objective of seeking re-designation as Technological Universities the HEA note 'the potential to add value' from this process. However, most of the institutions in this space were told to address internal issues first.

Further information is available in Appendix 4.2.1.

6.3.3 Funding

Two KPIs were used in reviewing this dimension: state expenditure on HEIs over the period 2008 to 2014; and expenditure per student in 2010/11 compared to 2012/13 (see Appendix 4.2.2). The data shows that state expenditure on HEIs was weighted more heavily toward universities, with both sectors showing a considerable drop

(30%+) from 2008 to 2014. Taking expenditure per student, universities spent 18.6% more per student in 2012/13, and while both sectors show a reduction in expenditure per student from 2010/11 to 2012/13, it was more pronounced in the IoT sector at 11.0% drop compared to a 5.6% drop for universities. Further information is available in Appendix 4.2.2.

6.3.4 Access and Participation

Three KPIs were used in the access and participation dimension, based on available data: flexible learners; mature students (those 23 years of age at the point of entry); and socio-economic groups. The data shows that IoTs have considerably more flexible learners, and that both sectors grew over the period 2010/11 to 2014/15, but growth rates were stronger in universities (15% compared to 10% for IoTs).

Over the period, the number of mature new entrants fell significantly in both sectors, with the IoT sector attracting in the region of 40% more than the university sector. Participation rates from the socio-economic groups in the Equal Access Survey remained unchanged. Further information is available in Appendix 4.2.3.

6.3.5 Programme Offerings

Two KPIs were used in this dimension: the number of programmes at each level on the National Framework of Qualifications (NFQ); and the disciplinary mix. The analysis shows there was an increase in the number of programmes available from 2010 to 2014, comprising a 12% growth in Level 6/7 programmes, which were specific to the IoTs. Level 8 Bachelor Honours degrees were available in both sectors and the numbers here show a 26% growth in the IoT sector compared to a slight reduction (-1.7%) in the number of Level 8 offerings in the university sector. Traditionally, Level 8 programmes had only been available in universities so this strong increase in growth supports the notion of 'academic drift' in the IoT sector. More detail is available in Appendix 4.2.4.

6.3.6 Teaching and Learning

Three KPIs were used in this dimension: graduates (undergraduates); new entrants; and enrolments. The total number of graduates from the overall system increased

fairly equally and illustrates the increased student demographic. However, the percentage increase of new entrants to higher education was more pronounced in the university sector at 15% compared to 3% growth for the IoTs. In terms of undergraduate enrolments, demand for L8 programmes is increasing (23% increase over the five-year period) in the IoT sector at the expense of the L7 programmes. More detail is available in Appendix 4.2.5.

6.3.7 Research

Four KPIs were used in this dimension: graduates; enrolments; research grant income; and staff qualifications. The period 2010 to 2014 witnessed a fall in graduates from Masters Research programmes and a rise in PhD graduates across both sectors. Numbers-wise, the university sector had the most Masters and PhD graduates, however the number of PhD graduates more than doubled in IoTs over the five-year period 2010 to 2014, albeit from a low base. The percentage of staff with PhD qualifications increased in both sectors but there is a noticeable difference in the percentages across the binary divide, with the universities at 80% compared to the IoTs approaching 30%. As one of the key criteria (45% of full-time, higher education, academic staff will hold a L10 qualification) necessary to achieve TU designation, this metric continues to present a challenge for the IoTs. The research grant income was a strong differentiator between the two sectors with the universities accounting for 85% of the income. More detail is available in Appendix 4.2.6.

6.3.8 International

Two KPIs were used in this dimension: EU mobility and international student numbers. The trend illustrates an increase for both universities and IoTs in relation to the number of students travelling abroad for a study period. This is an area where Ireland traditionally has a poor record. The total number for the sector remained modest at less than 2,000, with 75% of that number coming from the university sector. The number of incoming international students showed a significant increase for both sectors over the five-year period to 2016, with the IoT sector well ahead at 200% (See Appendix 4.2.7).

6.3.9 Regional Engagement

The KPI employed for the dimension of diversity was the awards per field of study. Interestingly, the IoT sector made 19% more awards in 2014 compared to 2010, while the university sector only grew by 2% for the same period. The awards per field of study show variations in trends between the sectors, but also illustrate the generic nature of programme provision in the overall sector (See Appendix 4.2.8).

6.3.10 Institutional Profile

Four KPIs were used in this dimension: total student enrolments; staff numbers; student-staff ratio; and retention. The total student enrolments increased in each sector from 2010/11 to 2014/15. During this period there was an employment embargo in place, which resulted in an increase in the student: staff ratio to 24 and 18 in the university and IoT sectors respectively. The embargo also impacted on the staff numbers, which remained relatively unchanged between 2010 and 2014. Student retention by sector remained constant over the period 2008/09 and 2013/14. More detail is available in Appendix 4.2.9.

6.3.11 Diversity Matrix

A diversity matrix, based on a formula, as described below, was devised to measure trends towards diversity or isomorphism for each of the forty-nine elements across eight of the ten dimensions. The 'evaluating performance' dimension (Section 6.3.2) was excluded as it relies on an evaluation at one point in time and therefore lacks the quantitative data for comparison over a number of years. Similarly, the tenth dimension on 'mission statements' was not included as it is dealt with separately.

The formula functions by taking the absolute value of the difference between the figures for IoTs and for universities in the first year (2010/11) as a baseline figure ($\triangle 0$) and this is set to 1. This allows comparisons to be made of the changes in the gap between the sectors on a normalised scale where $\triangle$':

>1 means a bigger gap, therefore more diverse

=1 means no change

<1 means smaller gap, therefore less diverse or more isomorphic

=0 means no diversity, IoTs and universities are the same

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The normalised scale allows for comparisons across the individual elements or the overall trend, based on the weighted average. The output from this quantitative analysis is outlined in Appendix 4.3, where an equal weighting was assigned to each of 49 elements in the matrix.

Analysis of this inter-institutional matrix illustrates that 25 of the 49 KPIs, or 51%, are less diverse or trending towards homogeneity. Conscious of the limitations of this approach, a number of the elements were deemed to be duplicative in nature, displaying a disproportionately high value, which could skew the weighted average; therefore, a decision was taken to reduce the overall number from 49 to 29. Further analysis shows that 16 of the 29 KPIs, or 55%, are less diverse, indicating homogeneity (Appendix 4.4). Reviewing the status of each dimension shows that the trend in the higher education system is towards homogeneity, but it is not convincing as there is significant evidence of diversity across a number of the dimensions explored; the overall weighted average is marginally greater than 1, pointing towards diversity. By making subjective decisions as to the value of each element in the matrix, a different weighting can be applied to each element. Further evaluation of this approach was conducted by assigning a higher value (1^{10}) to the weight of eight of the elements considered to be more of a driver towards positioning than the others (Appendix 4.5). The results show a stronger trend towards homogeneity compared to all the elements having the same weighting.

Further analysis was conducted from an intra-institutional approach for both the IoTs and the university sector. In each case, the data was modelled with equal weighting and unequal weighting assigned to the dimensions of diversity. Appendices 4.6 to 4.9 show the output of this analysis, which are summarised in Table 6.7.

Table 6.7: Weighted Average Results from Analysis of Diversity Matrix

Evaluation	Weighting	Weighted Average
Inter-Institutional	Equal	1.09
Inter-Institutional	Unequal	0.91
Intra-Institutional (IoT)	Equal	1.12
Intra-Institutional (IoT)	Unequal	1.08
Intra-Institutional (University)	Equal	1.02
Intra-Institutional (University)	Unequal	0.99

In conclusion, this tool designed to analyse trends towards diversity or isomorphism points towards isomorphism in the higher education system, based on identifying the elements of the matrix that influence positioning. The limitations of this approach are acknowledged and lie in the subjective nature of the decision-making in terms of deciding which elements to assign a higher weighting and in the arbitrary nature of the weights applied. The three evaluations considered, between and within the sectors of the binary divide, show a decrease in diversity when the dimensions which are likely to be more influential are given a higher weighting.

6.3.12 Mission statements

Primary research was undertaken to determine if diversity and differentiation of mission may be evidenced within and between the different institutional types in Ireland, focusing specifically on Universities and IoTs. All twenty-one HEIs in the system were analysed. The research addresses a gap in the literature in relation to the lack of information "available on the actual diversity of institutional missions and profiles in the various national higher education systems in Europe other than that provided in a formal, often legal sense" (van Vught 2009, p.19). Strike and Labbe (2016) analysed similarity and diversity between institutions, demonstrated in divergent institutional approaches to writing found in Strategic Plans. They found that analysing the language and narratives in Strategic Plans provides a meaningful approach to compare institutions. The research for this study consisted of:

1. A survey of the missions of Universities and IoTs, conducted with middle and senior managers in the researcher's institution,
2. A documentary analysis of the strategic plans of Universities and IoTs.

6.3.12.1 Research Methods Employed

The mission of each institution was captured from the strategic plans and anonymised to remove any reference that identified the institution. The mission statements of IoTs and Universities were laid out in a mixed-up manner throughout the survey document (Appendix 4.10). A covering letter provided context for the survey and explained how it should be completed. For each mission statement, participants were required to indicate whether they considered it to be a university or an IoT mission. Participants were further asked to indicate how easy they found the task of making the choice for

each mission statement; a Likert scale of 1-5 was used ranging from 1 (very easy) to 5 (very difficult).

The strategic plan of each institution was analysed to identify themes in order to establish if there were differences in the focus of an IoT compared to a university. The particular focus of each theme was not subsequently analysed and this may be regarded as a limitation of the research.

6.3.12.2 Research Findings

Based on the finding that both target groups correctly identified each institutional type, this survey concluded that there is diversity in the higher education system. The average percentage of correct responses for the middle managers was 73%, with the senior managers scoring 74%. The accuracy of identifying each institution as either a university or IoT is shown in Table 6.8:

Table 6.8: Percentage of Correct Responses for Each Institution

Institution:	1	2	3	4	5	6	7	8	9	10	11
% Yes responses	75	75	50	80	85	85	85	15	35	85	45
Institution:	12	13	14	15	16	17	18	19	20	21	
% Yes responses	70	95	65	95	85	80	85	95	90	70	

It is notable that Institution No. 8, which is an IoT, was identified by a majority (85%) as having a university mission, and Institution No. 9, which is a university, was identified by a majority (65%) as having an IoT mission, indicating that there is a degree of homogeneity in the system. Analysis of the degree of accuracy per institutional type indicates that IoT mission statements are easier to classify than university mission statements. Analysis of the participants' ease of classification demonstrates the degree to which participants were convinced that some mission statements were more aligned with the other institutional type.

The strategic plan analysis identified twenty-three themes in total, five of which were common across both sectors (Appendix 4.11). Research, Development and Innovation (RDI) was the most commonly rated theme, which is to be expected in universities, but highlights a shift in institutional positioning for the IoTs. Overall, the strategic plan analysis shows there is more convergence than divergence in strategic focus across both sectors.

6.3.13 Summary

This primary research was undertaken to determine if evidence could be found of differentiation of mission between universities and IoTs. The research methods and findings were described in detail. It was found that the mission statements were, in the main, decisive in supporting the argument that differentiation of mission exists between universities and IoTs. By contrast, it was found that the strategic focus of the institutions does not support the argument that differentiation of mission exists and points more towards homogenisation than differentiation. This strand focused on just two institutional types, the two main institutional types in the country, the education colleges were not included in this study.

6.4 Chapter Summary

This chapter concentrated on three pillars of documentary analysis with the rationale of:

- Providing an evidence base to support the research questions
- Supplementing the main research method of semi-structured interviews,
- Allowing for cross-triangulation between the primary and secondary data.

Pillar 1: involved reviewing six countries to benchmark the positioning of Ireland using the EUA University Autonomy Scorecard and the OECD 2015 review Education at a Glance. The analysis found that:

1. Ireland is in the top quartile in relation to university autonomy, with the UK scoring the highest of the five countries reviewed.
2. Higher education demonstrates a good return on investment for the Irish state in comparison with other OECD countries.
3. The 'Binary' divide as a method of classifying higher education systems is out-dated and was deemed non-representative of institutional positioning within systems.
4. The evidence, for the countries selected, does not support classifying higher education systems as unitary. Integrated hierarchical classification is more representative of the current higher education landscape and evidence supports the retention of the functional specialist classification.

Pillar 2: This section focused on the Irish higher education system, and looked at through the lens of recently published national reports, the analysis found that:

5. The two greatest risks facing the HE system are (i) a decline in public funding and (ii) the increase in student numbers.
6. The inflexibility around staffing and pay costs forms a key barrier to financial performance.
7. IoTs are constrained by the absence of a borrowing framework.
8. Diversity exists between, but not within, the two sectors of the universities and the IoTs.
9. Differentiation of programme offerings is key to success and it is necessary that the IoTs differentiate their offerings from each other and from the universities.
10. The HEA plans to continue to use Performance Agreements to drive strategic change.
11. Some institutes are adapting to the new environment of austerity better than others.
12. HEIs are not in a position to compete for international students, despite the necessity of pursuing supplementary income streams.
13. The profile of student entering IoTs and universities is different, particularly in relation to prior academic performance.

Pillar 3: This section considered quantitative data from published sources to determine if there were trends in the higher education system towards diversity and/or isomorphism. A framework consisting of ten dimensions of diversity was designed based on available data. Eight of the dimensions were used as part of a diversity matrix, the ninth relied on a single data-set, while the tenth dimension relied on independent research conducted by the researcher. The findings for this section indicate that:

14. The HEA evaluation of IoTs is more negative than universities, particularly in the area of funding and research.
15. Despite collaboration being a national strategic objective, the HEA focuses on internal issues in the first instance.

16. A diversity matrix tool was used to conduct both inter- and intra-institutional diversity analysis. Based on six assessments, it found that the higher education system is trending towards homogeneity, which is indicative of isomorphism.

17. Analysis of the mission statements for the whole sector found that missions were easily identifiable by institutional type, indicating system diversity.

18. A review of strategic plans illustrates homogeneity across the system, with five themes common to both sectors: learning and teaching; research, development and innovation; regional engagement; the student experience; and staff support.

These eighteen findings are considered in relation to the research questions formulated for this study in the final chapter of this thesis.

Chapter 7 Conclusions and Recommendations considers the qualitative findings, combined with findings from the documentary analysis, in answer to the four research questions formulated for this study.

EXAMINING SHIFTS IN INSTITUTIONAL POSITIONING IN THE
EVOLVING IRISH HIGHER EDUCATION SYSTEM

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

Chapter 7: Conclusion and Recommendations

Chapter 5 presented qualitative data analysis and findings under four key themes: higher education strategy; the role of the state; mission, and ambition (see Figure 4.2). Chapter 6 presented the documentary analysis and findings within a framework consisting of three pillars: selected international higher education systems; the Irish higher education system; and dimensions of Institutional diversity relevant to the Irish context (see figure 4.3). This chapter draws on a synthesis of these quantitative and qualitative findings in order to answer the four research questions formulated for this study.

Section 7.1 discusses the findings in the context of the research questions followed by recommendations arising from these findings (Section 7.2). Sections 7.3 – 7.5 provide a conclusion to the study, focussing on the relevance and contribution to academic knowledge resulting from the research. The limitations of the study are discussed and how these could be addressed should the research be further developed in the future.

7.1 Response to Research Questions

The aim of this study was to examine the influence of isomorphism and/or diversity on institutional positioning in the evolving higher education system in Ireland, with a priority focus on the IoT sector over the university sector. Four main questions were addressed, namely:

1. Is there evidence of institutional isomorphism and/or institutional diversity in the process of and drivers to restructuring the higher education system in Ireland?

2. What is the likely impact on institutional positioning of introducing a new entity such as a Technological University; for instance, how might the likely profile, mission and strategic intent of this entity compare with Institutes of Technology and traditional universities?

3. What lessons may Ireland learn from a review of the restructuring and institutional positioning of selected higher education systems in the international arena?

4. What are potential consequences of institutional isomorphism and/or institutional diversity, specifically in relation to: (i) institutional identity; (ii) the role of the state; (iii) leadership; (iv) institutional autonomy; (v) public accountability; (vi) engagement of agencies and stakeholders; and (vii) internal actors / professional networks?

The findings are discussed by identifying those that are drivers of homogeneity or diversity and those that relate to organisational processes of homogeneity or diversity.

7.1.1 Response to Research Question 1

Is there evidence of institutional isomorphism and/or institutional diversity in the process of and drivers to restructuring the higher education system in Ireland?

7.1.1.1 Isomorphism

The drivers of isomorphism identified in the literature are: legitimacy, resources, the comprehensive nature of the institution, and the agility to respond to environmental changes (one example being the market). Increased external pressure was identified by the study participants as leading to an homogenising effect on HEIs, despite the state having a desire for a more diverse higher education system.

The research findings support the assertion that there is evidence of isomorphism in the higher education system in Ireland, both in the IoT and university sectors. The two main drivers of isomorphism identified in this study are the state and HEIs. The state has a controlling influence over the institutions and this is felt more acutely by the IoTs than the universities. *The National Strategy for Higher Education* is and has been the main environmental influence since its launch in 2011, followed closely by the HEA document *Towards a Future Higher Education Landscape* in 2012. While institutional ambition to become universities from within the IoTs goes back a number of decades, this study focused on the apparent scaling up of that ambition since the launch of the National Strategy. This surge is evident as ten of the fourteen IoTs have formed consortia with the ambition to become Technological Universities as allowed for in the National Strategy.

The state may be steering the system towards homogeneity as an unintended consequence of its policy objective of protecting the diversity of the system. Homogeneity normally leads to isomorphism. Isomorphism is not confined to IoTs and their ambition to become universities, as universities also engage in isomorphic activity in relation to research and international rankings. Of particular note is the use of Performance Agreements (PAs) by the state to achieve national priority objectives. Performance Agreements are considered by the HEIs as a controlling instrument, signifying a lack of trust by the state in HEIs. The state acknowledges that there is a lack of trust, yet plans to continue with PAs; it disagrees with the isomorphic influence of PAs, arguing that HEIs have autonomy to engage individually with the PA objectives according to institutional mission, ambition and strategy.

Isomorphic behaviour is also evident in how the state controls its resources. The impact of the global recession from 2008 affected Ireland heavily and resulted in austerity measures being imposed on higher education for a sustained period. HEIs are responding by attempting to source supplementary income streams, such as internationalisation. Compared to the universities, IoTs are at a competitive disadvantage in the international market, possibly due to their branding and identity, but also due to the resources required to support international activity. Another way IoTs are responding to the resource challenge is by developing new Level 8 degree programmes, traditionally the preserve of the universities. It should also be noted that the funding model ultimately drives this isomorphic behaviour, where the unit of resource allocation is student numbers. The funding model has a negative impact on IoT behaviour, as it provides insufficient allocation to support the STEM disciplines; as a result, IoTs are beginning to move away from STEM disciplines in favour of less resource intensive disciplines, such as Business and the Humanities, typically offered by universities. Consequently the impact the funding model has on programme development is a likely contributor to mission drift. Both the IoTs and universities have engaged in mission drift, and what is now emerging is a convergence of missions towards the centre. Thus, competition for students is resulting in greater homogeneity of the sector as programme offerings are broadly similar to each other.

Weak IoT leadership was deemed by the participants as contributing to isomorphic behaviour in pursuit of university status. The negative view some participants held of leadership is not at variance with the literature on leadership as articulated by Bryman: "while leaders may be managers of meaning, they are not controllers of meaning, and a great deal can depend upon how their activities are perceived." (2007,

p.14). The participants acknowledged difficulties for leadership in times of austerity, with sustainability cited as a top priority given a reduction in public funding and an increase in student numbers. The study also finds that it takes strong leadership to steer a diverse mission in HEIs.

Linked to leadership is the concept of autonomy, which is contested by the HEIs, particularly the challenge of operating in a constrained leadership environment. This study points to problems in this area, which may impact on institutional positioning. Despite the existence of leadership concerns, there appears to be a sense of entitlement to TU status based on the premise held by the IoTs that their current level of activity and performance is at university standard. This assumption and confidence is a likely driver of isomorphism in the HEI sector in Ireland. Leadership is not just the responsibility of HEI Presidents; the state equally has a responsibility to provide leadership. This study finds that both the HEA and the DES did not provide leadership in steering the higher education system in response to the National Strategy.

The role of the state is one of the four dominant thematic areas identified in the data analysis process. The higher education system in Ireland is in a period of uncertainty due to the lack of clarity regarding the implementation of the National Strategy on Higher Education, the absence of legislation to support the establishment of TUs, and the impact of the recession on institutional autonomy. The literature indicates that uncertainty leads to imitation, but imitation generates legitimacy. Therefore, in an uncertain environment the search for legitimacy likely leads to isomorphic behaviour as identified by DiMaggio and Powell.

While the state has a focus on the utilitarian value of higher education, this should not present a challenge to the IoT sector due to its ethos and mission. Interestingly, there is evidence of isomorphism resulting from state influence with regard to the universities imitating professional-type programmes, which are normally offered by the IoTs, due to their market appeal.

In arriving at this study's findings in relation to isomorphism, the qualitative data from the in-depth interviews are supported by the findings from the quantitative analysis conducted by compiling a diversity matrix, which shows that the system is moving (albeit marginally) towards homogeneity, which is indicative of isomorphism. This trend toward homogeneity may be also evidenced in the review of strategic plans of

all the HEIs in the system. The key findings of this study in relation to isomorphism are now illustrated in Figure 7.1.
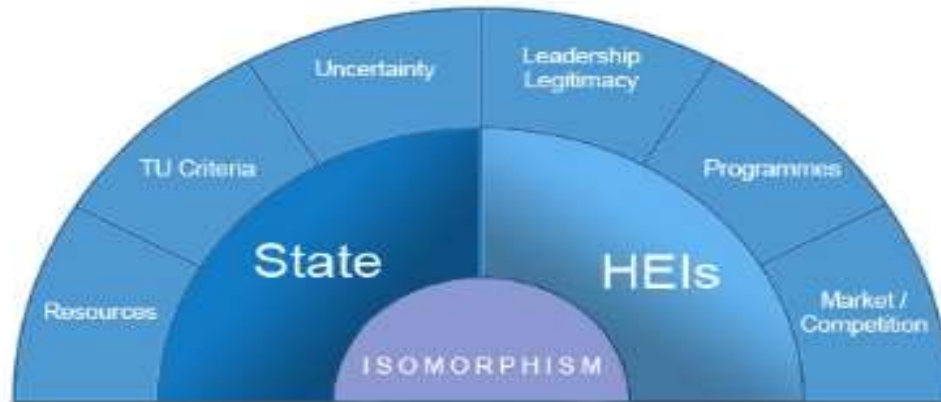
Figure 7.1: Drivers of Isomorphism in the Irish Higher Education System

7.1.1.2 Diversity

This study finds that there is evidence of diversity in the evolving higher education system in Ireland, but it is not as strong as the evidence supporting isomorphism. The literature suggests that in order to be effective in coping with mass access a differentiated higher education system is necessary. Restructuring is a normal governmental response to increasing austerity, usually manifested in sector diversification, mergers, and greater use of technology. In Ireland, the government has set protection of diversity in the higher education system as policy; however, this study finds that that is not how institutional leaders view the actions of the state. Nevertheless, this section discusses evidence of diversity as a driver of institutional positioning.

The state is a key player in support of diversity and is determined that TUs will only be created when consortia demonstrate they have achieved the criteria required for re-designation. This change in approach is likely to protect the diversity of the system and to prevent a relabelling exercise as had been the case when IoTs were rebranded from RTCs. However, the state has not always been effective in implementing its own policies; it has been accused of poor communication and of lacking in terms of an implementation plan for the National Strategy. As an example, the DES did not envisage that four consortia would make applications for TU designation, expecting instead that there would be no more than two TUs created. Indeed, the commitment

of the state is questionable as reflected in the poor progress made in drafting and getting new legislation approved to enable the establishment of TUs and to take on board the concerns raised by HEIs in relation to the merger process.

It is still not clear what the intention of the state is in relation to the future configuration and as such, diversity, of the higher education system: should it be a hierarchical ternary system or a system consisting of a range of institutional types across a spectrum? This lack of clarity resulted in four IoTs deciding to remain as autonomous institutions.

Additionally, the DES informed IOTI that it would not engage with two representative bodies dealing with IoTs and TUs; in response, IOTI restructured and reformed itself into the Technological Higher Education Association (THEA). This new version of IOTI has responsibility for the whole technological sector going forward. This suggests that the DES envisages that the binary divide will remain, consisting of IoTs and TUs on one side and universities on the other, or involving some such configuration. However, this study finds that the binary divide as a method of classifying higher education systems is out-dated and is deemed non-representative of institutional positioning within systems.

Research is a key dimension of institutional differentiation and this study finds that IoTs have a role to play in Mode II research, otherwise known as applied research, linked to the third mission. This study also highlights that IoTs are not in a position to engage in Mode I or blue skies research. In other jurisdictions, research is a key differentiator between the university and non-university sectors; one would expect the same to apply in Ireland, except that universities are now engaging in Mode II type research.

The fact that the National Strategy impacts upon the IoT sector more than on the university sector is also evidence of diversity. Nonetheless, the universities are keeping a watchful eye over proceedings, most likely to protect their own status and identity and thereby ensuring if new universities are created, that a diversified system will continue to exist. This research finds that the universities had a significant influence in shaping the TU criteria. Indeed, in hindsight, the universities questioned whether it had been appropriate on their part to get involved to the extent that they did. The universities also resisted government proposals to create new universities under Section 9 of the Universities Act, forcing the government to draft new legislation

for these alternative universities. The key motivator identified for universities getting involved relates to funding and the likely impact of TUs on their funding model. While these actions support the notion of a diversified higher education system, it is concerning that the government is not in control. Also of concern is the lack of influence exercised by the IoT sector on developments that directly influence its future.

Industry and enterprise is supportive of a diversified higher education system and wishes to see IoTs remain. There is a sense of concern from industry that IoTs are drifting from their original mission, evident in the shift from Ordinary Level 7 Degrees to Honours Level 8 Degrees. Industry is aware of the distinction between the degree levels and holds that Ordinary Level 7 Degree graduates meet some of its needs in the area of technical and professional skills.

The HEA reported that diversity exists between but not within the two sectors (HEA 2016b). This finding concurs with primary research conducted for the present study on mission statements for the whole sector, which found that missions were easily identifiable by institutional type. Diversity is also evident in the student profile attending each institutional type, which raises concerns about how the more practically oriented student will survive in a TU environment, should IoTs cease to exist. The HEA report concluded that differentiation of programme offerings is key to success; it is necessary that the IoTs differentiate their offerings from each other and from the universities. It is noteworthy that the universities did not receive a similar recommendation, signifying their relative autonomy when compared with IoTs.

Finally, the funding model is a key differentiator between the IoTs and the universities. How the different disciplinary areas, such as STEM, are funded is driving institutional behaviour, probably more towards isomorphism than diversity. IoTs are not funded to engage in research and the most significant differentiation between the sectors is the absence of a borrowing framework for the IoTs. This makes the IoT sector fully reliant on the state to fund capital development, which is necessary for growth and places the IoTs at a disadvantage when compared to the universities building model.

Recognising that there are both isomorphic and diversity drivers influencing institutional positioning, Figure 7.2 brings all of the drivers together in a graphical response to Research Question 1.
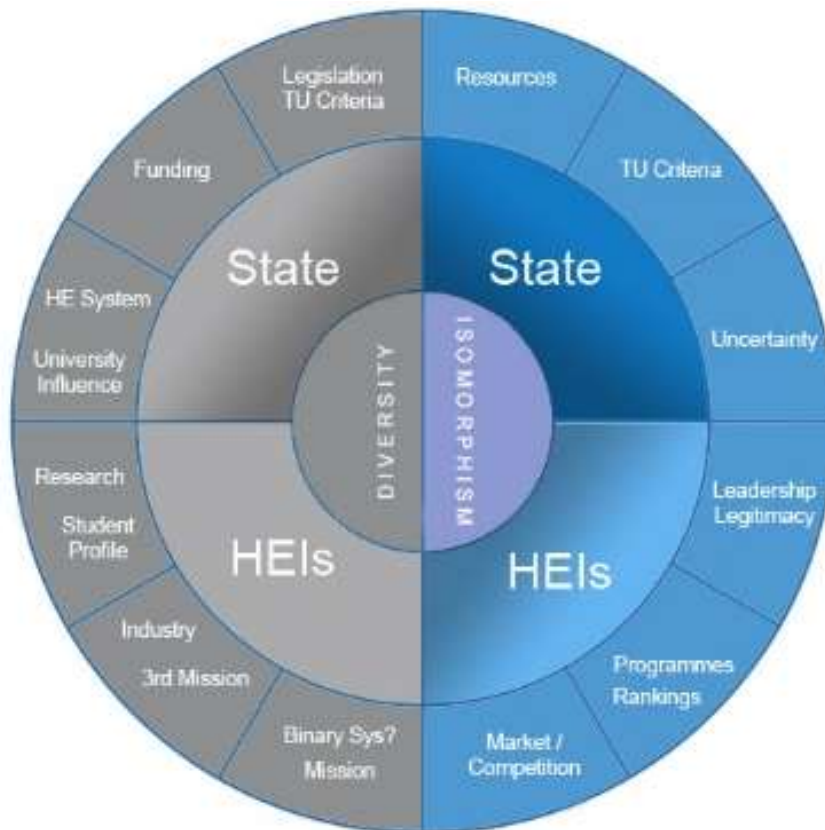
Figure 7.2: Drivers of Isomorphism and Diversity in the Irish Higher Education System

7.1.2 Response to Research Question 2

> What is the likely impact on institutional positioning of introducing a new entity such as a Technological University, for instance, how might the likely profile, mission and strategic intent of this entity compare with Institutes of Technology and traditional universities?

This study identified six potentially significant impacts of introducing Technological Universities (TU) into the higher education system. The first impact is the projected demise of the binary system. If IoTs remain in their current form it is likely that Ireland will have a ternary system, while if all IoTs become TUs, then it is likely Ireland will have a comprehensive or unitary system. The evaluation of the performance of IoTs varies, with the state being highly critical and the IoTs themselves being quite proud of their achievements under what they describe as 'constrained leadership'. Interestingly, the participants did not regard the demise of the binary system as an indicator of greater homogenisation. Instead, the varying profiles of IoTs and of the universities suggest that it is more appropriate to place all HEIs along a spectrum of

institutional types. This is something to consider for future research in this area. The impact on the traditional universities as the second half of the binary divide is likely to be multi-faceted. The funding model for TUs is expected to mirror the funding model for the universities, thereby placing additional pressure on the university funding model, potentially resulting in reduced allocations. Traditional universities are likely to face increased competition as TUs are as likely as IoTs to imitate the behaviour of universities until they achieve the same status. Competition is also likely in the research area, knowledge exchange and engagement with industry due to the centralist position already adopted by universities in this area.

A second significant impact of the establishment of TUs is likely to be their status, which will depend on the mission they adopt and how they are funded. A basic mission is proposed by the HEA and consortia embracing such a mission are probably not ready for TU re-designation. This research finds that TUs need to demonstrate ambition for innovation; they must be different to both the IoTs and the universities. They need to resist the temptation to imitate the mission of traditional universities and chart their own unique and distinct future. There is widespread agreement that TUs need to be more engaged with applied research and the third mission, the implication being that remaining IoTs will have a lesser role in this space. This research finds that TUs should have the autonomy to devise their own mission adapted to their local circumstances and regional remit. The broad parameters of a TU mission should include:

a. A focus on innovation
b. Close to enterprise (third mission)
c. Strong emphasis on applied research and professional development
d. A distinctive regional focus
e. Offering programmes from L6 – L10 on the NFQ.

The current funding model is described as not fit-for-purpose by the existing HEIs. How the existing or new funding model will support TUs is described by the study participants as the 'elephant in the room'. The draft legislation would allow TUs to engage in a borrowing framework similar to the universities, but the real challenge relates to how research will be funded, an area of keen interest to the traditional universities, considering that the sector as a whole does not have a strong research profile. Regrettably, the government is silent on the funding model for TUs, despite having initiated a review of the current funding model. This silence is an example of

how the government fails to engage with the sector and, in this instance, it is adding to the lack of trust IoTs have of government intentions. Government silence on key issues, such as the funding model, is likely a contributing factor to the slow progress consortia are making in the re-designation process.

A fourth significant impact of the emergence of TUs is likely to be their pedagogical approach. IoTs are renowned for their applied approach to teaching and learning and the supports they provide to students of lesser academic ability but greater applied ability. It is anticipated that such students would find it difficult to survive in traditional universities and the fear exists that a similar ethos and culture will prevail in TUs to that which exists in the traditional universities. This could lead to a decrease in retention rates and a call from the government for the creation of an institutional type to cater for the specific needs of this student cohort, as occurred in the UK government (Else 2017). The proposal suggested a complete overhaul of technical education as part of a new industrial strategy: "A £170 million series of prestigious "Institutes of Technology" are to be developed to offer a "credible alternative" to the academic route of university for young people, the UK government has announced." (Else 2017). Of course, the argument is frequently made that with 58% of the student body progressing to higher education in Ireland, universal access may not be the best option, as not all students are suited to higher education and the benefits of further education and apprenticeships should be given greater attention.

A fifth significant impact of establishing TUs is the need for a new human resources (HR) framework to support the new model TU. The limitations of the current academic staff contract in the IoTs are well documented and, similar to the funding model, it is not deemed fit-for-purpose. Unfortunately, the government is also silent on plans to address this issue.

The sixth significant impact of establishing TUs is the predicted change in the market. It is likely that students who historically attended IoTs will be drawn to TUs; as all HEIs are competing for the same students it is likely that IoTs will lose out, which will further negatively impact on their sustainability. The six key areas that potentially will be impacted by the creation of TUs is illustrated in Figure 7.3:
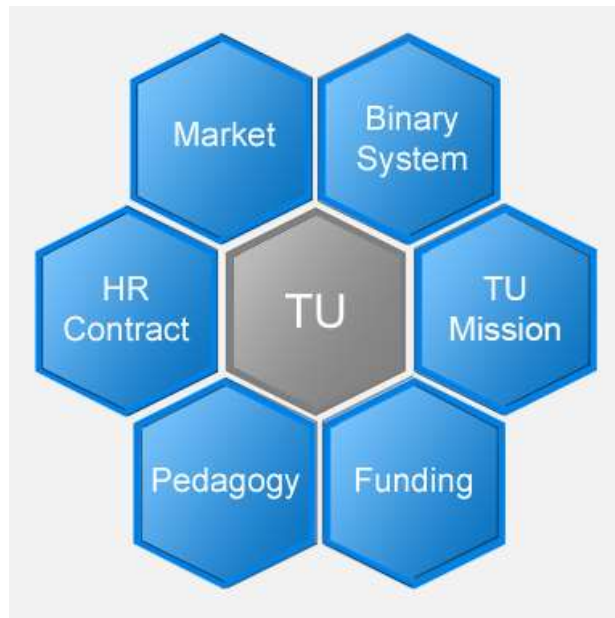
Figure 7.3: Impact of Creating Technological Universities on Institutional Positioning

7.1.3 Response to Research Question 3

What lessons may Ireland learn from a review of the restructuring and institutional positioning of selected higher education systems in the international arena?

Looking at other relevant higher education systems internationally it is possible to identify elements that constitute a vision for a TU. Strathclyde University provides a clear example of both vision and mission.

> *Vision*: A leading international technological university, inspired by its founding mission, that makes a positive difference to the lives of its students, to society and to the world.

> *Mission*: From our foundation as a 'place of useful learning', we take it as our responsibility to research, teach and be of benefit to society – to reach outside the University to make the world better educated, prosperous, healthy, fair and secure.

As is evident this vision and mission affirms the applied nature of learning and research without constraining the disciplinary profile.

TUs are expected to operate in a global context, while maintaining perspectives on national and local priorities in the so-called 'glonacal' environment. TUs, similar to all HEIs are required to be sustainable from a financial perspective, in terms of student

recruitment, quality of programmes, professional development of staff and support for learning and research. A trend towards isomorphism is evident in the binary higher education systems reviewed in this study, namely, the Netherlands and Finland. Similar to Ireland, the state is taking more control to protect diversity in the higher education system in attempts to reduce homogeneity. Performance agreements are evident in other countries, not with the objective of doing things better as appears to be the case in Ireland, but with the objective of doing different things, recognising that performance is already at a high standard.

From an Irish perspective the creation of TUs offers the opportunity for innovation and synergies unattainable by current IoTs due to limitations of size, scale, capacity, culture, ambition and autonomy. HEIs in Ireland enjoy a high degree of autonomy compared to other countries; this is something the HEIs contest. Having the critical mass as a TU will provide the capacity to cope with the stresses of environmental challenges, allow enhanced regional engagement and the opportunity for strategic institutional positioning as in providing a new trajectory in the life-cycle of the organisation. However, ensuring IoT leadership appreciates, embraces and pursues these opportunities is a particular challenge for the sector.

The opportunities arising from re-designation as a TU are evident from the establishment of the World Technology Universities Network (WTUN) in 2017. One of the consortia in Ireland, the CUA, is a founding member of the WTUN. Membership opportunities relate to technological research and how the application of technology should be exploited to solve global problems. This network, consisting of a diverse range of international technological universities, business leaders and representatives of government and non-governmental organisations, is an example of Technology University – business collaboration to address 21st century problems. It provides the opportunity to share ideas on the application of emerging technologies, facilitate global student exchanges, collaborate on research funding applications, engage in joint teaching and research programmes, and identify technological capacity and funding streams not currently available to the network members. It provides additionality and enhancement opportunities to future merged institutions in Ireland (TUs) not available to IoTs.

The lessons for Ireland from a review of the restructuring and institutional positioning of selected higher education systems in the international arena may be summarised as:

- Isomorphic trends and state intervention to protect diversity are not unique to the Irish higher education system.
- It is possible for the applied nature of learning and research to underpin the vision and mission of a TU.
- Identity can be retained following the re-designation process.
- The benefits of merging are not getting due consideration in Ireland, possibly due to the manner in which the legislation is currently drafted whereby a merger of IoTs is required prior to making an application for TU designation.
- The impact on existing universities of the establishment of new institutions is mostly concerned with funding.
- HEIs in Ireland enjoy a high degree of autonomy compared with other countries.

The lessons for Ireland following a review of international higher education systems are summarised in Figure 7.4.
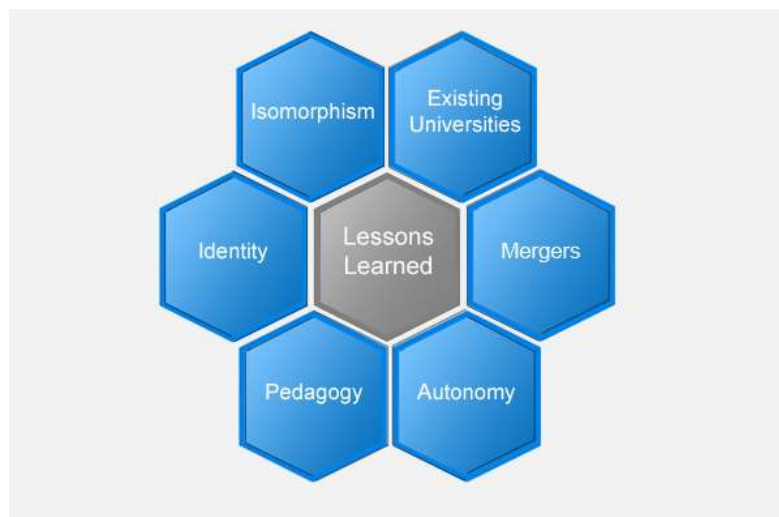
Figure 7.4: Lessons for Ireland from International Experience

7.1.4 Response to Research Question 4

What are potential consequences of institutional isomorphism and/or institutional diversity, specifically in relation to: (i) institutional identity; (ii) the role of the state; (iii) leadership; (iv) institutional autonomy; (v) public accountability; (vi) engagement of agencies and stakeholders; and (vii) internal actors / professional networks?

Seven potential consequences of institutional isomorphism and/or institutional diversity have been identified by this study and are now discussed in more detail.

7.1.4.1 Identity

IoTs do not fully realise the important role they play in the higher education environment and the void that is likely to exist in their absence. The identity of the IoT brand has the potential to be damaged due to the willingness to abandon the IoT image in pursuit of a perceived more highly valued status, with the sole objective of getting 'university' into their title. Some participants argued that the IoT brand was damaged from its inception through the lack of a transition process. The participants, in fact, were not aware that there had been an institutional review process for transitioning from the RTC brand to the IoT brand. If the incentive of re-designation had not been included in the National Strategy for Higher Education, it is highly probable that IoTs would have been content with their status, with the exception of possibly two institutes that would likely have pursued traditional university status under Section 9 of the Universities Act. This fact, more than others, indicates the degree of turmoil the National Strategy has created and suggests that the degree of isomorphic behaviour evident from the IoTs may be more intentional than organic. Should IoTs not be successful in attaining TU status, there is a serious reputational risk associated with remaining with an identity that is deemed to be inadequate. Even when TUs come into existence, this study finds that the isomorphic intent will continue until TUs succeed in getting the word 'Technological' dropped from the title.

7.1.4.2 The Role of the State

As one participant commented, the state has "not covered itself in glory" in its attempt to implement the National Strategy. Its stated position is to protect the diversity of the system, yet its actions are resulting in isomorphic behaviour. The intent of the HEA is not clear and questions abound from the participants in relation to its ability to provide strategic direction to the whole sector; a role it assumed when threatened with extinction. The state should be more active in preventing mission creep and protecting the diversity of the system.

7.1.4.3 Leadership

This study finds that the IoT leadership is responsible for the status and identity of the sector. The fact that the IoT status and core identity is held in such poor regard is a reflection of the leadership itself. Further research is required to determine if this poor perception of status and identity is shared by IoT staff. The uncertain higher education environment that currently exists was predictable and the IoT sector could have been steered in a different direction, for example, the option of moving towards the National Technological University; the influence of the university sector on the development of the criteria has already been noted. The literature points towards isomorphism as an outcome of uncertainty that results in legitimacy. This study finds evidence of that approach in the IoT sector, and to a lesser extent in the university sector.

7.1.4.4 Institutional Autonomy

Institutes have more autonomy than they realise, but are not capitalising on it. While some participants argue the notion that autonomy is a 'myth' in times of austerity, Ireland fares better than most OECD countries on the EUA Autonomy Scorecard. The relationship between the state and HEIs strongly influences the notion of autonomy, with the state continuing to exercise a strong controlling influence. Strong leadership is required in order for institutes to carve out a diverse and relevant mission. If institutes are to have increased autonomy in the future, there will be a requirement for a new HR framework and reduced reliance on public funding.

7.1.4.5 Public accountability

The state has shifted its view on the importance of higher education due to massification, or in Ireland's situation, universal access. The state now requires higher education, universities and IoTs, to support economic recovery, thereby putting pressure on universities in particular to focus on graduate employability. This coercive approach to mission drift results in isomorphic behaviour and a convergence towards the centre in relation to mission and programme offerings. With HEIs receiving approximately 80% of funding from the state, they are compelled to demonstrate public accountability. This study finds that higher education provides a good return on investment for the state compared with other OECD countries. However, the key barrier to financial performance is the inflexibility around staffing and pay.

7.1.4.6 Engagement of agencies and stakeholders

Industry and enterprise are supportive of the retention of IoTs recognising that there is diversity in the system. The merits of rationalisation of the sector are seen by industry as having fewer institutions to engage with. The key stakeholder at the centre of higher education is of course the student and there is a strong view amongst the participants that graduates from a technological institution deserve a university award. The award is for life, it cannot be upgraded, so it behoves the sector, once it forms the view that it is operating at the standard of a university, to pursue that status. This viewpoint highlights the extent to which isomorphism is embedded in the IoT sector where comparisons are made with the university sector and it fails to recognise the intrinsic and inherent value of an IoT award.

7.1.4.7 Internal actors / professional networks

The power of internal actors should not be underestimated. Ireland operates in a highly unionised environment and that is likely to continue in TUs when they are created. The influence of the unions, through non-engagement with the TU process, has brought progress to a halt in virtually all four consortia. This non-engagement is attributable to a lack of communication and consultation by institute management, demonstrating further evidence of leadership difficulties in the sector. The potential consequences of isomorphism and diversity on the seven areas discussed above relating to Research Question 4 are summarised in Figure 7.5

Figure 7.5: Potential Consequences of Isomorphism and Diversity

7.2 Recommendations

The recommendations are designed to inform policy development and provide a framework for steering the restructuring of the higher education system on a more positive trajectory going forward. The recommendations should be of interest to government, policy analysts and advisors, scholars, and institutional leaders. This study has identified the State (HEA, DES and politicians) and HEIs as the key drivers of isomorphism and diversity in the Irish higher education system and consequently recommendations are addressed to the State and HEIs as appropriate. A reference to the findings from Chapter 6 supporting the recommendations is included in brackets at the end of each recommendation.

7.2.1 Recommendations for the State

1. This study recognises that the state has a role to play in steering a more diverse higher education system. In that context the state should reiterate its policy focus in relation to the National Strategy and make explicit whether its focus is on rationalising the IoT sector or creating TUs. This would help to remove confusion and uncertainty, evident in the system and the cause of mimetic isomorphism. [Finding No. 7, 35, 38, 66, 68 and 76].

2. The slow pace of progress in the achievement of a more diverse higher education system through the creation of TUs is mostly attributable to a lack of trust of the state by HEI consortia; the absence of enabling legislation to establish TUs is contributing to this situation. How the legislation is currently drafted, wherein it states that two or more institutes must merge as a precondition to seeking re-designation as a TU, is challenging for consortia as they fear being left as a merged IoT with no guarantee of re-designation. This research finds there is no basis for that fear, nevertheless, in order to provide re-assurance to the HEIs and help restore trust between the HEIs and the state it is recommended that the government amend the draft TU Bill to allow for mergers to occur post-designation instead of prior to designation. [Finding No. 5. 7, 18 and 92].

3. The criteria necessary for IoTs to achieve prior to applying for TU designation are having an unintended impact on the system by driving IoTs more towards isomorphic behaviour as opposed to the pursuit of a diverse mission. It is therefore recommended that the criteria be reviewed to ensure any outcomes from their adoption, supports diversity, as originally intended by the state. [Finding No. 3]

4. A positioning spectrum for the system should be established (Figure 7.6) to replace the binary system. This could potentially be along the lines proposed by Davies (2014). [Finding No. 20, 21 and 89].
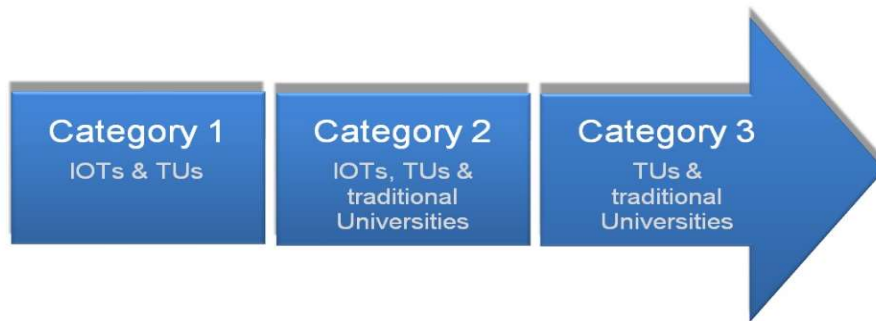
Figure 7.6: A Positioning Spectrum as it Might Apply to the Irish Higher Education System

5. The review of the current funding model for higher education, initiated in January 2017, is welcome. It is recommended that the terms of reference for this review be expanded to specify the proposed funding model for TUs. [Finding No. 39, 40 and 43].

6. The academic staff contract is a key enabler of/barrier to autonomy for institutions to pursue a diverse mission. The academic staff contract that currently exists in the IoT sector supports homogeneity within the sector and thereby contributes to heterogeneity from an intra-institutional perspective in the system. The current contract is perceived by participants as a barrier to engaging with enterprise on a 12-monthly basis, it does not support staff pursuing research and it inhibits engagement in activities over the summer months. To address these difficulties it is recommended that a new academic staff contract be drawn up for IoTs, irrespective of their future status. Further, as the current IoT academic staff contract is deemed unfit-for-purpose it follows that it cannot be considered suitable for TUs when they are created. Thus, a new contract is required for academic staff in TUs. [Finding No. 17 and 78].

7. This study finds that the isomorphic trend to pursue a higher status will continue after TUs are created. In preparation for this scenario, the state needs to establish a position on TU requests for re-designation as a traditional university. [Finding No. 87]

7.2.2 Recommendations for the HEIs:

1. In a bid to protect the diversity of the higher education system, TUs should adopt a mission that is different to both the IoTs and the traditional universities. [Finding No. 26, 46-50, 69 and 84].

2. IoTs that decide to remain as IoTs after TUs are created will likely have a different focus and mission than hitherto. To protect the diversity of the system and to avoid confusion in relation to the status of different institutional types, a revised IoT mission needs to be clearly articulated and promoted. [Finding No. 53-55].

3. IoTs that decide to pursue the objective of seeking re-designation as a TU need to demonstrate a higher level of performance than hitherto. It is recommended that they take more proactive engagement with achieving the criteria and take note of international practice in relation to mergers. [Finding No. 13, 23, 51, 59, 60, 79, 82 and 83].

4. Performance agreements are likely to continue, but should be viewed by HEIs as an enabler of diversity rather than as a driver of isomorphism. The state can assist in this process by allocating additional funding towards the achievement of national priorities instead of the current approach of top-slicing an already reduced budget. To further support diversity in the HE system it is recommended that the performance agreement template takes account of the different institutional types in the system.[Finding No. 36-38].

5. To address the apparent deficit in the leadership of IoTs and to ensure decisive leadership is in place to devise and steer a diverse mission when TUs are created, it is proposed that a review be conducted of the process and criteria for the appointment of both IoT and TU Presidents. It is further recommended that the length of tenure for Presidents be reviewed. [Finding No. 10, 65, 70, 71, 74 and 75].

6. The influence of the market, as in competition for full-time CAO students, is resulting in greater homogeneity and hence isomorphism, as HEIs imitate other HEIs that are successful in attracting students. Market influences also impact on an institution's ability to attract and retain staff, its research profile

and success in the knowledge exchange (KE), and knowledge transfer (KT) domain. To steer the system towards greater diversity, HEIs should look to a more diversified market such as lifelong learning, up skilling in the workplace, and labour market activation initiatives. This approach would enhance diversity and would appeal to a different market segment, particularly if delivered flexibly though online or blended delivery. [Finding No. 67 and 91].

7.3 Reflections on Potential Significance of this Research

As mentioned at the beginning of this study, there is a limited body of applied research in the field of isomorphism and diversity as drivers of restructuring in higher education. From an Irish perspective, this is the first in-depth study in this field.

Following is a reflection on the adequacy of the original concepts generated in the literature review, beginning with the trends in higher education and moving to the theoretical framework underpinning the study.

The review of the trends in higher education provided a useful signpost for this research and proved to be as relevant to Ireland as countries studied in a global context. Of particular note is the impact of massification, the challenge of reduced funding and how these elements impact on institutional positioning. A review of the trends points towards increasing homogeneity, which is also a key finding of this research. Ireland is adopting an approach similar to other countries by concentrating on internationalisation and researchin attempting to address the funding challenge. The state is exercising a controlling role over the HEIs to demonstrate accountability to the tax-payer in response to the high level of public funding provided to the HEIs. Research conducted points to the HEIs enjoying a high degree of autonomy compared to most European countries, but this is not how HEIs view autonomy and their relationship with the state.

The theoretical framework underpinning this study captures the interplay between isomorphism and diversity and provides a foundation that adequately supports the conceptual framework on institutional positioning. Analysis of the mechanisms of isomorphism identified drivers and indicators that were used to devise a diversity matrix applicable to the Irish context. The diversity matrix signalled the Irish higher education system as trending towards homogeneity, highlighting a significant and

unique contribution of this study. Reflecting on the four individual components of isomorphism (coercive, mimetic, normative and competitive), this study finds evidence of all four in the Irish higher education system.

Diversity receives similar attention as homogeneity in this study because, firstly diversity and how it is measured is not well addressed in the literature, and secondly diversity is the counterbalance of isomorphism. The diversity matrix drawing on the drivers and indicators of isomorphism provides a framework for measuring diversity in Ireland and it can easily be adapted to suit other higher education jurisdictions. The impact of massification is identified as a driver of diversity, necessary to cater for the heterogeneous student cohort entering higher education in recent decades. Coupled with the state's realisation of the socio-economic benefit of higher education it becomes clear why the policy focus of the state is on diversity. However, this study finds that the state's actions do not support its documented policy position on diversity.

Two secondary theoretical perspectives are drawn upon in support of institutional positioning, namely population ecology and resource dependency. Resource dependency theory (RDT) is probably the more effective of the two as it emphasises managing the environment instead of being subservient to it, which is the population ecology approach. One manifestation of RDT is strategic planning with the focus on identifying niche offerings in order to demonstrate differentiation from competitors. This research finds a high degree of commonality among HEI's strategic plans thereby supporting one of the key findings of this study that the higher education system is trending towards homogeneity. The examples from the study referred to in this section are used to demonstrate the strong alignment between the original concepts generated in the literature review and the findings from the research study.

This study contributes to particular areas of academic knowledge including identification of the key drivers of isomorphism and diversity in the Irish higher education system (see Figure 5.2). While isomorphism is common in binary systems, its impact would not normally lead to the demise of the binary system as appears likely to happen in Ireland. The confused role of the state and the influence it is having on isomorphic trends, when its official policy is to protect the diversity of the system, is contradictory. Leadership of the sector in general and of the IoTs in particular, is contributing more towards isomorphism than diversity. However, further research is

required to examine the relationship between the state and the management of the HEIs.

Attempting to predict the impact of the proposed restructuring is challenging, considering that the legislation required to enable the process has not yet been approved. Nonetheless, this study is of significance and relevance as it raises issues worthy of serious consideration in order to ensure the successful creation of TUs. The findings and recommendations arising from analysis of the narratives of participants of high calibre, in terms of their knowledge and experience, lends a high level of credibility and significance to this research.

7.4 Limitations and proposed areas for future research

This study was undertaken within the limitations and structure required for a DBA thesis, therefore the scale and time allocation were somewhat curtailed; and this section discusses the limitations and considers ways in which the study could be further developed in the future.

The study was based on an examination of the drivers influencing restructuring in the Irish higher education system, conducted at a time during which the restructuring is taking place. As the restructuring process is ongoing, the potential exists for other drivers to assume a degree of importance not considered by this study. One such example lies in the area of competition and the market, which was addressed in this study, but not at a comprehensive level. The volatile political landscape that currently exists in Ireland (February 2017) is another example. For instance, Ireland currently has a minority government and it is unlikely that the draft legislation to enable TU be created will be approved during its term of office This study provides a useful benchmark, at five to six years into the restructuring process, of the influence of isomorphism and diversity on institutional positioning; it will serve as a useful point of departure for a comparative analysis study, potentially conducted when the restructuring process is complete.

This study focussed on institutional positioning between the two higher education sectors. Time constraints did not allow for a review of intra-institutional diversity, but this is an area worthy of consideration in the future. The findings are broadly aligned with the literature and point towards both isomorphism and diversity from different

viewpoints, with the overall trend towards isomorphism. The diversity matrix is a unique contribution to supporting the qualitative findings of this study. However, the difficulty in measuring diversity is acknowledged and further research is required to refine the process adopted.

The supporting quantitative documentary analysis covers the period of this study, which is from 2011 to 2015, coinciding with the adoption of the Hunt Report as the National Strategy for Higher Education to 2030. The momentum surrounding the first ever National Strategy for Higher Education, with the pathway for IoTs to be redesignated as TUs, likely caused IoTs to intentionally pursue isomorphic behaviour in their attempts to reach the TU criteria. Further research is required to analyse isomorphic trends for periods prior to 2011.

The data was gathered over an 18-month period (May 2015 to December 2016). 26 semi-structured in-depth interviews were conducted with elite interviewees representing three different categories of stakeholder. The degree of consistency between their views and perspectives is remarkable as evidenced in the appendices to Chapter 5. With such a large number of interviewees, response saturation was reached and response variation is unlikely to be significantly different if a different cohort of interviewees were to be selected.

7.5 Concluding Statement

This thesis examined the rationale for restructuring the higher education system and found that it is linked to the impact of austerity and the influence of the National Strategy. The response from IoTs, the institutions most affected, has been to imitate those institutions perceived to be more successful, the universities, attempting to carve out a niche in programme provision in a very competitive market. For the impact of isomorphism to be reversed, both the state and the HEI would need to collaborate more than hitherto on the principles of diversity.

The public funding of higher education is changing with government now contributing less, but expecting more. The higher education landscape is becoming more competitive and unpredictable. One response is collaboration and restructuring, potentially leading to rationalisation with the objective of increasing scale and capability. Such a response recognises the importance of institutional leadership and

raises questions about what is an appropriate model of leadership for organisations that have historically been under the control of the state. Where is the autonomy of academic staff positioned in this transformative environment?

The study put forward a model that captures the elements of institutional positioning linked to the influence of both isomorphism and diversity. It concluded with a list of thirteen recommendations drawn from the findings, which if adopted, have the potential to unlock the current impasse in relation to steering the IoT sector towards the future it has long desired. The chapter concludes with a summary of the thirteen recommendations. Now six years into the implementation phase, it is time for leadership to demonstrate that these institutes have the capacity and autonomy to create their own futures.

7.6 Summary of Recommendations

1.	The State should reiterate its policy focus in relation to the National Strategy and state whether its focus is on rationalising the IoT sector or creating TUs.
2.	The Government should amend the draft TU Bill to allow for the merger of IoTs to occur post designation instead of prior to designation.
3.	The criteria should be reviewed to ensure any outcomes from their adoption supports diversity as originally intended by the State.
4.	A positioning spectrum for the system should be established to replace the binary system.
5.	The terms of reference for the review of the funding model should be expanded to specify the proposed funding model for TUs.
6.	A new academic staff contract is required for both IoTs and TUs.
7.	The state needs to establish a position on TU requests for re-designation as a traditional university.
8.	TUs should adopt a mission that is different to both the IoTs and the traditional universities.
9.	A revised IoT mission needs to be clearly articulated and promoted.
10.	IoTs should be more proactively engaged with achieving the criteria and should be better informed of international practice in relation to mergers.
11.	Performance Agreements should be viewed by HEIs as an enabler of diversity in preference to being regarded as a driver of isomorphism.
12.	A review should be conducted of the process and criteria for the appointment of both IoT and TU Presidents.
13.	HEIs should look to a more diversified market such as lifelong learning, up skilling in the workplace, and labour market activation initiatives.

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APPENDICES

Appendix 1

Appendix 1.1 Process and Criteria for Designation as a Technological University

Introduction

The National Strategy for Higher Education provides for the establishment of a new type of university – a technological university. A technological university will have a systematic focus on the preparation of graduates for complex professional roles in a changing technological world. It will advance knowledge through research and scholarship and disseminate this knowledge to meet the needs of society and enterprise. It shall have particular regard to the needs of the region in which the university is located.

For the purposes of determining whether an application for designation as a technological university should be approved, the HEA shall appoint international panels of experts (referred to as "Expert Panels") to advise the Authority in respect of Stages 3 and 4 of the designation process outlined in this memorandum. In conducting their evaluation, the Expert Panels will carry out such site visits and reviews and be given access to information from the applicant institution as they consider appropriate.

The designation process will consist of four stages as follows –

- An expression of interest,
- The preparation of a plan to meet the criteria,
- An evaluation of the plan, and
- An application for designation.

Stage 1 - Expression of Interest

Higher education institutions in Ireland wishing to apply for designation as a technological university must submit an expression of interest to the Higher Education Authority. The expression of interest must state, *inter alia*, how the transition from the institutions' current status to final designation will be financed. The expression of interest will be considered by the HEA in the context of a system wide analysis of Ireland's higher education needs and the strategic implications arising from the establishment of a new university. The HEA will, having considered the system level implications of the proposal, advise, within a reasonable period (no

longer than six months), as to whether or not the proposal may proceed to the next stage.

Stage 2 - Preparation of Plan to Meet Criteria

At this stage a plan will be prepared by the applicant, addressing how it is proposed to meet the criteria for a technological university and the process requirements and related timelines.

The establishment of a technological university requires the consolidation of two or more institutions. Accordingly, the plan must be based on a legally binding memorandum of understanding between a consortium of existing institutions describing their consolidation into a new single institution, which has been approved by the Governing Body of each institution.

The plan must demonstrate that legally binding academic and administrative arrangements are in place to ensure that national and regional needs for graduates at higher education Levels 6 and 7 on the National Framework of Qualifications are met.

Stage 3 - Evaluation of Plan

The plan will be assessed by an Expert Panel which will have regard to -

the capacity of the proposed consortium to achieve the objectives of consolidation in terms of academic rationale, scale, the degree of integration through alliances and membership of clusters and the extent to which workplace practices have been developed to bring them into line with those of a modern university, and

the existing position of the proposed consortium in relation to each of the technological university designation criteria (Appendix 1) and its capacity, based on its developmental trajectory, to meet these criteria within a reasonable timeframe.

A decision will be provided by the HEA to the applicant within six months of receipt of the plan. If, in the opinion of this Expert Panel, the proposal is not likely to meet the criteria for designation as a technological university within the proposed timeframe the application will not proceed further.   In that case, a further application will not be accepted for a period of five years. If the Panel is of the view that the plan presented represents a credible and realisable proposal, the Panel may provide advice to the applicant or the HEA on any matter relating to its implementation.

Stage 4 - Application for Designation as a Technological University

Where a legal consolidation has been achieved and the applicant considers that all other requirements for designation have been met, the applicant may apply for designation as a technological university. The application for designation will be evaluated by an Expert Panel. In carrying out that evaluation, this Panel will have regard to the criteria set out in Appendix A, the legal and administrative requirements applying to universities in Ireland, the configuration of institutions within the Irish higher education system, the characteristics of technological universities internationally, detailed statistical profile data on Irish higher education institutions and the overall merits of the application.

This Expert Panel will report its recommendation to the HEA which will consider the report and advise the Minister for Education and Skills.

Appendix 1.2 Criteria for a Technological University

1   Mission

1.1   A technological university will have a systematic focus on the preparation of graduates for complex professional roles in a changing technological world. It will advance knowledge through research and scholarship and disseminate this knowledge to meet the needs of society and enterprise. It will have particular regard to the needs of the region in which the university is located.

1.2   Having regard to the mission of a technological university, these criteria set out the requirements that are to be met by an applicant before designation can be made.

2   Institutional Profile

2.1   The university will –

be characterised by the breadth of its programme provision across higher education Levels 6 to 10 of the National Framework of Qualifications.

have programmes of study that are vocationally/professionally oriented, with a strong focus on science and technology.

have programmes of study that incorporate structured work placement.

have programmes that address the social and economic needs of the region in which the university is located.

have sufficient resources and critical mass to ensure appropriate pedagogical and research quality and depth of faculty expertise to meet the mission of the institution.

have sufficient critical mass to support effective and efficient governance and administration and to provide an appropriate level of student services.

maintain an active research policy primarily focused on applied, problem oriented research and discovery, with effective knowledge transfer alongside the provision of consulting/problem solving services that are particularly relevant to the region.

support intensive and broad-based links with regional business, enterprise, professions and related stakeholders that inform curriculum, teaching and learning, assessment and research.

3   Student Profile

3.1   The student profile of the university will match its stated mission. Specifically, the university will provide programmes at higher education Levels 6 to 10 to meet local, regional and national demand and to meet the university's responsibilities in respect of educational opportunities at these levels.

3.2   At the time of application for designation as a technological university –

enrolment in the applicant institution in research programmes at Levels 9-10 will not be less than 4% of FTE enrolments at levels 8 to 10. In addition, the application must evidence a developmental trajectory, showing that the institution will raise these enrolments to 7% within a period of ten years from the date of designation. Level 10 provision will be concentrated in a small number of fields/departments which have the capacity and credibility to offer this level of study and training to the level set by the national PhD standard;

A combined minimum of 30% of all students in the applicant institution will be lifelong learning students enrolled on professional focused programmes and industry up-skilling, including part-time, work-related programmes and work-study programmes and/or mature learners.

3.3   Where the institutions that consolidate to comprise a technological university have been providing, prior to consolidation, non-higher education programmes (as defined by the National Framework of Qualifications) the university will, if necessary to meet local, regional and national demand, ensure this activity continues, either directly or indirectly, through appropriate administrative and academic arrangements that allow for the sharing of academic facilities and the progression of students.

4   Staff Profile

4.1   A technological university will in the appointment, management and progression/promotion of academic staff to and within the university have in place contractual and appointment procedures that, *inter alia,* -

give weight to professional practice and institutional engagement activities and

provide existing staff members with a balance between teaching, research, engagement activities and academic administration that is appropriate to their subject area and their academic experience.

4.2   At the time of application for designation –

90% of full time, academic staff engaged in delivering higher education programmes in the applicant institution will hold a Level 9 qualification or higher.

at least 45% per cent of full time, higher education, academic staff, will hold a Level 10 qualification or the equivalence in professional experience, combined with a terminal degree appropriate to their profession. The proportion of such staff that hold an equivalence in professional experience shall not exceed 10% of full time, higher education, academic staff. There will be demonstrable evidence of a developmental trajectory that shows the capacity, including staff with equivalence in professional experience as referred to, to increase and reach levels consistent with other Irish universities but not less than 65% within ten years of designation. These staff will not only hold Level 10 qualifications or equivalent in professional experience, but also be able to demonstrate sustained activity in relevant areas of research and development.

in the fields of knowledge/study in which doctoral level training and research is on-going, the proportion of staff holding Level 10 qualifications will be in excess of 80%. As a general principle, only those with Level 10 qualifications will be engaged in the delivery and supervision of Level 9 programmes. Only those with Level 10 qualifications and with a sustained record of research publications and mission-appropriate research outputs will be engaged in the delivery and supervision of Level 10 programmes.

5   Teaching, Learning and Curriculum Development

5.1   A technological university will have the curriculum and the teaching, learning and assessment processes to support its core mission to develop graduates who have a focus on the world of work.   The full opportunities provided by the National Framework of Qualifications for enhanced teaching, learning and curriculum development will be incorporated, with a particular focus on on knowledge, skills and competencies developed in conjunction with business, professional organisations and, workforce, student and occupational organisations;

Curricula that embed the full range of generic attributes linked to employability and citizenship;

Curricula that embed engagement in the workplace as part of its programmes;

Research-informed and practice-led teaching, learning and assessment that uses problem-oriented, practice-based and is community engaged.

6   Research

6.1   The research dimension of a technological university will-

Focus on applied, problem-oriented research and social and technological development and innovation, with direct social and economic impacts and public and private benefits in the region in which the university is located;

Support and sustain research activity among its staff that can be compared to appropriate international benchmarks. Such benchmarks will include *inter alia* evidence of cooperative research groups of a viable scale, success in winning competitive research funding nationally and internationally and inter-institutional research collaboration;

In linking research to teaching, demonstrate methodological approaches to the formation of level 10 knowledge, skills and competencies that are appropriate to the institution's research mission and meet national PhD level standards. This will be through the integration of practice-led, professional, and industrial doctorate structures alongside more traditional PI-led approaches, all within the context of national policy for structured PhD provision.

6.2   An applicant institution will, at the time of application, –

have existing research capacity to support on-going programmes, projects and doctoral training in at least three fields of knowledge/study as defined by ISCED fields of study at the 2-digit level (ISCED2 – "Narrow fields");[1]

and

demonstrate a developmental trajectory showing that the institution can extend research and doctoral activity to sufficient capacity to support two further fields, as defined by ISCED2 within five years of designation as a technological university.

7   International Profile

7.1   The international engagement of a technological university will specifically reflect its mission and orientation.

7.2   At the time of application, an applicant will demonstrate a developmental trajectory for the enhancement of internationalisation related to teaching and learning, research and staff development and a sustainable range of international

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[1] ISCED codes are outlined on the HEA website at
http://www.hea.ie/files/files/file/statistics/SRS%20User%20Files/EurostatISCED.pdf

collaborations such as joint projects, student and staff exchanges including the collaborative provision of academic and training programmes.

8 Leadership, Management and Governance

8.1 The leadership management and governance arrangements in place will be fully reflective of and in line with the stated mission of the institution. In practice this will mean -

governance structures that reflect the external orientation of the institution and the engagement focus of its programmes of study;

an integrated academic governance structure that gives coherence to multiple units, with consolidation of previously autonomous institutions where these existed, within the framework of the institution's mission.

a leadership team that combines strong academic credentials and experience with experience in enterprise and professions relevant to the institution's mission.

effective institutional-level academic governance with the authority, processes and competence to ensure the quality of programmes of study and the quality and integrity of other academic matters;

workplace practices and employment contracts are reflective of a modern university including, *inter alia,* such matters as the flexible delivery of programmes for diverse learner groups, the length and structure of the academic year, the efficient utilisation of the institution's physical resources and other infrastructure.

Appendix 2

Appendix 2.1 List of Interview Participants

Interviewee	Position	Date
Tom Boland	CEO of the HEA	15/03/2016
Peter Coaldrake	Vice Chancellor, Queensland University of Technology, Brisbane, Australia	09/09/2016
Ned Costelloe	CEO of the Irish Universities Association (IUA)	04/08/2016
Martin Cronin	Chair, Connacht Ulster Alliance	11/07/2016
Tom Creedon	HR Manager, Medtronic	03/08/2016
Mike Devane	Business Consultant	09/12/2016
Willie Donnelly	President, Waterford Institute of Technology (WIT)	19/07/2016
Tony Donoghue	Educational Advisor to IBEC	20/06/2016
Mark Gantly	Senior R&D Director, HP, Ireland	10/10/2016
Ellen Hazelkorn	Policy advisor to the HEA	11/07/2016
Maria Hinfelaar	President, Limerick Institute of Technology (LIT)	29/02/2016
Annie Hoey	President of the Union of Students in Ireland (USI)	09/11/2016
Caroline Hughes	HR Manager, Cement Roadstone Holdings (CRH)	11/08/2016
Jeroen Huisman	Professor of Higher Education, at the Centre for Higher Education Governance, Ghent	26/04/2016
Colin Hunt	Chair of the committee for the National Strategy for Higher Education to 2030	05/05/2016
Mike Jennings	General Secretary, Irish Federation of University Teachers (IFUT)	27/10/2016
Jari Jokinen	Director, Education and Employment Policy, Helsinki area, Finland	18/05/2015
Michael Kelly	Former CEO of the HEA and education policy advisor	03/05/2016
Alison Kenneally	Head of Dept. in Carlow Institute of Technology	19/07/2016
Aidan Kenny	Regional Representative with the Teachers Union of Ireland	23/08/2016
Mary Meaney	President, IT Blanchardstown	04/08/2016
Brendan Murphy	President, Cork Institute of Technology (CIT)	12/08/2016
Jim Murray	Director of Academic Affairs, Institutes of Technology, Ireland	11/07/2016

Hannu Seristo	VP External Relations, Aalto University, Finland	18/05/2015
Frans van Vught	European Policy Advisor	12/05/2016
John Walshe	Advisor to the Minister for Education and Skills	11/05/2016

Appendix 2.2 Interview Guide

Interview Guide

Purpose of this Guide

This guide is prepared as a planning framework to ensure successful interviews are professionally conducted as part of this research study. The guide will encourage interviewees to express their views honestly and allow the interviewer explore their answers.

The interviewer has decided to conduct semi-structured interviews, having considered both structured and unstructured interviews. While predetermined questions are used in both structured and semi-structured interviews, the interviewer has greater flexibility with the latter due to the option of changing the order questions can be asked, changing the wording of the questions, asking new questions and omitting questions if that is appropriate.

Deciding on the Interview Questions

The researcher decided to use the 'puzzlement' approach (Lofland 1971)[2], following attendance at a qualitative interviewing training session in Surrey University in March 2015. Three programme managers involved in coordinating and facilitating change initiatives for the West/North-West region, aligned to the National Strategy for Higher Education were selected to engage in this methodology due to their in-depth understanding of implementing institutional initiatives of a collaborative nature across four HEIs. A scenario summarising the focus of the research was presented as outlined in Appendix 1. The 'puzzlement' approach was explained and at the end of the process a set of questions and prompts was available to the researcher. Further refinement of the questions was conducted by the researcher and the core set of questions is included in Appendix 2.

The questions were ordered so that the interview would have a beginning (introduction and warm up with easy non-threatening questions), a middle (covering the main purpose of the interview), and an end (a few questions to wind down the interview).

Selecting the Interviewees

It is proposed to conduct approximately 12 interviews with key stakeholders aligned to higher education. In selecting the individuals, consideration was given to striking

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[2]Lofland, J. (1971). Analysing social settings: A guide to qualitative observation and analysis. Belmont, CA: Wadsworth.

a balance between policy makers, state agencies, influencers in each of the consortia aspiring to become a Technological University, international higher education experts, IoTs not participating in this process and a perspective from the traditional university sector.

Targeted interviewees included:

Mr Tom Boland, the Chief Executive of the Higher Education Authority.

Dr Colin Hunt, Chair of the National Strategy for Higher Education to 2030.

Professor Frans van Vught, a high level expert and advisor at the European Commission.

Professor Peter Coaldrake, VC of Queensland UT

Mr Michael Kelly, former Chair of the HEA, Chair of the Dublin consortium, Consultant to TUSE on behalf of the Minister for Education and Skills

Mr John Walshe, Advisor to Ruairi Quinn, former Minister for Education and Skills

Dr Maria Hinfelaar, President of LIT

Professor Ellen Hazelkorn, DIT & HEA

Professor Jeroen Huisman. Ghent University, Belgium.

Professor Hannu Seristo, Vice President, Professor of International Business ot Aalto University, Finland.

Jari Jokinen, the Ministry of Education, Science and Communications, Finland.

Tony Donohoe, IBEC

As the interview is the main research method for this study it was decided to expand the number from the recommended twelve (Guest, 2006) on the basis that the group being interviewed is not homogenous. Addressing such a diverse group of elite interviewees will necessitate changing a number of questions from the core question set in Appendix 2. This is one of the key advantages of adopting semi-structured interviews for this research.

Conducting the Interview

Invitation Letter

An invitation letter issues to each potential interviewee inviting them to participate in this research study, similar to the example included in Appendix 3. If no response is received within two weeks, the researcher will make a follow-up phone call. At that

stage it should be clear if the potential interviewee is committed or not to conducting the interview.

Information Page

An information page (Appendix 4) will issue to each interviewee after they commit to participating in the interview. This will give a brief overview of the research study and the areas that will be explored during the interview.

Consent Form

A consent form (Appendix 5), along with the information page, will issue to each interviewee after they commit to participating in the interview. It is issued ahead of the interview for information purposes to give assurances in relation to confidentiality, anonymity and to highlight that the researcher plans to record the interview. The interviewee will have the opportunity to sign the consent form prior to the interview commencing.

Interview Guide

This Interview Guide brings all of the components together in preparation for the interview and will be adapted for each of the different groupings. Discussion starters will be included in the lead-in to the different questions in addition to prompts to support questions, where this is deemed necessary.

After the Interview

The researcher will make additional field notes immediately after the interview. The researcher will also reflect on the interview technique and adapt the interview guide to address any areas for improvement.

A Thank You letter will issue to each interviewee (Appendix 6).

The interview will be transcribed from the recorder and a copy of the transcript will be coded and analysed using the thematic analysis approach.

Appendix 2.2.1 Scenario for 'Puzzlement' exercise

The proposed thesis title is:

Examining shifts in institutional positioning in the evolving Irish higher education system

The Irish higher education system is going through a period of unprecedented change as a result of the adoption by the Government of the 'National Strategy for Higher Education to 2030'as policy (HEA 2011). The strategy recognises that higher education needs to change to address the economic, social and cultural challenges of the future. It presents a vision for higher education in Ireland which is underpinned by high-level system objectives and a suite of recommendations. A reconfiguration of the system is required to cater for increased demand and a more diverse student cohort in a challenging economic environment.

The hypothesis the researcher wishes to explore is if the ambition of the IoTs to become Technological Universities (TU) is rooted in a perception that universities are better than IoTs and attract higher status and better reputational positioning as a result, hence the concept of isomorphism. As isomorphism is inversely linked to diversity, the potential impact of isomorphism on diversity will also be explored.

The key theme of this research is as outlined above. The proposed research questions are:

- Is there evidence of institutional isomorphism and/or institutional diversity in the process of and drivers to restructuring the higher education system in Ireland?

- What is the likely impact on institutional positioning of introducing a new entity such as a Technological University, for instance, how might the likely profile, mission and strategic intent of this entity compare with Institutes of Technology and traditional universities?

- What lessons may Ireland learn from a review of the restructuring and institutional positioning of selected higher education systems in the international arena?

- What are potential consequences of institutional isomorphism and/or institutional diversity, specifically in relation to: (i) institutional identity; (ii) the role of the state; (iii) leadership; (iv) institutional autonomy; (v) public

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accountability; (vi) engagement of agencies and stakeholders; and (vii) internal actors / professional networks?

Appendix 2.2.2 Core Interview Questions

INTRODUCTION

How would you characterise events in Ireland over the last three years?

What is your understanding of the concept of a Technological University?

MISSION

1.1 A technological university will have a systematic focus on the preparation of graduates for complex professional roles in a changing technological world. It will advance knowledge through research and scholarship and disseminate this knowledge to meet the needs of society and enterprise. It will have particular regard to the needs of the region in which the university is located. [1]
{[1] "Towards a Future Higher Education Landscape, HEA," 13 February 2012. [Online]. Available: http://9thlevel.ie/wp-content/uploads/TowardsaFutureHigherEducationLandscape.pdf.}

What is your understanding of what this proposed mission means?

How appropriate is this mission for a TU?

Do you feel that all TUs should have the same mission, or to put it another way, should there be scope for a TU to develop its own mission?

How will be the mission of IOTs be different to the new TUs?

GOVERNANCE

TUs will emerge as a result of the merger of two or more IoTs. This will result in TUs being multi/multiple campus institutions.

What type of governance model do you consider appropriate for TUs to cater for a multiple campus structure?

Is there an alternative governance model to that proposed by the Government?

What is your view of a federated governance model versus a merged model?

Are there any barriers that you are aware of preventing institutions from engaging with the process of seeking redesignation as a TU?

Some consortia with an ambition to become TUs have expressed concerns that if they merge they will be left in the merged state as a large IoT. What are your views on this concern?

How long prior to redesignation should the merger occur?

LEARNING & TEACHING

What is your view of the current approach to L&T in IOTs?

How different will the L&T approach be in TUs?

What is your view of the concept of 'rational provision' of programmes within a region, the region being the cluster as defined by the HEA?

RESEARCH

Currently IoTs are not funded to engage in research, but traditional Universities are funded.

How will TUs be funded to engage in research?

How different is the funding model likely to be for TUs compared to traditional Universities?

Who will fund research in TUs?

Is there an alternative funding model for research in TUs?

What is your view of the proposed criteria to be achieved for re-designation as a TU?

What timeframe do you consider as reasonable for consortia to achieve the criteria for redesignation?

ENGAGEMENT

"With the privilege to pursue knowledge comes the civic responsibility to engage and put that knowledge to work in the service of humanity." (Higgins, 2012)

{Higgins, M. D. (2012). "Remarks at the launch of the Irish Centre for Autism and Neurodevelopmental Research, Galway.". Retrieved January 22nd, 2013, from http://www.president.ie/speeches/launch-of-the-irish-centre-for-autism-and-neurodevelopmental-research/ .}

Engagement takes on many forms in HE, the above quote refers to civic engagement, but equally Higher education is now more engaged with the region in what is called the 'third mission' and is expected to take the lead on entrepreneurship, technology exchanges and interactive learning.

What is your view of the current approach of IoTs to engagement?

How would a TU be different in relation to engagement?

INTERNATIONAL

What is your view of the current level of activity in IoTs in the area of internationalisation?

How would a TU add value / be different in the area of internationalisation?

FUNDING

How much has your institution spent to date on activities linked to seeking re-designation as a TU?

What do you estimate the total cost will be of obtaining redesignation as a TU?

How will the cost of obtaining redesignation as a TU be funded?

What are your views on the impact of the HEA performance-based funding model on institutional behaviour?

What opportunities exist for institutions to source alternative income streams?

Is it appropriate for publicly funded institutions to pursue alternative income streams?

HR

What is your view of the appropriateness of the existing IoT academic contract for the new TU?

Is there a necessity for a new academic contract to be developed for TUs?

What is the likelihood of a new academic contract for TUs?

LEADERSHIP / ORGANISATIONAL CHANGE

What do you perceive to be the new challenges for leadership in the context of the emerging new higher education landscape?

What are the implications for change management in the process of seeking redesignation as a TU?

What impact will the establishment of TUs have on the higher education system?

ORGANISATIONAL CULTURE

Is it your view that culture is different in different institutions?

If you agree with Q. 1 above, how is culture different in different institutions?

What are the challenges in bringing together different organisational cultures into a new institutional type?

How might these challenges be managed?

CONCLUSION

Can I conclude by asking you your overall view on:

The importance you would attach to the creation of TUs?

The likelihood of TUs being created?

The timeframe for the re-designation process following the merger of IoTs?

The impact TUs will have on the HE system?

The impact of a TU for the CUA region?

The challenges of achieving the criteria necessary for redesignation?

Dear xxxx,

I would like to invite you to participate in my research study for a DBA in Higher Education Management with the University of Bath. The title of my thesis is:

Examining shifts in institutional positioning in the evolving Irish higher education system.

My lead supervisor is Professor John Davies, visiting Professor of Higher Education Management, University of Bath and my support supervisor is Dr Robin Shields, Director of Studies: Doctorate of Business Administration in Higher Education Management, University of Bath.

Should you be willing to get involved in this study, you will be asked to participate in a semi-structured interview, which will be broadly focussed on the attached information sheet.

The interview will last no more than 60 minutes and with your permission will be recorded for ease of transcription.

Confidentiality and anonymity are guaranteed and you will be forwarded a copy of the interview transcript. You will also have the option of receiving a copy of the finished thesis, should you so wish.

This research will add significantly to the body of knowledge related to the restructuring that is currently taking place in HE in Ireland, specifically the understanding of the concept of a Technological University. Your involvement in this study, as a key stakeholder in higher education, will add valuable insight to the restructuring debate.

I sincerely hope that you will accept my invitation and subject to receiving positive confirmation I will be in contact to schedule the interview at a time and location that is convenient for you.

Please note that an information page containing more detail is attached to this email and a consent form will issue should you agree to this interview request.

I look forward to hearing from you at your earliest convenience.

Yours sincerely,

Michael Hannon

Vice President for Academic Affairs & Registrar

Appendix 2.2.4 Information Page

You are being invited to take part in a research study. Before you decide whether or not to take part, it is important for you to understand why the research is being conducted and what it will involve. Please take time to read the following information carefully'.

DBA student: Mr. Michael Hannon, Vice President for Academic Affairs & Registrar, Galway-Mayo Institute of Technology. (www.gmit.ie)

Awarding Institution: University of Bath.

Lead Supervisor: Professor John Davies

Support Supervisor: Dr Robin Shields

Thesis title:

Examining shifts in institutional positioning in the evolving Irish higher education system.

The hypothesis the researcher wishes to explore is if the ambition of the IoTs to become Technological Universities (TU) is rooted in a perception that universities are better than IoTs and attract higher status and better reputational positioning as a result, hence the concept of isomorphism. As isomorphism is inversely linked to diversity, the potential impact of isomorphism on diversity will also be explored.

Research Questions:

Is there evidence of institutional isomorphism and/or institutional diversity in the process of and drivers to restructuring the higher education system in Ireland?

What is the likely impact on institutional positioning of introducing a new entity such as a Technological University, for instance, how might the likely profile, mission and strategic intent of this entity compare with Institutes of Technology and traditional universities?

What lessons may Ireland learn from a review of the restructuring and institutional positioning of selected higher education systems in the international arena?

What are potential consequences of institutional isomorphism and/or institutional diversity, specifically in relation to: (i) institutional identity; (ii) the role of the state; (iii) leadership; (iv) institutional autonomy; (v) public accountability; (vi) engagement of agencies and stakeholders; and (vii) internal actors / professional networks?

Why have you been invited to participate?

It is proposed to conduct approximately 12 interviews with key stakeholders aligned to higher education. In selecting the individuals, consideration was given to striking a balance between policy makers, state agencies, influencers in each of the consortia aspiring to become a Technological University, international higher education experts, IoTs not participating in this process and a perspective from the traditional university sector.

You may be associated with more than one category from this list.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form on the day of the interview. If you decide to take part you are still free to withdraw at any time and without giving a reason.

What is involved if I agree to take part?

You will be asked to take part in a semi-structured interview, which will last approximately one hour.

What are the possible benefits of taking part?

You have been identified as a key stakeholder with a valuable contribution to make to the understanding of this research topic. This research will further the understanding of the restructuring process currently taking place in higher education in Ireland, specifically the understanding of the concept of a Technological University.

Will what I say in this study be kept confidential?

Yes. All information collected will be kept strictly confidential (subject to legal limitations). Confidentiality, privacy and anonymity will be ensured in the collection, storage and publication of research material. Data generated by the study will be retained in accordance with the University's policy on Academic Integrity.

What should I do if I want to take part?

Please respond to this email by either (i) letter, (ii) email {Michael.Hannon@gmit.ie}, (iii) text or phone {087 – 227 56 42}.

The researcher will then contact you to arrange a time and venue to conduct the interview.

What will happen to the results of the research study?

The results of this research will be used in my thesis for the award of a DBA in Higher Education Management. The results will not be published but may be used as the basis of an academic paper for presentation at an educational conference.

Personnel participating in this research study will be able to obtain a copy of the thesis by requesting same directly from the researcher.

Who has reviewed the study?

This research proposal was reviewed by my supervisors and recommended for approval by the University of Bath Research Ethics Committee.

Contact for Further Information

Postal: Michael Hannon, GMIT, Dublin Road, Galway, Ireland.

Email: Michael.Hannon@gmit.ie

Mobile: 087 – 227 56 42

Thank you

A sincere thank you for taking time to read this information sheet.

Appendix 2.2.5 Consent for Participation in Interview Research

I volunteer to participate in a research project conducted by Mr. Michael Hannon, a DBA student at the International Centre for Higher Education Management at the University of Bath. I understand that the project is designed to gather information about the restructuring of the Irish higher education system. I will be one of approximately 15 people being interviewed for this research.

My participation in this research is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw from this study, no one will be told.

Participation involves being interviewed by Mr. Hannon. The interview will last approximately 50-60 minutes. Notes will be written during the interview. An audio recording of the interview and subsequent dialogue will be made. If I don't want to be recorded, I will not be able to participate in the study.

I understand that the researcher will not identify me by name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

I understand that this research proposal has been reviewed and approved by the University of Bath.

I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

I have been given a copy of this consent form.

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My Signature   Date

My printed name

Signature of the Researcher

For further information please contact the Researcher at:

Postal: Michael Hannon, GMIT, Dublin Road, Galway, Ireland.

Email: Michael.Hannon@gmit.ie

Mobile: 087 – 227 56 42

Dear xxxxx,

Thank you for taking the time to be interviewed by me last (Riesman, Gusfield et al.) in relation to my DBA studies on the topic of Exploring the restructuring of the Irish higher education (HE) system with a particular focus on implications for HE provision in the West and North/West of Ireland.

I found your responses particularly insightful and I look forward to analysing your transcript.

As I have already communicated to you, I will forward you a copy of the transcript as soon as it is ready. I also note that you expressed a desire to receive a copy of my thesis and I will gladly forward it to you as soon as it is complete.

Sincere thanks once again for engaging with this study.

Yours sincerely,

Michael Hannon

Appendix 3

Appendix 3.1 Code Book: Phase 2 - Generating initial codes (Open coding)

Name	Sources	References
Agency	13	58
DES	10	23
HEA	12	34
QQI	1	1
Autonomy	11	23
No	7	10
Yes	9	13
Culture	1	1
HE Environment	23	190
Binary	2	3
Funding	20	60
PBF and Compacts	10	20
Recession	1	1
Resources	18	39
Heterogeneous	14	49
No	2	2
Yes	13	47
Homogeneous	21	78
No	3	4
Yes	20	73
HE System	9	53
HR	8	19
Identity	17	64
Reputation	7	20

Status	17	44
Implementation	18	62
General	13	31
Progress	14	28
Good	7	9
Poor	10	18
International HE systems	9	73
Finland	3	45
General	3	4
The Netherlands	1	9
Leadership	21	82
Market	6	13
Mission of HEIs	24	171
Mission Drift	8	12
Mission of IoTs	17	51
Mission of Traditional Universities	13	19
Mission of TUs	20	89
Professional Networks	18	56
Academic Networks	7	11
Management Networks	3	3
Stakeholder Networks	11	42
Research	17	58
IoTs	14	28
Traditional Universities	7	14
TUs	11	16
Staff Concerns	1	3
State involvement	19	110
Control	19	53
Policy	15	45

Steerage	3	12
Strategy	6	18
Technological University	25	203
Full University status	3	6
Governance	8	14
Legislation	5	9
Merger	18	57
Takeover	2	2
Re-designation	18	53
University title	16	38
Remain as an IoT	11	32
TU Mission	9	32
TUI position	1	34

Appendix 3.2 Code Book: Phase 3 - Searching for themes (Developing categories)

Name	Sources	References
Ambition	23	130
Diverse	12	30
Governance	23	90
HR	12	25
International perspective	6	37
Isomorphic	20	75
Legitimacy	21	77
Mission	25	147
Resources	14	32
Role of the State	20	122

Appendix 3.3 Code Book: Phase 4 - Reviewing themes (Drilling down)

Name	Sources	References
Ambition	23	130
HE system	7	11
IOT status and identity	11	17
Leadership	7	12
Process of re-designation	5	11
Role of the state	6	16
TU status and identity	19	56
University position	4	7
Diverse	12	30
Diversity (including mission diversity)	9	22
Hierarchical or on a spectrum	2	2
Policy	3	4
Role of the state	1	2
Governance	23	90
Engagement with industry and business	5	8
HEIs relationship with the state	6	7
Lack of trust	7	8
Leadership	4	7
Policy context and concerns	15	44
Role of the state	10	14
HR	12	25
IOT contract	11	19
Unionised environment	6	6
International perspective	6	37
EU dimension	1	1
Finnish experience of merger	2	17

Irish HE system	3	6
Issue of trust	3	3
Mission and mission drift	2	3
Netherlands perspective	1	8
Isomorphic	20	75
Behaviour of IOTs	8	10
Behaviour of traditional universities	7	9
Impact of establishing TUs	2	3
Isomorphic strategy	13	31
Reputation	1	1
Role of Bologna process	1	2
Role of leadership	1	1
Role of the market	3	4
Role of the state	7	12
View from industry and business	2	2
Legitimacy	21	77
Autonomy	6	7
Case for mergers	1	1
Competition and the market	5	6
Consultation - Engagement - Trust	1	7
External perspective	4	4
HE system	3	4
Industry - business perspective	2	5
Institutional positioning	12	25
IOT status	11	13
Leadership	1	1
TU status	4	4
Mission	25	147
Institutional positioning and mission	9	21

IOT mission	11	17
Leadership	21	43
Mission concerns	11	18
State role in mission of HE	2	2
Trad university mission	3	3
TU mission	16	40
Resources	14	32
Role of the State	20	122
Government instability	4	4
HE system	4	4
National policy development - implementation	13	20
Relationship between HEIs and the state	6	12
Role of the HEA - DES	16	33
State control - steerage	13	32
Sub-sectoral influences (e.g. DIT - universities)	3	5
The case for TUs	3	4

Appendix 3.4 Code Book: Phase 5 Defining and Naming Themes (Data Reduction)

Name	Sources	References
5.2 The Impact of the National Strategy for Higher Education	25	164
5.2.1 The Process of Re-designation as a Technological University	14	64
5.2.2 Evidence of Diversity and or Isomorphism	18	58
5.2.3 Comparisons with Select Higher Education Systems	10	39
5.3 State Control or State Steerage	20	156
5.3.1 Governance	19	68
5.3.1.1 State Agencies- HEA, DES, QQI	15	33
5.3.2 Strategic Drivers	13	24
5.3.2.1 Performance Agreements	10	18
5.3.2.2 Regional Clusters	3	3
5.3.3 Resources	16	33
5.3.3.1 Funding Model	11	22
5.3.3.2 Impact of the Recession	7	8
5.3.4 State Influence on Diversity and or Isomorphism	12	31
5.4 The Criticality of Mission	25	206
5.4.1 The Likely Mission of a Technological University	20	56
5.4.2 Where to now for Institutes of Technology	17	55
5.4.3 Positioning of Traditional Universities	16	36
5.4.4 Institutional Influence on Diversity and or Isomorphism	14	28
Mission concerns	15	31
5.5 Ambition	24	190
5.5.1 The Role of Leadership	21	65
5.5.2 Institutional Autonomy	12	19
5.5.3 The Perceived Status of current HEIs	17	32
5.5.4 The Likely Impact of Technological Universities	19	74

Appendix 3.5 Concept Map of the Thematic Framework

Concept Map of Thematic Framework
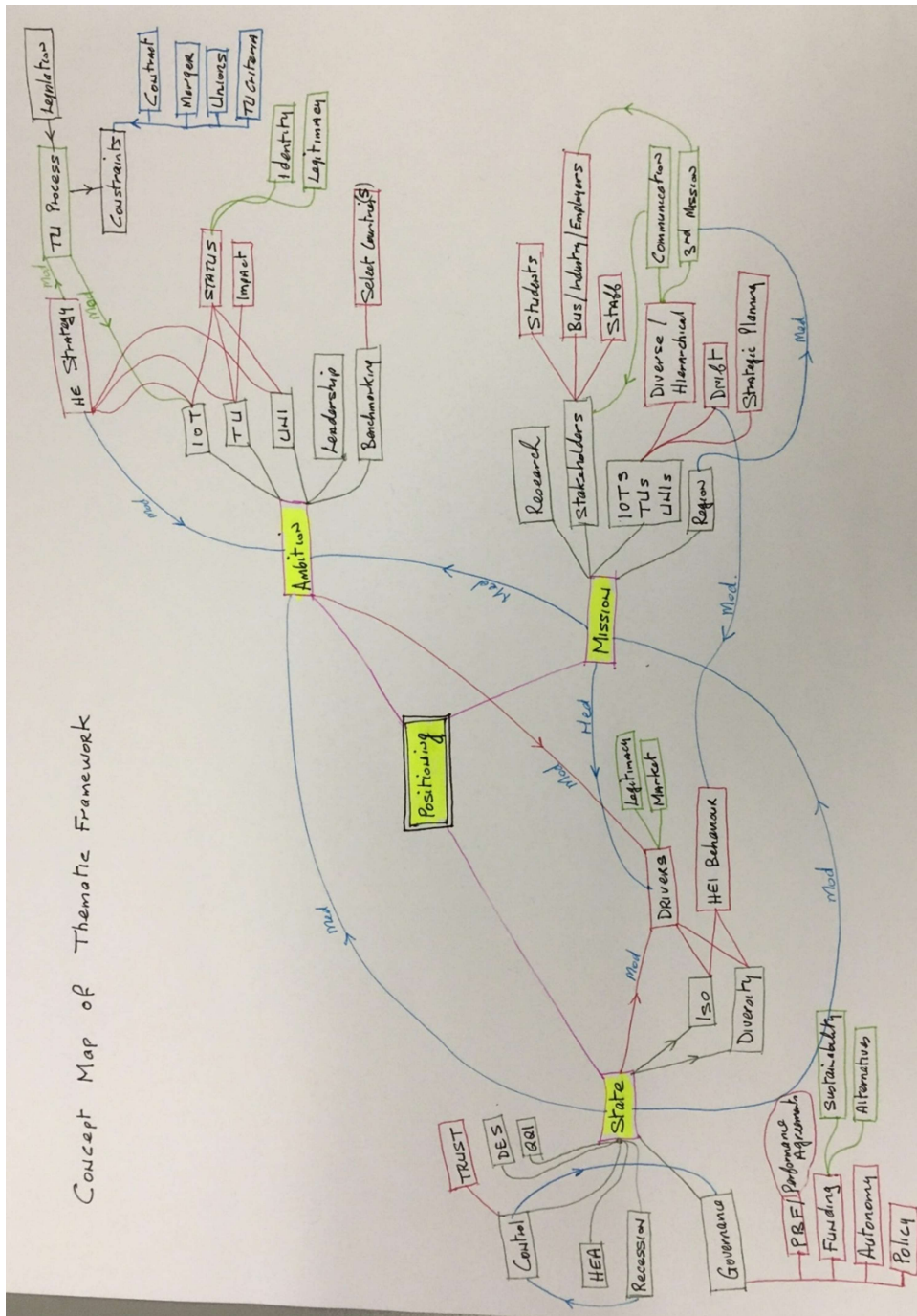
Appendix 4

Appendix 4.1 EUA University Autonomy Scorecard Data

Dimensions / Indicators	Select Countries				
	Ireland	UK	Finland	Netherlands	Norway
Organisational	6th	1st	3rd	13th	8th
	%	%	%	%	%
Selection procedure for the executive head	100	100	100	0	100
Selection criteria for executive head	100	100	75	100	100
Dismissal of the executive head	100	100	100	100	80
Term of office of the executive head	0	100	60	100	0
External members in university governing bodies	57	100	100	29	57
Capacity to decide on academic structures	100	100	100	100	100
Capacity to create legal entities	100	100	100	100	100
Financial	12th	3rd	16th	5th	21st
	%	%	%	%	%
Length of public funding cycle	60	60	60	60	100
Type of public funding	80	100	100	100	100
Ability to borrow money	80	90	100	100	0
Ability to keep surplus	0	100	100	100	80
Ability to own buildings	80	100	80	100	80
Tuition fees for national/EU students at Bachelor level	0	40	0	0	0
Tuition fees for national/EU students at Master's level	100	100	0	0	0
Tuition fees for national/EU students at doctoral level	100	100	0	100	0
Tuition fees for non-EU students at Bachelor level	100	100	0	100	0

Tuition fees for non-EU students at Master's level	100	100	20	100	0
Tuition fees for non-EU students at Doctoral level	100	100	0	100	0
Staffing	11th %	2nd %	6th %	13th %	16th %
Recruitment procedures for senior academic staff	75	100	100	100	100
Recruitment procedures for senior administrative staff	75	100	100	100	100
Salaries for academic staff	67	67	67	67	58
Salaries for administrative staff	67	100	67	67	100
Dismissal of senior academic staff	100	100	100	20	0
Dismissal of senior administrative staff	100	100	100	20	0
Promotion procedures for senior academic staff	86	100	100	100	71
Promotion procedures for senior administrative staff	86	100	100	100	100
Academic	1st %	3rd %	5th %	23rd %	2nd %
Overall student numbers	100	60	60	0	80
2. Admissions procedures at Bachelor level	100	100	100	40	100
3. Admissions procedures at Master's level	100	100	100	60	100
4. Introduction of programmes at Bachelor level	100	100	80	40	100
5. Introduction of programmes at Master's level	100	100	80	40	100
6. Introduction of programmes at Doctoral level	100	100	80	100	100
7. Termination of degree programmes	100	100	60	100	100
8. Language of instruction at Bachelor level	100	100	100	100	100
9. Language of instruction at Master's level	100	100	100	100	100
10. Selection of quality assurance mechanisms	100	100	100	0	100
11. Selection of quality assurance providers	100	100	100	0	100
12. Capacity to design content of degree programmes	100	100	100	100	100

Appendix 4.2 Dimensions of Diversity

Appendix 4.2.1 Evaluation of Performance

SECTOR	HEI	CATEGORY	SPECIFIC FINDINGS (THEMES)
Universities	UCD	1	On track to achieve targets in teaching and learning, enterprise engagement, research and internationalisation.
	UCC	1	Very strong research.
	NUIG	1	Very strong benchmarking, and high institutional confidence.
	NUIM	1	Teaching and learning strong, and where gaps arise good analysis provided.
	TCD	1	Significant benchmarking in relation to research.
	UL	1	Improvements made in teaching and learning. Logistical issues and a delay in providing joint BA degree (UL-MIC).
	DCU	1	All themes addressed comprehensively.

SECTOR	HEI	CATEGORY	SPECIFIC FINDINGS (THEMES)
Institutes of Technology	AIT	2	Potential to add value w/ TU status noted. More detail needed on internal analysis of performance; how AIT is learning and developing capacity.
	ITB	2	High non progression rates, no specific targets to increase access by target groups (but good performance already in that area).
	CIT	1	All themes addressed comprehensively.
	IT Carlow	1	Growth in student numbers, delivery of capital projects, quality measures (extended academic calendar, recruitment of high level academics). Growth in researcher numbers and income a challenge.

	DIT	2	Targets in access, participation and lifelong learning have not been met. Delay in implementation of research action plan. Need to reflect on implementation of the International Strategy.
	IADT-DL	1	Successfully setting and achieving targets.
	DKIT	3	Financial instability. DKIT International Business Plan delayed.
	GMIT	3	Underperforming in research, in particular around student numbers and income; participation and internationalisation domains.
	LIT	1	All themes addressed comprehensively.
	LYIT	2	Financial instability. Very little research activity and concerns over academic viability.
	IT Sligo	1	Good commitment to the student cohort and region in terms of programme offering, retention strategies; the level of industry engagement and online provision.
	IT Tralee	2	Issues around research in terms of numbers and intensity. Notable commitment to the region.
	ITTD	2	Teaching and learning particularly important.
	WIT	1	Well defined processes for QA and school reviews. Good focus on benchmarking, teaching and learning and addressing retention issues.

Appendix 4.2.2 Funding

	State Expenditure on HEIs			Expenditure per student				
Sector	2008	2014	% Change	2010/11	2012/13	% Change	2011/12	% Change
Unis	€ 765,469,029	€ 522,214,959	-31.78%	€ 10,903	€10,289	-5.63%	€ 10,285	-5.67%
IoTs	€ 542,077,150	€ 354,133,389	-34.67%	€ 9,415	€8,376	-11.04%	€ 8,711	-7.48%

Appendix 4.2.3 Access and Participation

	Flexible Learners (Undergrad P/T enrolments)			Matures (F/T undergrad new entrants)			Socio-Economic Groups		
Sector	2010/11	2014/15	% Change	2010/11	2014/15	% Change	2010/11	2014/15	Change
Unis	5,591	6,414	14.72%	2,162	1,859	-14.01%	81%	82%	1%
IoTs	12,885	14,133	9.69%	3,780	3,075	-18.65%	93%	69%	-24%

Appendix 4.2.4 Programme Offerings

	L6/7			L8		
Sector	2010	2014	% Change	2010	2014	% Change
Unis	4	4	0.00%	414	407	-1.69%
IoTs	370	414	11.89%	304	384	26.32%
Total	374	418	11.76%	718	791	10.17%

Appendix 4.2.5 Teaching and Learning

	Graduates (undergraduate)			New Entrants		
Sector	2010	2014	% Change	2010/11	2014/15	% Change
Unis	18,860	22,060	16.97%	20,147	23,243	15.37%
IoTs	19,074	22,760	19.32%	18,719	19,221	2.68%
Totals	37,934	44,820	18.15%	38,866	42,464	9.26%

	IoTs			Unis		
Enrolments	2010/11	2014/15	% Change	2010/11	2015/15	% Change
Ord. Degree (L7)	26,824	25,493	-4.96%	-	-	-
Hons. Degree (L8)	33,297	40,810	22.56%	70,571	76,052	7.77%
Masters Taught (L9)	3,191	3,928	23.10%	11,431	13,872	21.35%

Appendix 4.2.6 Research

	Graduates (Masters Research & PhD)					
	2010		**2014**		**% Change**	
Sector	**L9**	**L10**	**L9**	**L10**	**L9**	**L10**
Unis	363	1,153	286	1,558	-21.21%	35.13%
IoTs	74	69	70	114	-5.41%	65.22%

	Enrolments (Masters Research & PhD)					
	2010/11		**2014/15**		**% Change**	
Sector	**L9**	**L10**	**L9**	**L10**	**L9**	**L10**
Unis	1,051	7,697	780	7,240	-25.78%	-5.94%
IoTs	599	519	561	632	-6.34%	21.77%

	Research Grants Income		
	(Figures in €000)		
Sector	**2010/11**	**2014/15**	**% Change**
Unis	402,356	358,693	-10.85%
IoTs	75,587	66,110	-12.54%

	Staff Qualifications (% of full time academic staff)						
	PhD or Masters or both			**PhD**		**Masters**	
Sector	**2010**	**2014**	**Change**	**2010**	**2014**	**2010**	**2014**
Unis	95%	93%	-2%	75%	81%	20%	12%
IoTs	83%	85%	2%	24%	29%	59%	56%

	Staff Qualifications (full time academic staff)						
	PhD or Masters or both			**PhD**		**Masters**	
Sector	**2010**	**2014**	**% Chang**	**2010**	**2014**	**2010**	**2014**
Unis	4,073	3,979	-2.31%	3,215	3,465	857	513
IoTs	3,794	3,719	-1.98%	1,097	1,269	2,697	2,450

Appendix 4.2.7 International

Erasmus (Out)			
Sector	2010/11	2016	% Change
Unis	1,377	1,485	7.84%
IoTs	399	478	19.80%

International Students							
	EU		**Non-EU**		**Total**		**%**
Sector	2010/11	2016	2010/11	2016	2010/11	2016	**Change**
Unis	3,414	5,602	6,725	11,469	10,139	17,071	68.37%
IoTs	612	1,732	1,068	3,304	1,680	5,036	199.76%

Appendix 4.2.8 Regional Engagement

Awards per field of study (Total)						
	Unis			**IoTs**		
Field of Study	**2010**	**2014**	**% Change**	**2010**	**2014**	**% Change**
General Programmes	144	413	187%	12	167	1292%
Education	4768	3232	-32%	217	324	49%
Services	1403	328	-77%	1641	2819	72%
Arts & Humanities	6771	5876	-13%	1784	2366	33%
Social Sciences, Business and Law*	10545	13190	25%	7289	7075	-3%
Science**	4184	5499	31%	2352	4070	73%
Engineering, Manufacturing	2375	2182	-8%	4774	4694	-2%
Agriculture and Veterinary	391	485	24%	367	566	54%
Health and Welfare	6269	6435	3%	2935	3433	17%
Totals	**36850**	**37640**	**2%**	**21371**	**25514**	**19%**

Appendix 4.2.9 Institutional Profile

	Total Student Enrolments			Student:Staff Ratio		
Sector	2010/11	2014/15	% Change	2010/11	2016	% Change
Unis	106,260	113,703	7.00%	22.5	24.0	6.67%
IoTs	80,097	88,187	10.10%	15.5	17.6	13.55%

Staff Numbers						
	Unis			IoTs		
Staff	2010	2014	% Change	2010	2014	% Change
Academic	4,382	4,278	-2.37%	4,644	4,375	-5.79%
Non Academic	5,363	4,863	-9.32%	2,888	2,820	-2.35%
Research and Specialist - Academic	3,020	3,175	5.13%	166	540	225.30%
Research and Specialist - Non Academic	1,288	1,803	39.98%	614	491	-20.03%
Totals	14,053	14,119	0.47%	8,313	8,226	-1.05%

Non-Progression by Sector			
SECTOR	LEVEL	2007/08-08/09	2012/13-13/14
IoTs	6	25%	26%
	7	26%	28%
	8	16%	17%
Unis	8	9%	11%

Appendix 4.2.10 KPIs and Source Documents

Dimensions	KPIs	Source Docs	
1. Control	Performance Based Funding	HEA Compacts and HEA response to Compacts	
2. Funding	State expenditure on HEIs	Creating a supportive working environment for academics in HE', p. 52	
	Expenditure per student	HEA HE System Performance Report 2014-2016, showing 2010/11 figures. P. 96	
3. Access & Participation	Flexible Learners	HEA Key Facts & Figures 2014/15, p.10 + HEA Profiles for the 2010-2011 academic year [HEA December 2013]	
	Mature new undergraduate entrants	HEA Key Facts & Figures 2014/15, p.23 + HEA Profiles for the 2010-2011 academic year [HEA December 2013]	
	Socio-Economic Group by Sector	HEA Key Facts & Figures 2014/15, p.20 + HEA Profiles for the 2010-2011 academic year [HEA December 2013]	
4. Programme Offerings	No of programmes at: L6, L7, L8	CAO Handbook for 2010 and 2014	
	Disciplinary Mix	HEA Key Facts & Figures 2014/15, p.8 + HEA Profiles for the 2010-2011 academic year [HEA December 2013]	
5. Teaching & Learning	Graduates: undergraduate	HEA Key Facts & Figures 2014/15 + HEA Profiles for the 2010-2011 academic year [HEA December 2013]	
	New Entrants	HEA Key Facts & Figures 2014/15 + HEA Profiles for the 2010-2011 academic year [HEA December 2013]	
	Enrolments at undergraduate and taught postgraduate level	HEA Profiles for the 2010-2011 academic year [HEA December 2013] + '2014-15 all modes' spreadsheet in Enrolments folder	

Dimensions	KPIs	Source Docs
6. Research	Graduates: L9 and L10.	HEA Profiles for the 2010-2011 academic year [HEA December 2013] + '2014-15 awards by level and field' spreadsheet in Graduates folder
	Enrolments by sector	HEA Profiles for the 2010-2011 academic year [HEA December 2013] + '2014-15 all modes' spreadsheet in Enrolments folder
	Research Grants & Contracts IoTs / Universities	HEA Profiles for the 2010-2011 academic year [HEA December 2013] + 'Key Facts and Figures - 2014/15', p.37
	Staff Qualifications	HEA Profiles for the 2010-2011 academic year [HEA December 2013] + 'Key Facts and Figures - 2014/15', p.35
7. International	EU Mobility: Erasmus outgoing students	HEA Profiles for the 2010-2011 academic year [HEA December 2013] + 'HE System Performance 2014-2016' [HEA]
	International students	HEA Profiles for the 2010-2011 academic year [HEA December 2013] + 'HE System Performance 2014-2016' [HEA]
8. Regional Engagement	Awards per field of study	2014 Awards spreadsheet in Graduates folder + 2010 Awards spreadsheet
9. Institutional Profile	Total student enrolments	HEA Profiles for the 2010-2011 academic year [HEA December 2013] + 'Key Facts and Figures - 2014/15'
	Staff numbers	'Key Facts and Figures - 2014/15', p.34
	Student:staff ratio by sector	HEA Profiles for the 2010-2011 academic year [HEA December 2013] + 'HE System Performance 2014-2016' [HEA]
	Progression by sector	A study of Progression in Irish HE
10. Strategic Planning	Mission statements	Own research

Appendix 4.3 Measuring Diversity Trends across Forty-Nine Elements of Eight Dimensions of Diversity

METRIC	SUBMETRIC		Δ'	Weight	Weighted Value
Funding	State Expenditure on HEIs		0.752	0.020408163	0.015346939
	Funding per Student		1.058	0.020408163	0.021591837
Access & Participation	Flexible Learners (Undergrad P/T enrolments)		0.974	0.020408163	0.019877551
	Matures (F/T undergrad new entrants)		0.752	0.020408163	0.015346939
	Socio-Economic Groups		1.083	0.020408163	0.022102041
Programme Offerings	Programmes by Level	L6/7	1.12	0.020408163	0.022857143
		L8	0.209	0.020408163	0.004265306
	Disciplinary Mix	General Programmes	16.15	0.020408163	0.329591837
		Education	0.984	0.020408163	0.020081633
		Services	1.114	0.020408163	0.022734694
		Arts & Humanities	0.854	0.020408163	0.017428571
		Soc Science, Business & Law	44.175	0.020408163	0.901530612
		Science	1.012	0.020408163	0.020653061
		Engineering, Manufacturing, Constructio	0.766	0.020408163	0.015632653
		Agriculture & Veterinary	6	0.020408163	0.12244898
		Health & Welfare	0.924	0.020408163	0.018857143
		Total	1.864	0.020408163	0.038040816
Teaching & Learning	Graduates (undergraduate)		3.271	0.020408163	0.066755102
	New Entrants		2.817	0.020408163	0.057489796
	Enrolments	L8	0.945	0.020408163	0.019285714
		L9	1.207	0.020408163	0.024632653
Research	Graduates (Masters Research & PhD)	L9	0.747	0.020408163	0.015244898
		L10	1.332	0.020408163	0.027183673
	Enrolments (Masters Research & PhD)	L9	0.485	0.020408163	0.009897959
		L10	0.921	0.020408163	0.018795918
	Research Grants Income		0.895	0.020408163	0.018265306
	Staff Qualifications (full time academic staff)	PhD OR Masters OR Both	0.932	0.020408163	0.019020408
		PhD	1.037	0.020408163	0.021163265
		Masters	1.053	0.020408163	0.021489796
International	Erasmus (Out)		1.03	0.020408163	0.021020408
	International Students		1.423	0.020408163	0.029040816
Regional Engagement	Awards per field of study (Total)	General Programmes	1.864	0.020408163	0.038040816
		Education	0.639	0.020408163	0.013040816
		Services	10.466	0.020408163	0.213591837
		Arts & Humanities	0.704	0.020408163	0.014367347
		Soc Science, Business & Law	1.878	0.020408163	0.038326531
		Science	0.78	0.020408163	0.015918367
		Engineering, Manufacturing, Constructio	1.047	0.020408163	0.021367347
		Agriculture & Veterinary	3.375	0.020408163	0.068877551
		Health & Welfare	0.9	0.020408163	0.018367347
		Total	0.783	0.020408163	0.015979592
Institutional Profile	Total Student Enrolments		0.975	0.020408163	0.019897959
	Student:Staff Ratio		0.914	0.020408163	0.018653061
	Staff Numbers	Academic	0.37	0.020408163	0.00755102
		Non-academic	0.825	0.020408163	0.016836735
		Research & Specialist Academic	0.923	0.020408163	0.018836735
		Research & Specialist Non-academic	1.947	0.020408163	0.039734694
		Total	1.027	0.020408163	0.020959183
	Non-Progression (L8 Courses Only)		0.857	0.020408164	0.017489796

This last cell will automatically adjust to keep sum of weights = 1   Weighted average: 2.615510204

Measuring the trend toward diversity:

By taking the absolute value of the difference between the figures for IoTs and for Unis in the first year (2010/11) as a base (Δ0) set to 1, we can compare the changes in the gap between sectors on a normalised scale where Δ' :

>1 means bigger gap, more diverse
=1 means no change
<1 means smaller gap, less diverse
=0 means no diversity, IoTs and Unis are the same

The normalised scale allows for comparisons across the metrics.

Calculation:

$\Delta_0 = |IoTs_0 - Unis_0|$ IoTs0 and Unis0 are the figures for each sector in the base year
$\Delta_1 = |IoTs_1 - Unis_1|$ Δ_1 is the gap between the sectors in the end year (2014/15)

$$\Delta' = \Delta_1 \div \Delta_0$$

Weighted Average: 2.615510204

Weighted Average = Each Δ' x corresponding weight
49 elements therefore for even distribution all weights are
(100/49)/100 = 0.020408163
Sum of weights must equal 1.

Appendix 4.4 Measuring Diversity: Inter-Institutional Diversity (Equal weight)

Equal weighting assigned to each of 29 elements in the 8 dimensions.

DIMENSION	METRIC	SUBMETRIC [KPI]	Δ'	Weight	Weighted Value
2. Funding	State Expenditure on HEIs		0.752	0.034482759	0.025931034
	Funding per Student		1.058	0.034482759	0.036482759
3. Access & Participation	Flexible Learners (Undergrad P/T enrolments)		0.974	0.034482759	0.033586207
	Matures (F/T undergrad new entrants)		0.752	0.034482759	0.025931034
	Socio-Economic Groups		1.083	0.034482759	0.037344828
4. Programme Offerings	Programmes by Level	L6/7	1.12	0.034482759	0.03862069
		L8	0.209	0.034482759	0.007206897
	Disciplinary Mix	Total	1.864	0.034482759	0.064275862
5. Teaching & Learning	Graduates (undergraduate)		3.271	0.034482759	0.112793103
	New Entrants		2.817	0.034482759	0.097137931
	Enrolments	L8	0.945	0.034482759	0.032586207
		L9	1.207	0.034482759	0.04162069
6. Research	Graduates (Masters Research & PhD)	L9	0.747	0.034482759	0.025758621
		L10	1.332	0.034482759	0.045931034
	Enrolments (Masters Research & PhD)	L9	0.485	0.034482759	0.016724138
		L10	0.921	0.034482759	0.031758621
	Research Grants Income		0.895	0.034482759	0.030862069
	Staff Qualifications (full time academic staff)	PhD OR Masters OR Both	0.932	0.034482759	0.032137931
		PhD	1.037	0.034482759	0.035758621
		Masters	1.053	0.034482759	0.036310345
7. International	Erasmus (Out)		1.03	0.034482759	0.035517241
	International Students		1.423	0.034482759	0.049068966
8. Regional Engagement	Awards per field of study (Total)	Total	0.783	0.034482759	0.027
9. Institutional Profile	Total Student Enrolments		0.975	0.034482759	0.03362069
	Student:Staff Ratio		0.914	0.034482759	0.031517241
	Staff Numbers	Academic	0.37	0.034482759	0.012758621
		Non-academic	0.825	0.034482759	0.028448276
		Total	1.027	0.034482759	0.035413793
	Non-Progression (L8 Courses Only)		0.857	0.034482759	0.029551724

This last cell will automatically adjust to keep sum of weights = 1   Weighted average: **1.091655172**

Measuring the trend toward diversity:

By taking the absolute value of the difference between the figures for IoTs and for Unis in the first year (2010/11) as a base ($\Delta0$) set to 1, we can compare the changes in the gap between sectors on a normalised scale where Δ':

     >1 means bigger gap, more diverse
     =1 means no change
     <1 means smaller gap, less diverse
     =0 means no diversity, IoTs and Unis are the same

The normalised scale allows for comparisons across the metrics.

Calculation:

$\Delta_0 = |IoTs_0 - Unis_0|$ IoTs0 and Unis0 are the figures for each sector in the base year
$\Delta_1 = |IoTs_1 - Unis_1|$ Δ_1 is the gap between the sectors in the end year (2014/15)

$$\Delta' = \Delta_1 \div \Delta_0$$

Dimension	Weighted Average
9	0.171310345
8	0.027
7	0.084586207
6	0.255241379
5	0.284137931
4	0.110103448
3	0.096862069
2	0.062413793

Weighted Average: 1.091655172

Weighted Average = Each Δ' x corresponding weight
29 elements therefore for even distribution all weights are (100/29)/100 = 0.034482759
Sum of weights must equal 1.

Appendix 4.5 Measuring Diversity: Inter-Institutional Diversity (Unequal weight)

Unequal weighting assigned to 7 of 29 elements in the 8 dimensions.

DIMENSION	METRIC	SUBMETRIC [KPI]	Δ'	Weight	Weighted Value
2. Funding	State Expenditure on HEIs		0.752	0.1	0.0752
	Funding per Student		1.058	0.1	0.1058
3. Access & Participation	Flexible Learners (Undergrad P/T enrolments)		0.974	0.01	0.00974
	Matures (F/T undergrad new entrants)		0.752	0.01	0.00752
	Socio-Economic Groups		1.083	0.01	0.01083
4. Programme Offerings	Programmes by Level	L6/7	1.12	0.01	0.0112
		L8	0.209	0.1	0.0209
	Disciplinary Mix	Total	1.864	0.01	0.01864
5. Teaching & Learning	Graduates (undergraduate)		3.271	0.01	0.03271
	New Entrants		2.817	0.01	0.02817
	Enrolments	L8	0.945	0.1	0.0945
		L9	1.207	0.01	0.01207
6. Research	Graduates (Masters Research & PhD)	L9	0.747	0.1	0.0747
		L10	1.332	0.1	0.1332
	Enrolments (Masters Research & PhD)	L9	0.485	0.01	0.00485
		L10	0.921	0.01	0.00921
	Research Grants Income		0.895	0.1	0.0895
	Staff Qualifications (full time academic staff)	PhD OR Masters OR Both	0.932	0.01	0.00932
		PhD	1.037	0.01	0.01037
		Masters	1.053	0.01	0.01053
7. International	Erasmus (Out)		1.03	0.01	0.0103
	International Students		1.423	0.01	0.01423
8. Regional Engagement	Awards per field of study (Total)	Total	0.783	0.01	0.00783
9. Institutional Profile	Total Student Enrolments		0.975	0.01	0.00975
	Student:Staff Ratio		0.914	0.01	0.00914
	Staff Numbers	Academic	0.37	0.01	0.0037
		Non-academic	0.825	0.01	0.00825
		Total	1.027	0.01	0.01027
	Non-Progression (L8 Courses Only)	Total	0.857	0.09	0.07713

This last cell will automatically adjust to keep sum of weights = 1   Weighted average: 0.91956

Dimension	Weighted Average
9	0.11824
8	0.027
7	0.02453
6	0.34168
5	0.16745
4	0.05074
3	0.02809
2	0.181

Measuring the trend toward diversity:

By taking the absolute value of the difference between the figures for IoTs and for Unis in the first year (2010/11) as a base (Δ0) set to 1, we can compare the changes in the gap between sectors on a normalised scale where Δ' :

>1 means bigger gap, more diverse
=1 means no change
<1 means smaller gap, less diverse
=0 means no diversity, IoTs and Unis are the same

The normalised scale allows for comparisons across the metrics.

Calculation:

$\Delta_0 = |IoTs_0 - Unis_0|$ IoTs0 and Unis0 are the figures for each sector in the base year
$\Delta_1 = |IoTs_1 - Unis_1|$ Δ_1 is the gap between the sectors in the end year (2014/15)

$$\Delta' = \Delta_1 \div \Delta_0$$

Weighted Average: 0.91956

Weighted Average = Each Δ' x corresponding weight

Appendix 4.6 Measuring Diversity: IoT Intra-Institutional Diversity (Equal weight)

Equal weighting assigned to each of 29 elements in the 8 dimensions.

DIMENSION	METRIC	SUBMETRIC [KPI]	Δ'	Weight	Weighted Value
2. Funding	State Expenditure on HEIs		0.65	0.034482759	0.022413793
	Funding per Student		0.89	0.034482759	0.030689655
3. Access & Participation	Flexible Learners (Undergrad P/T enrolments)		1.0968	0.034482759	0.03782069
	Matures (F/T undergrad new entrants)		0.813	0.034482759	0.028034483
	Socio-Economic Groups		0.742	0.034482759	0.025586207
4. Programme Offerings	Programmes by Level	L6/7	1.12	0.034482759	0.03862069
		L8	1.26	0.034482759	0.043448276
	Disciplinary Mix	Total	1.03	0.034482759	0.035517241
5. Teaching & Learning	Graduates (undergraduate)		1.19	0.034482759	0.041034483
	New Entrants		1.03	0.034482759	0.035517241
	Enrolments	L8	1.22	0.034482759	0.042068966
		L9	1.23	0.034482759	0.042413793
6. Research	Graduates (Masters Research & PhD)	L9	0.94	0.034482759	0.032413793
		L10	1.65	0.034482759	0.056896552
	Enrolments (Masters Research & PhD)	L9	0.94	0.034482759	0.032413793
		L10	1.22	0.034482759	0.042068966
	Research Grants Income		0.87	0.034482759	0.03
	Staff Qualifications (full time academic staff)	PhD OR Masters OR Both	0.98	0.034482759	0.033793103
		PhD	1.16	0.034482759	0.04
		Masters	0.91	0.034482759	0.03137931
7. International	Erasmus (Out)		1.2	0.034482759	0.04137931
	International Students		2.99	0.034482759	0.103103448
8. Regional Engagement	Awards per field of study (Total)	Total	1.19	0.034482759	0.041034483
9. Institutional Profile	Total Student Enrolments		1.1	0.034482759	0.037931034
	Student:Staff Ratio		1.13	0.034482759	0.038965517
	Staff Numbers	Academic	0.94	0.034482759	0.032413793
		Non-academic	0.98	0.034482759	0.033793103
		Total	0.99	0.034482759	0.03413793
	Non-Progression (L8 Courses Only)		1.06	0.034482759	0.036551724

This last cell will automatically adjust to keep sum of weights = 1   **Weighted average:**   **1.121441379**

Measuring the trend toward diversity:

By taking the absolute value of the difference between the figures for IoTs and for Unis in the first year (2010/11) as a base (Δ0) set to 1, we can compare the changes in the gap between sectors on a normalised scale where Δ' :

      >1 means bigger gap, more diverse
      =1 means no change
      <1 means smaller gap, less diverse
      =0 means no diversity, IoTs and Unis are the same
The normalised scale allows for comparisons across the metrics.

Calculation:
$\Delta_0 = |IoTs_0 - Unis_0|$ IoTs0 and Unis0 are the figures for each sector in the base year
$\Delta_1 = |IoTs_1 - Unis_1|$ Δ_1 is the gap between the sectors in the end year (2014/15)

$$\Delta' = \Delta_1 \div \Delta_0$$

Dimension	Weighted Average
9	0.213793103
8	0.027
7	0.144482759
6	0.298965517
5	0.161034483
4	0.117586207
3	0.091441379
2	0.053103448

Weighted Average: 1.121441379

Weighted Average = Each Δ' x corresponding weight
29 elements therefore for even distribution all weights are (100/29)/100 = 0.034482759
Sum of weights must equal 1.

Appendix 4.7 Measuring Diversity: IoT Intra-Institutional Diversity (Unequal weight)

Unequal weighting assigned to 7 of 29 elements in the 8 dimensions.

DIMENSION	METRIC	SUBMETRIC [KPI]	Δ'	Weight	Weighted Value
2. Funding	State Expenditure on HEIs		0.65	0.1	0.065
	Funding per Student		0.89	0.1	0.089
3. Access & Participation	Flexible Learners (Undergrad P/T enrolments)		1.0968	0.01	0.010968
	Matures (F/T undergrad new entrants)		0.813	0.01	0.00813
	Socio-Economic Groups		0.742	0.01	0.00742
4. Programme Offerings	Programmes by Level	L6/7	1.12	0.01	0.0112
		L8	1.26	0.1	0.126
	Disciplinary Mix	Total	1.03	0.01	0.0103
5. Teaching & Learning	Graduates (undergraduate)		1.19	0.01	0.0119
	New Entrants		1.03	0.01	0.0103
	Enrolments	L8	1.22	0.1	0.122
		L9	1.23	0.01	0.0123
6. Research	Graduates (Masters Research & PhD)	L9	0.94	0.1	0.094
		L10	1.65	0.1	0.165
	Enrolments (Masters Research & PhD)	L9	0.94	0.01	0.0094
		L10	1.22	0.01	0.0122
	Research Grants Income		0.87	0.1	0.087
	Staff Qualifications (full time academic staff)	PhD OR Masters OR Both	0.98	0.01	0.0098
		PhD	1.16	0.01	0.0116
		Masters	0.91	0.01	0.0091
7. International	Erasmus (Out)		1.2	0.01	0.012
	International Students		2.99	0.01	0.0299
8. Regional Engagement	Awards per field of study (Total)	Total	1.19	0.01	0.0119
9. Institutional Profile	Total Student Enrolments		1.1	0.01	0.011
	Student:Staff Ratio		1.13	0.01	0.0113
	Staff Numbers	Academic	0.94	0.01	0.0094
		Non-academic	0.98	0.01	0.0098
		Total	0.99	0.01	0.0099
	Non-Progression (L8 Courses Only)		1.06	0.09	0.0954

This last cell will automatically adjust to keep sum of weights = 1   **Weighted average:**   **1.083218**

Measuring the trend toward diversity:

By taking the absolute value of the difference between the figures for IoTs and for Unis in the first year (2010/11) as a base (Δ0) set to 1, we can compare the changes in the gap between sectors on a normalised scale where Δ' :

        >1 means bigger gap, more diverse
        =1 means no change
        <1 means smaller gap, less diverse
        =0 means no diversity, IoTs and Unis are the same
The normalised scale allows for comparisons across the metrics.

Calculation:
$\Delta_0 = |IoTs_0 - Unis_0|$ IoTs0 and Unis0 are the figures for each sector in the base year
$\Delta_1 = |IoTs_1 - Unis_1|$ Δ_1 is the gap between the sectors in the end year (2014/15)

$$\Delta' = \Delta_1 \div \Delta_0$$

Dimension	Weighted Average
9	0.1468
8	0.027
7	0.0419
6	0.3981
5	0.1565
4	0.1475
3	0.026518
2	0.154

Weighted Average: 1.083218

Weighted Average = Each Δ' x corresponding weight

Appendix 4.8 Measuring Diversity: University Sector Intra-Institutional Diversity (Equal weight)

Equal weighting assigned to each of 29 elements in the 8 dimensions.

DIMENSION	METRIC	SUBMETRIC [KPI]	Δ'	Weight	Weighted Value
2. Funding	State Expenditure on HEIs		0.68	0.034482759	0.023448276
	Funding per Student		0.94	0.034482759	0.032413793
3. Access & Participation	Flexible Learners (Undergrad P/T enrolments)		1.15	0.034482759	0.039655172
	Matures (F/T undergrad new entrants)		0.859	0.034482759	0.02962069
	Socio-Economic Groups		1.01	0.034482759	0.034827586
4. Programme Offerings	Programmes by Level	L6/7	1	0.034482759	0.034482759
		L8	0.98	0.034482759	0.033793103
	Disciplinary Mix	Total	1.07	0.034482759	0.036896552
5. Teaching & Learning	Graduates (undergraduate)		1.17	0.034482759	0.040344828
	New Entrants		1.15	0.034482759	0.039655172
	Enrolments	L8	1.08	0.034482759	0.037241379
		L9	1.21	0.034482759	0.041724138
6. Research	Graduates (Masters Research & PhD)	L9	0.79	0.034482759	0.027241379
		L10	1.35	0.034482759	0.046551724
	Enrolments (Masters Research & PhD)	L9	0.74	0.034482759	0.025517241
		L10	0.94	0.034482759	0.032413793
	Research Grants Income		0.89	0.034482759	0.030689655
	Staff Qualifications (full time academic staff)	PhD OR Masters OR Both	0.98	0.034482759	0.033793103
		PhD	1.08	0.034482759	0.037241379
		Masters	0.6	0.034482759	0.020689655
7. International	Erasmus (Out)		1.08	0.034482759	0.037241379
	International Students		1.68	0.034482759	0.057931034
8. Regional Engagement	Awards per field of study (Total)	Total	1.02	0.034482759	0.035172414
9. Institutional Profile	Total Student Enrolments		1.07	0.034482759	0.036896552
	Student:Staff Ratio		1.06	0.034482759	0.036551724
	Staff Numbers	Academic	0.98	0.034482759	0.033793103
		Non-academic	0.92	0.034482759	0.031724138
		Total	1	0.034482759	0.034482759
	Non-Progression (L8 Courses Only)		1.22	0.034482759	0.042068966

This last cell will automatically adjust to keep sum of weights = 1   Weighted average: **1.024103448**

Measuring the trend toward diversity:

By taking the absolute value of the difference between the figures for IoTs and for Unis in the first year (2010/11) as a base (Δ0) set to 1, we can compare the changes in the gap between sectors on a normalised scale where Δ':
- >1 means bigger gap, more diverse
- =1 means no change
- <1 means smaller gap, less diverse
- =0 means no diversity, IoTs and Unis are the same

The normalised scale allows for comparisons across the metrics.

Calculation:

$\Delta_0 = |IoTs_0 - Unis_0|$ IoTs0 and Unis0 are the figures for each sector in the base year

$\Delta_1 = |IoTs_1 - Unis_1|$ Δ_1 is the gap between the sectors in the end year (2014/15)

$$\Delta' = \Delta_1 \div \Delta_0$$

Dimension	Weighted Average
9	0.215517241
8	0.027
7	0.095172414
6	0.254137931
5	0.158965517
4	0.105172414
3	0.104103448
2	0.055862069

Weighted Average: 1.024103448

Weighted Average = Each Δ' x corresponding weight
29 elements therefore for even distribution all weights are (100/29)/100 = 0.034482759
Sum of weights must equal 1.

Appendix 4.9 Measuring Diversity: University Sector Intra-Institutional Diversity (Unequal weight)

Unequal weighting assigned to 7 of 29 elements in the 8 dimensions.

DIMENSION	METRIC	SUBMETRIC [KPI]	Δ'	Weight	Weighted Value
2. Funding	State Expenditure on HEIs		0.68	0.1	0.068
	Funding per Student		0.94	0.1	0.094
3. Access & Participation	Flexible Learners (Undergrad P/T enrolments)		1.15	0.01	0.0115
	Matures (F/T undergrad new entrants)		0.859	0.01	0.00859
	Socio-Economic Groups		1.01	0.01	0.0101
4. Programme Offerings	Programmes by Level	L6/7	1	0.01	0.01
		L8	0.98	0.1	0.098
	Disciplinary Mix	Total	1.07	0.01	0.0107
5. Teaching & Learning	Graduates (undergraduate)		1.17	0.01	0.0117
	New Entrants		1.15	0.01	0.0115
	Enrolments	L8	1.08	0.1	0.108
		L9	1.21	0.01	0.0121
6. Research	Graduates (Masters Research & PhD)	L9	0.79	0.1	0.079
		L10	1.35	0.1	0.135
	Enrolments (Masters Research & PhD)	L9	0.74	0.01	0.0074
		L10	0.94	0.01	0.0094
	Research Grants Income		0.89	0.1	0.089
	Staff Qualifications (full time academic staff)	PhD OR Masters OR Both	0.98	0.01	0.0098
		PhD	1.08	0.01	0.0108
		Masters	0.6	0.01	0.006
7. International	Erasmus (Out)		1.08	0.01	0.0108
	International Students		1.68	0.01	0.0168
8. Regional Engagement	Awards per field of study (Total)	Total	1.02	0.01	0.0102
9. Institutional Profile	Total Student Enrolments		1.07	0.01	0.0107
	Student:Staff Ratio		1.06	0.01	0.0106
	Staff Numbers	Academic	0.98	0.01	0.0098
		Non-academic	0.92	0.01	0.0092
		Total	1	0.01	0.01
	Non-Progression (L8 Courses Only)		1.22	0.09	0.1098

This last cell will automatically adjust to keep sum of weights = 1   **Weighted average:**   **0.99849**

Measuring the trend toward diversity:

By taking the absolute value of the difference between the figures for IoTs and for Unis in the first year (2010/11) as a base (Δ0) set to 1, we can compare the changes in the gap between sectors on a normalised scale where Δ' :

　　　　　>1 means bigger gap, more diverse
　　　　　=1 means no change
　　　　　<1 means smaller gap, less diverse
　　　　　=0 means no diversity, IoTs and Unis are the same
The normalised scale allows for comparisons across the metrics.

Calculation:
$\Delta_0 = |IoTs_0 - Unis_0|$　　　IoTs0 and Unis0 are the figures for each sector in the base year
$\Delta_1 = |IoTs_1 - Unis_1|$　　　Δ_1 is the gap between the sectors in the end year (2014/15)

$$\Delta' = \Delta_1 \div \Delta_0$$

Dimension	Weighted Average
9	0.1601
8	0.027
7	0.0276
6	0.3464
5	0.1433
4	0.1187
3	0.03019
2	0.162

Weighted Average: 0.99849

Weighted Average = Each Δ' x corresponding weight

Appendix 4.10 The Mission Statements of IoTs and Universities

	It was necessary to make some minor amendments to the mission statements in order to maintain anonymity. X's were used to remove names of institutions and italics were used to replace give-away words.	Please insert: **Uni** or **IoT** below	Ease of selection 1-5. 1 = very easy 5 = very difficult
1.	To transform lives and societies through education, research and innovation: • by developing creative, analytical, enterprising and socially responsible citizens, • by creating and translating knowledge to address major global challenges, • by leading public debate and providing critical analysis on areas of societal importance, and • by engaging with enterprise for the benefit of our students, our region and the wider economy.		
2.	The mission of xxxx is to be the centre of higher education and knowledge creation within xxxx and its environs, to broaden participation in higher education in the region, to be recognised as a leader in supporting research and commercial innovation and to assist in the advancement of the economic, social and cultural life of the region.		
3.	The mission of xxxx is to be a distinctive, pioneering and connected *institution* that shapes the future through educating and empowering people to meet the real challenge of tomorrow.		
4.	To provide student-centred, career-focused education and research for the personal, professional and intellectual development of the student and for the benefit of the broader society in the region and beyond.		
5.	To provide the community with quality third-level education and services, relevant to the economic, social and cultural development of the region in the national and international context. It aims to promote personal responsibility among all its students and enhance the professionalism of all its members in a supportive, inclusive and productive environment.		
6.	xxxx is committed to a set of values, and a programme of research and scholarship, which foster learning and leadership, and the development of the professional skills our graduates will require throughout their lifetimes.		
7.	To excel in teaching, research and development work, for the benefit of students, industry and the wider community.		

8.	To continuously develop as an academic institution of international repute, serving regional and national needs and pursing, in a collaborative fashion, an ambitious agenda and delivers on the aspirations of its vibrant population and its external stakeholders.		
9.	In an environment which gives parity of esteem to teaching, learning and research and where students are our highest priority, the xxxx central roles are to create, preserve, and communicate knowledge and to enhance intellectual, cultural, social and economic life locally regionally and globally.		
10.	To create an open, supportive and flexible environment that encourages and supports all learners by: • Raising standards through effective quality assurance • Transforming the learning environment • Promoting research and scholarship • Advancing knowledge management systems • Encouraging academic diversity • Investing in staff development • Supporting regional growth and success		
11.	xxxx will become a college of choice for learners and staff regionally, nationally and internationally. This will be achieved through the development of innovative excellence in teaching and enhancement of the learning centred environment. The establishment of a strong reputation in research, innovation and industrial collaboration and a leadership role in the economy, social, cultural and environmental development of *the* region.		
12.	Through our research and teaching, we engage students and society in the quest for knowledge, seeking to achieve excellence in all we do, and responding with creativity and imagination to the challenges and opportunities of a shared future.		
13.	At xxxx we develop life-long learning opportunities through our teaching and research, by supporting regional development consistent with national higher education policy.		
14.	xxxx will apply excellence in teaching, learning and research within an inclusive student-centred environment to foster graduates of distinction who are ready to take or enhance their leadership role in business, the professions, industry, public service and society. xxxx will manage its hinterland as a Learning Region by empowering knowledge generation and knowledge transfer and is committed to the educational development of the region in a way that is reflective of its national and international aspects. xxxx will contribute to the economic social and cultural development of the region and beyond.		

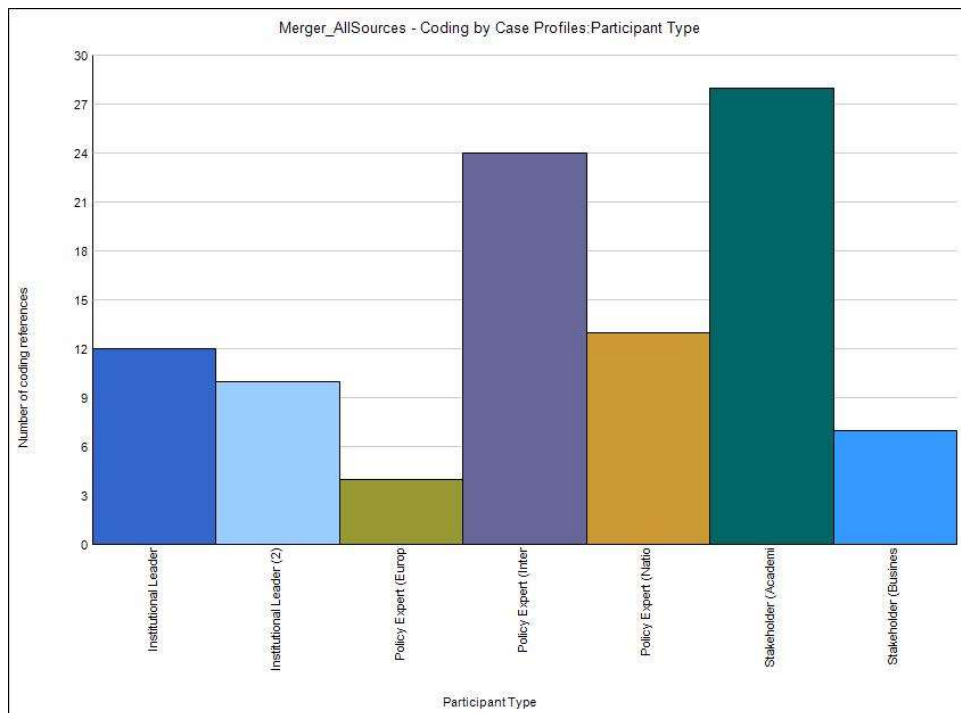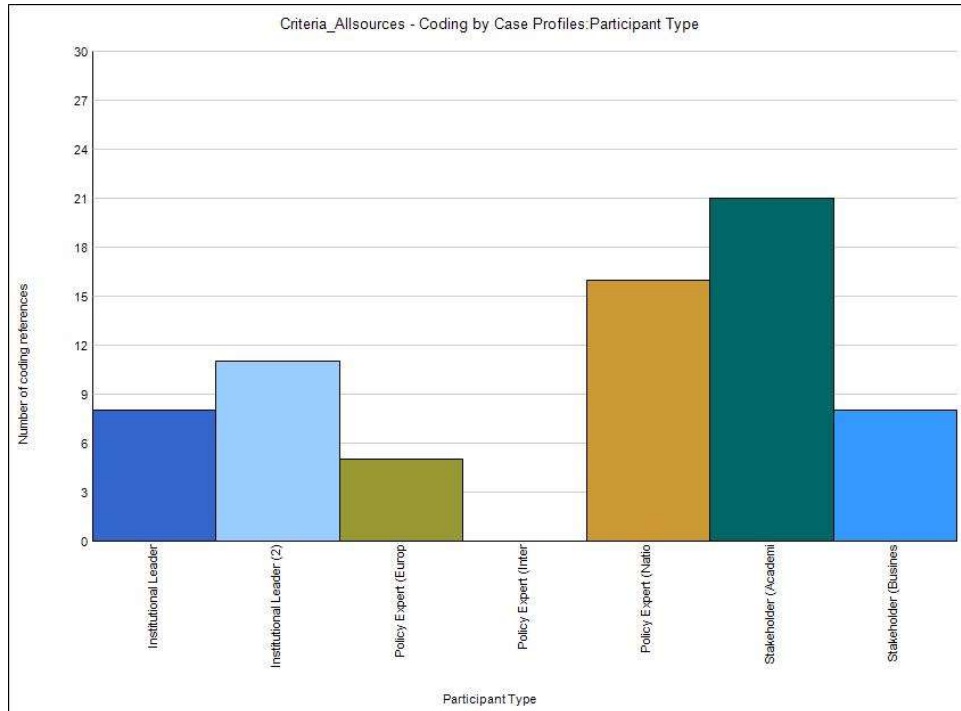| 15.	The mission of xxxx is to advance knowledge, to pursue truth and to foster learning, in an atmosphere of discovery, creativity and innovation, drawing out the best in each student and contributing to the social, cultural and economic life of Ireland in the wider world.		
16.	xxxx is dedicated to excellence in higher education through the provision of programmes leading to internationally recognised awards. xxxx is committed to ensuring that its learners and other members are afforded the opportunity to develop to their full potential in a professional and supportive environment. xxxx is committed to research and to enterprise related activities, and to enhancing the educational, cultural and sustainable economic development of *the region* and the wider community.		
17.	The learner is central to everything we do and our core function is to provide the learner with an excellent educational experience which achieves the mission of the xxxx to foster the professional, intellectual, social, cultural and personal development of the individual.		
18.	xxxx is dedicated to people, ideas and culture, where we work together as a scholarly community to inquire and discover, to teach and learn, to create, conserve, disseminate and apply knowledge, and to engage with the problems and challenges that face modern society; through all these things in combination, as are central to innovation, economic growth, social development and cultural vibrancy, and are essential to a free, open, equal, democratic and sustainable society.		
19.	xxxx mission is to serve students and the community by: • achieving consistently high standards of relevance and quality in teaching, research, development and consultancy and • offering a welcoming and supportive environment to students from educationally deprived backgrounds and to adults wishing to increase or update their level of skills.		
20.	xxxx provides an innovative, responsive and caring learning environment for a diverse range and level of programmes to students of all ages and backgrounds.		
21.	The mission is to sustain and enhance our reputation as the college of preferred choice in our areas of specialisation.		

Appendix 4.11 Strategic Plan Analysis

Themes identified in the Universities' and IoTs' Strategic Plans.
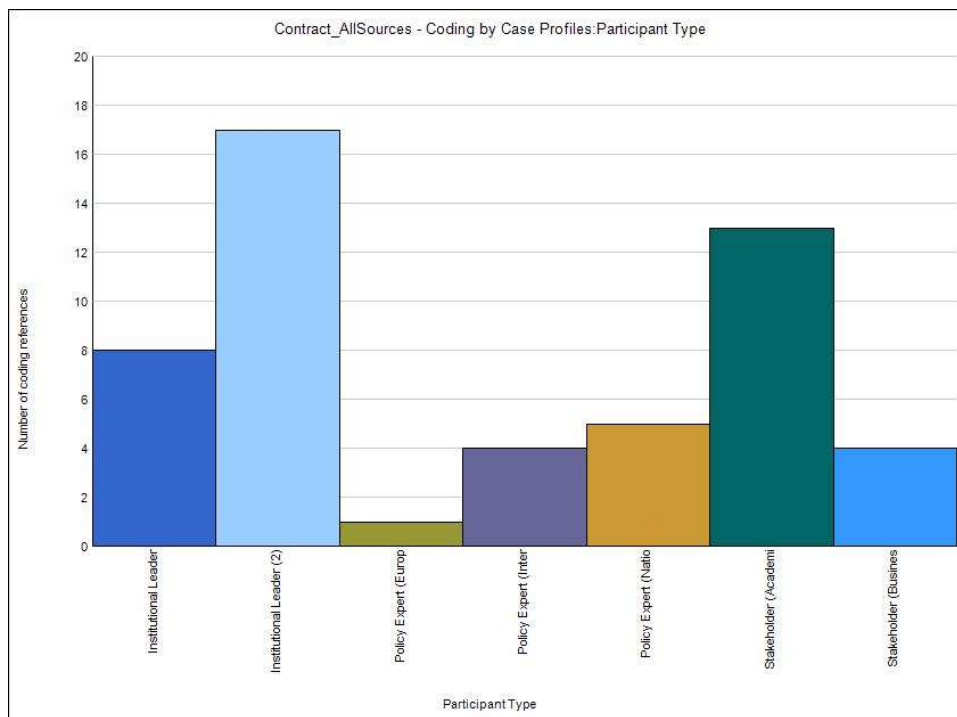(The five most common themes are highlighted)

Themes:	Total No. of HEIs	No. of Universities	Uni share of total [%]	%of Unis	% of IoTs
L&T / Education	15	6	40	85	64
RDI	20	7	35	100	93
Region/Engagement	18	7	39	100	78
Portfolio of programmes	4	0	0	0	28
Student Experience	13	3	23	43	71
Lifelong Learning	2	0	0	0	14
Organisation Structure	4	1	25	14	21
Infrastructure	4	1	25	14	21
Reputation	1	0	0	0	7
Staff Support	8	3	37	43	36
Mission development	1	0	0	0	7
Internationalisation	6	3	50	43	21
Student Retention	1	0	0	0	7
Partnerships	4	1	25	14	21
Student recruitment	1	0	0	0	7
Academic Autonomy	1	0	0	0	7
Resources & Planning	7	2	28	28	36
Governance	1	0	0	0	7
Online Learning	1	0	0	0	7
An Ghaeilge	1	1	100	14	0
Communications	1	1	100	14	0
Employability	1	0	0	0	7
Student Environment	1	0	0	0	7

Appendix 5

Appendix 5.1 Participants' References: Criteria and Mergers

Criteria_Allsources - Coding by Case Profiles:Participant Type
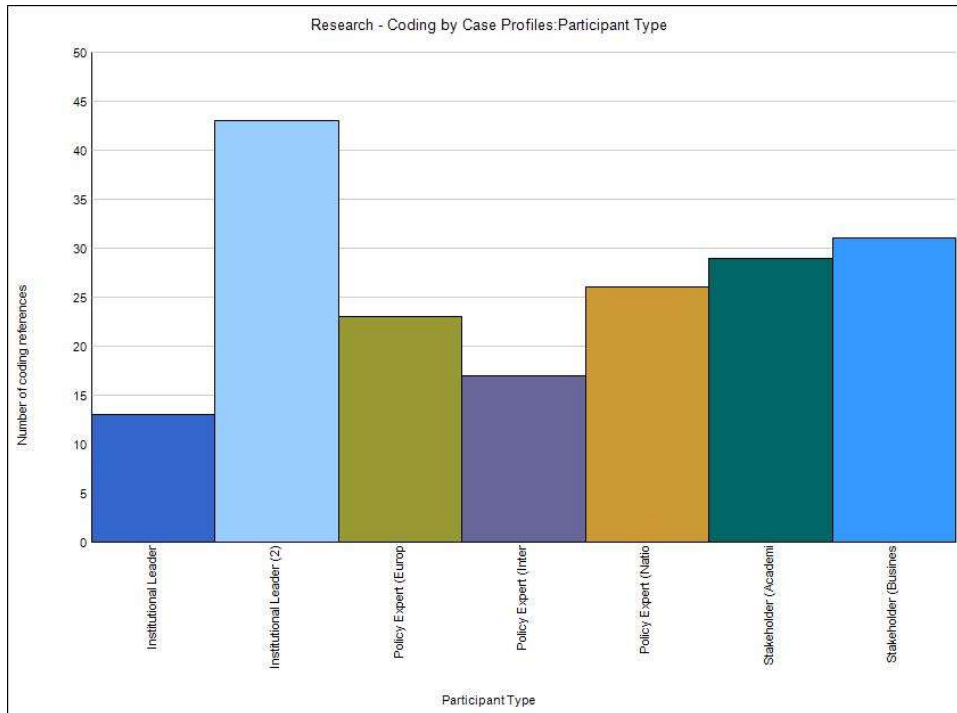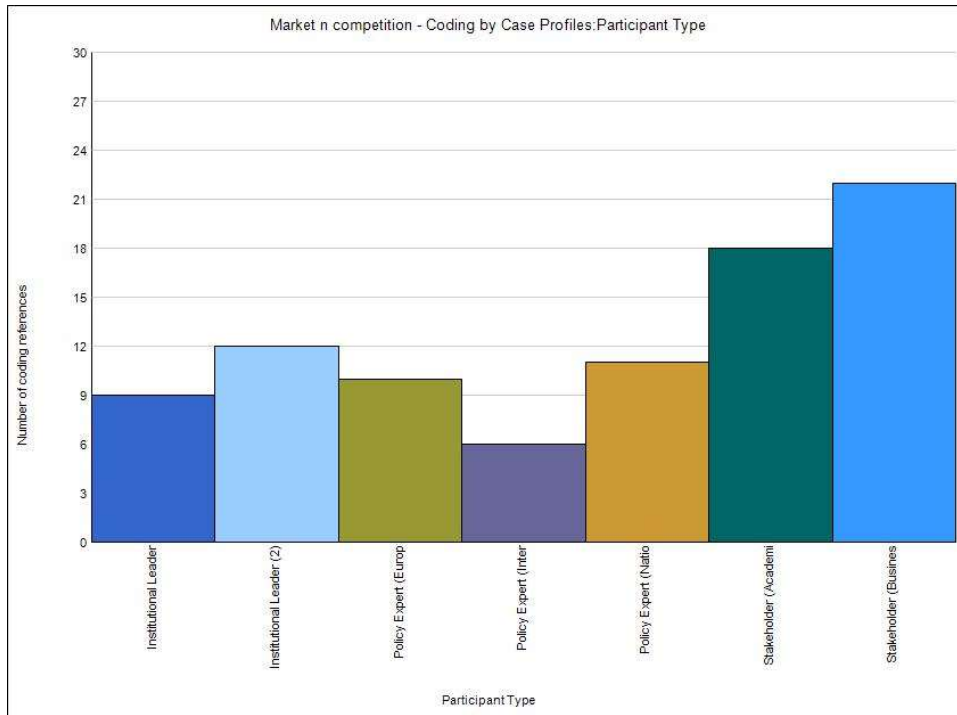

Merger_AllSources - Coding by Case Profiles:Participant Type

Appendix 5.2 Participants' References: The IoT Academic Staff Contract
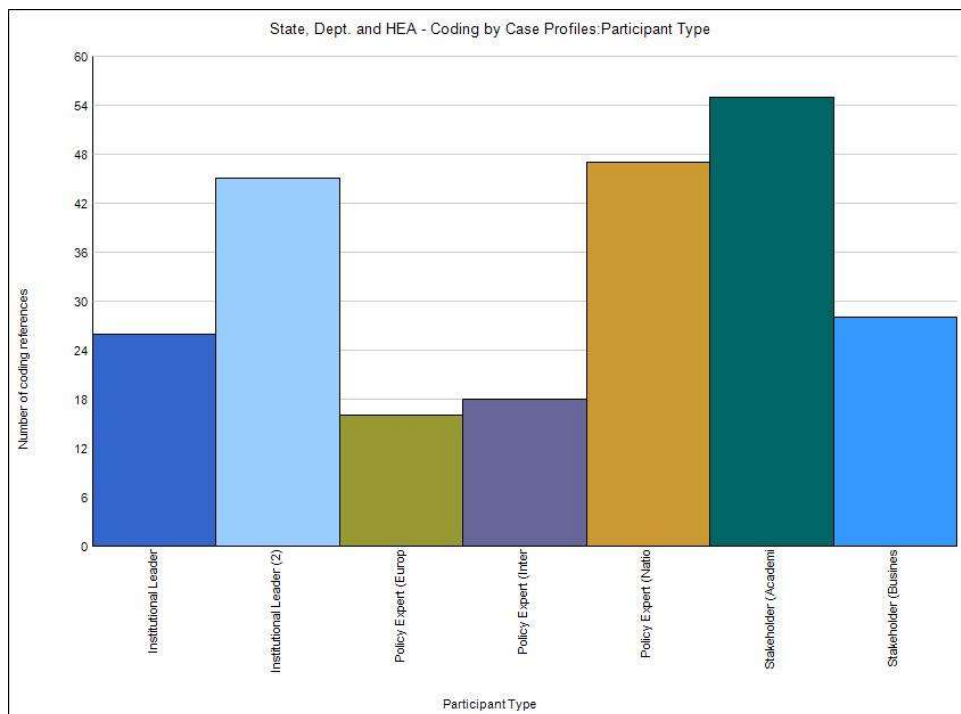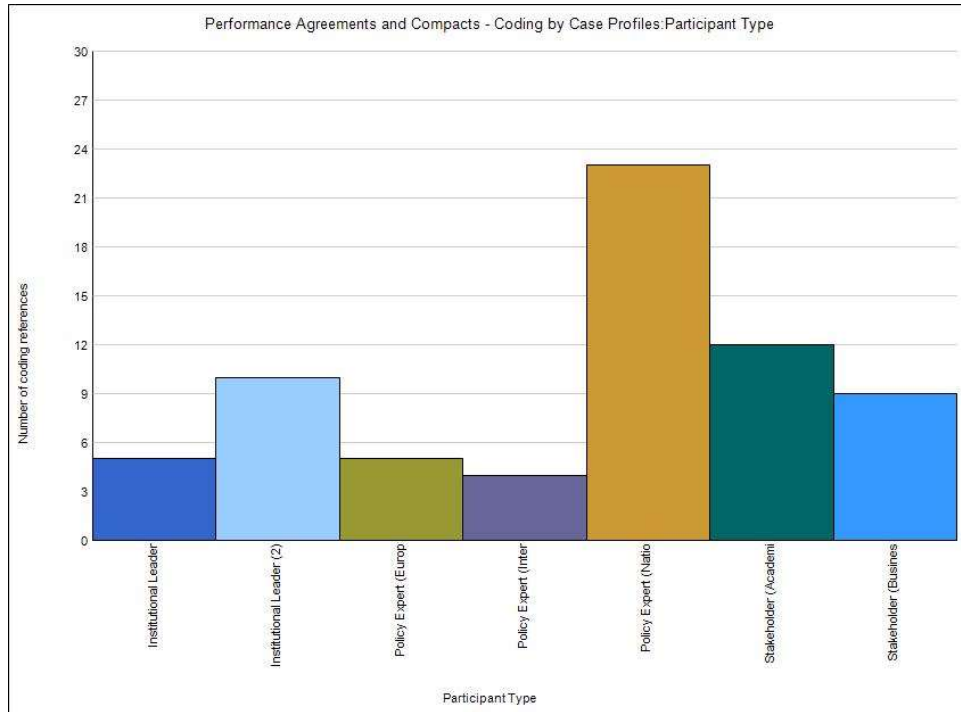

Contract_AllSources - Coding by Case Profiles:Participant Type
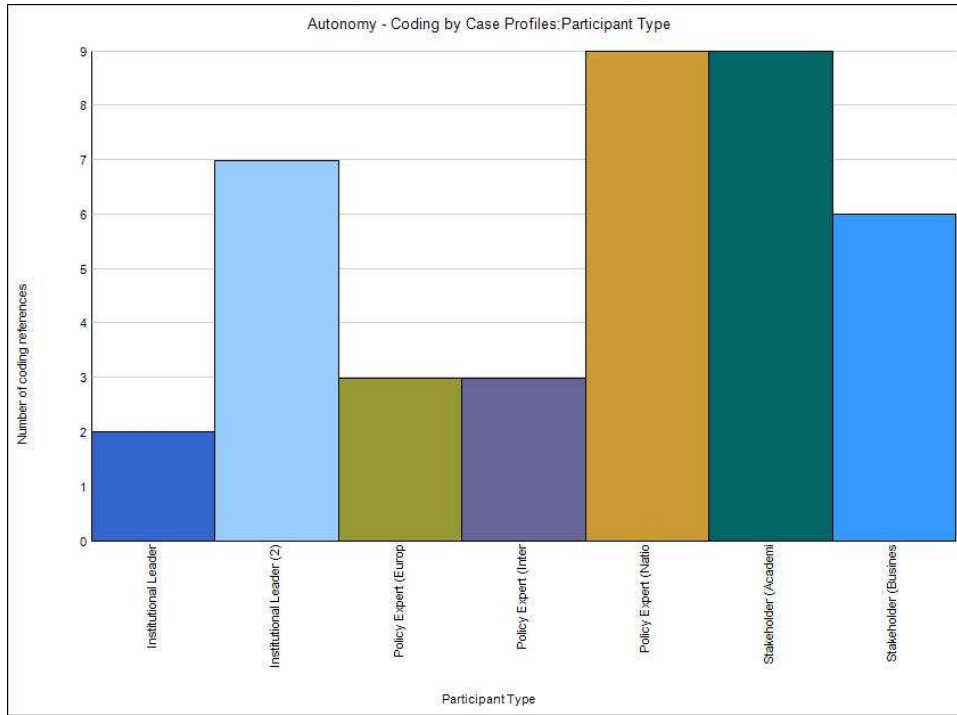
Appendix 5.3 Participants' References: Isomorphism and Diversity

Isomorphism - Coding by Case Profiles:Participant Type

Diversity - Coding by Case Profiles:Participant Type
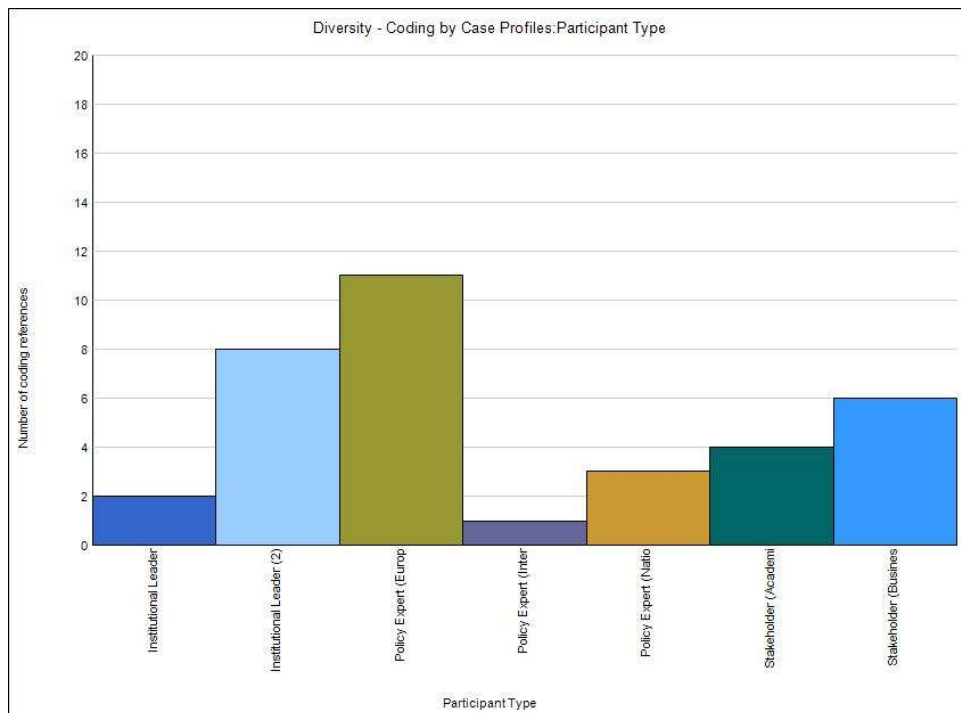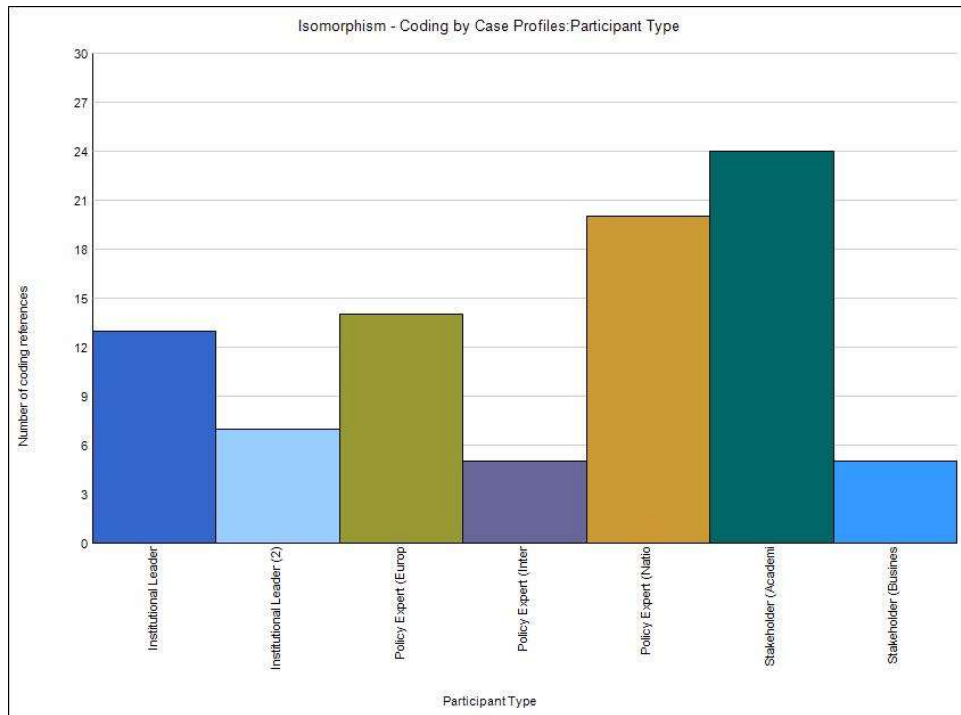
Appendix 5.4 Participants' References: Competition and Research

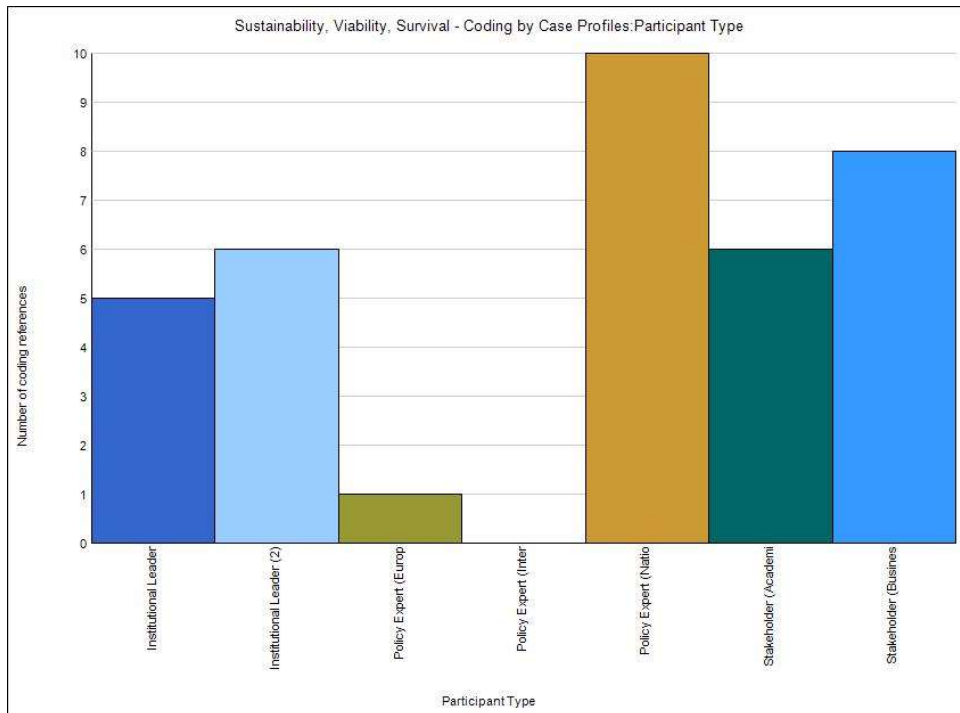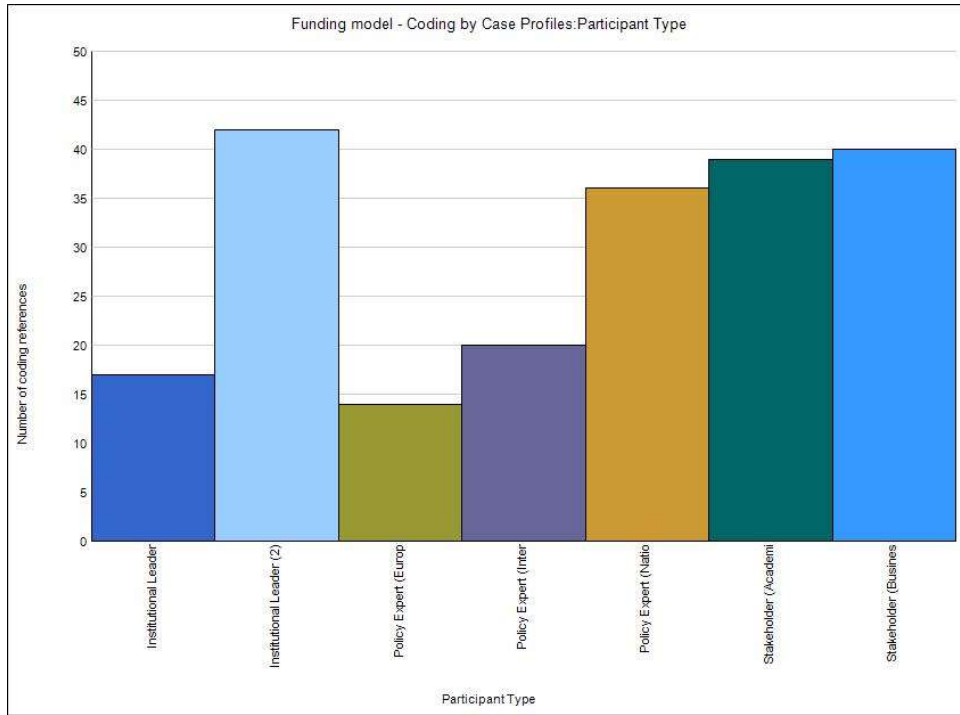**Appendix 5.5 Participants' References: Performance Agreements and State Bodies**

Performance Agreements and Compacts - Coding by Case Profiles:Participant Type

State, Dept. and HEA - Coding by Case Profiles:Participant Type

Appendix 5.6 Participants' References: Autonomy and Trust

Autonomy - Coding by Case Profiles:Participant Type
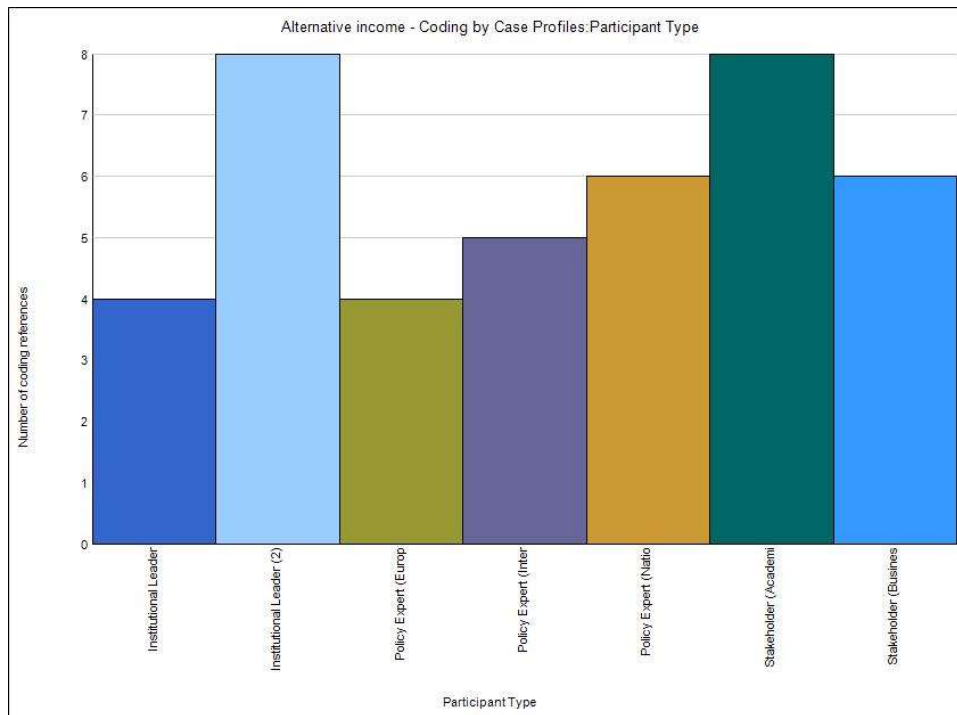

Trust - Coding by Case Profiles:Participant Type
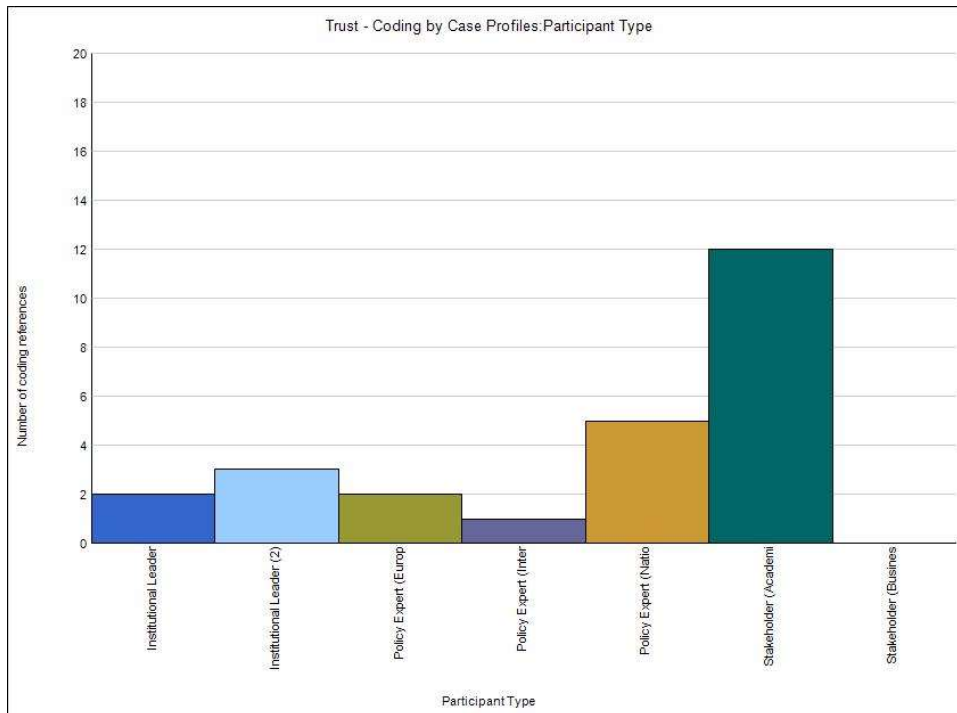
Appendix 5.7 Participants' References: The Funding Model and Sustainability

Funding model - Coding by Case Profiles:Participant Type

Sustainability, Viability, Survival - Coding by Case Profiles:Participant Type

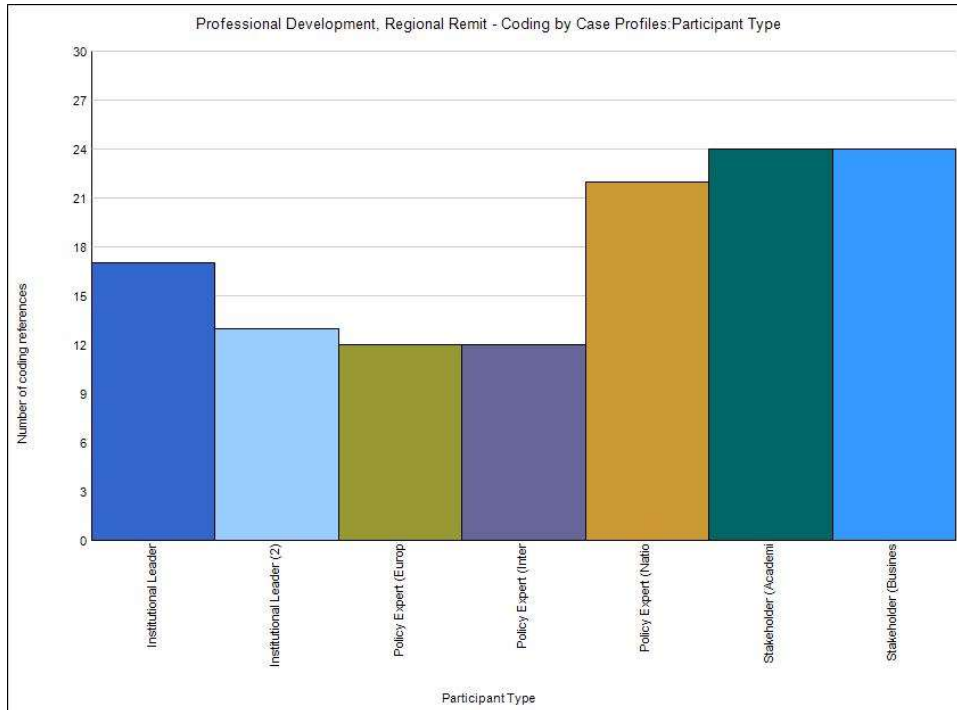**Appendix 5.8 Participants' References: Supplementary Income Streams**

Alternative income - Coding by Case Profiles:Participant Type

Appendix 5.9 Participants' References: The Third Mission, Flexibility and Innovation
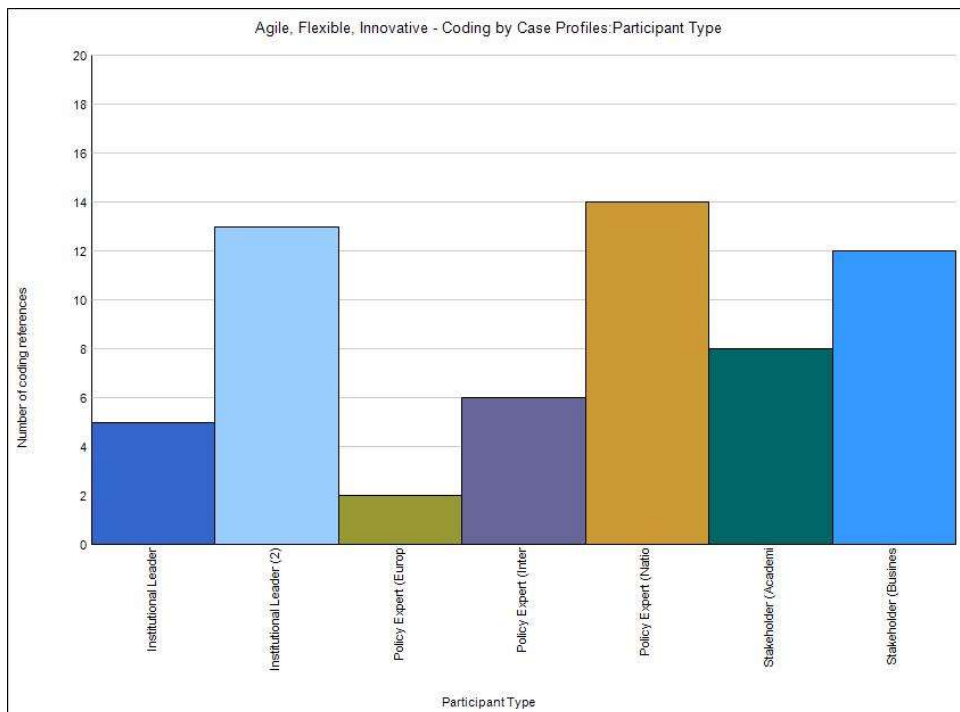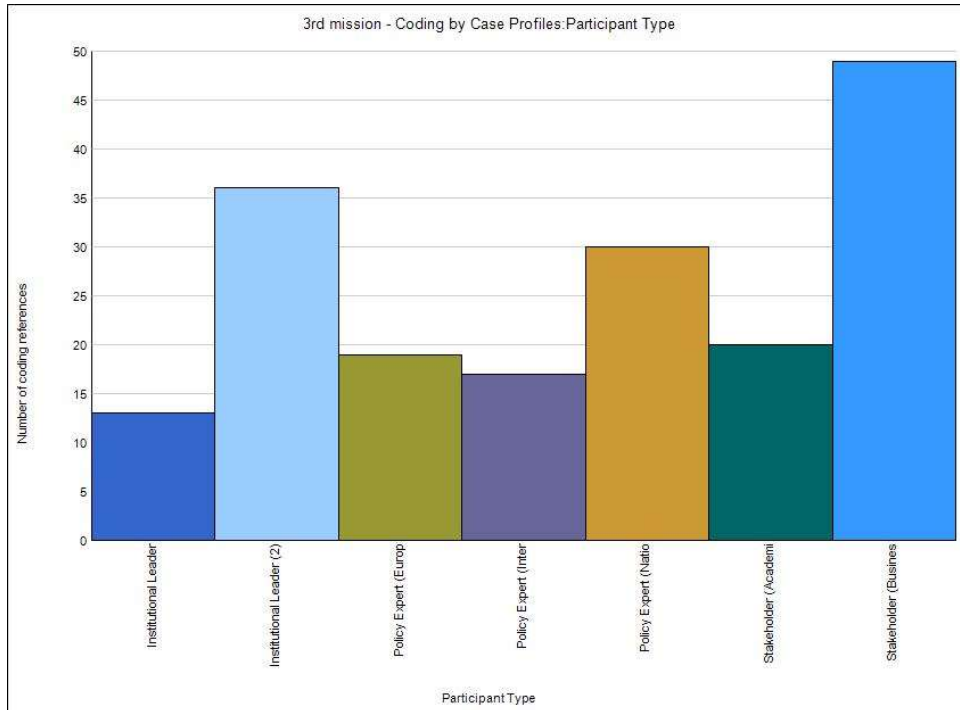
Appendix 5.10 Participants' References: Professional Development, Regional Remit and Internationalisation

Professional Development, Regional Remit - Coding by Case Profiles:Participant Type

International - Coding by Case Profiles:Participant Type
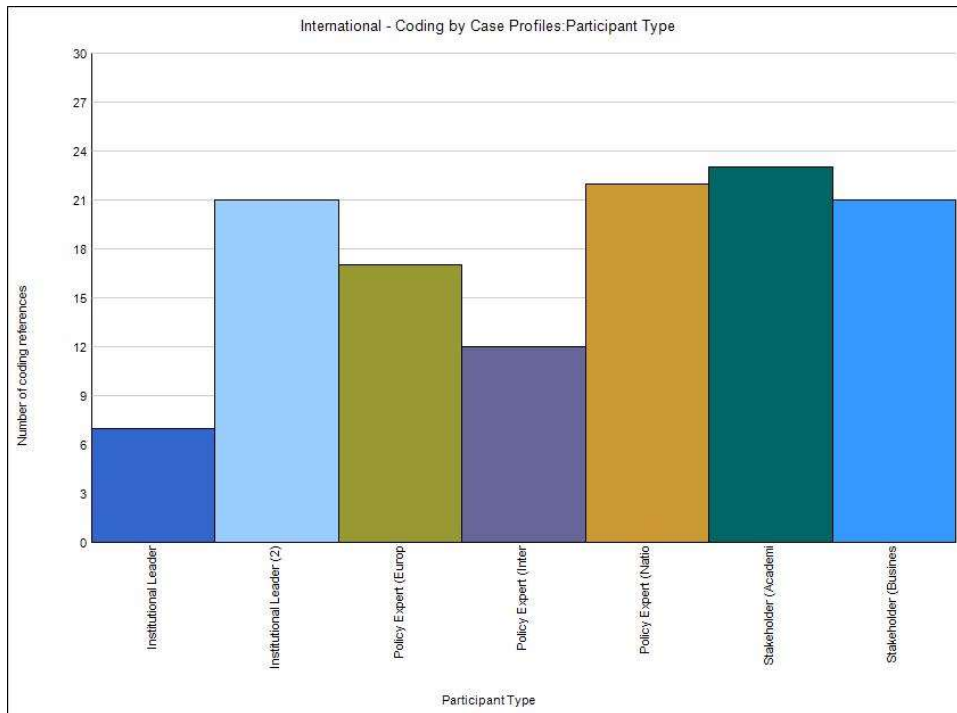
Appendix 5.11 Participants' References: Leadership

Leadership - Coding by Case Profiles:Participant Type