

# **Excellence in University Leadership and Management Case Histories**



**Edited by  
Dan Remenyi**

**VOL 1**

Excellence in  
University Leadership  
and Management  
Case Histories

Editor

Dan Remenyi

Excellence in University Leadership and Management  
Case Histories

Ed. Dan Remenyi

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# The Editor

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After completing an MBA **Dan Remenyi** spent 15 years in business as an ICT consultant before undertaking a PhD. Since obtaining his doctorate he has held a variety of visiting professorships in the United Kingdom, the Republic of Ireland and South Africa. He originally researched and taught in the ICT management field, but for the past two decades he has increasingly focussed on research methodology and the sociology of research. He has had some 30 textbooks published. Some of his books have been translated into Chinese, Japanese and Romanian. He is the Academic Director of Academic Conferences and Publishing International Ltd (ACPIL), an Extraordinary Professor and the Department of Information Systems at University of the Western Cape and an Honorary Professor at the University of KwaZuluNatal in South Africa. He holds a BSocSc MBA and PhD.

## Acknowledgements

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A book like this is the product of the thinking of a very large number of people over an extended period of time. It is clearly impossible to acknowledge everyone who has directly or indirectly contributed to the learning available from the experiences in the 16 different universities described herein.

On the face of it the book is the product of 33 authors from 9 countries. There were also seven members of an editorial panel who provided input to the narratives provided by the authors.

But this is in fact an underestimate of the number of people and the different sources of ideas which are represented here. To begin with there are 7 members of the editorial panel who also provided input to the production of this account of stories from different universities. And then there are all the people with whom university leadership and management has been discussed by the various writer and reviewers.

As editor of this book, I am deeply indebted to a wide range of colleagues who have made it possible to bring all these stories together.

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The editor would like to thank the editorial panel for their valuable contribution in reading and commenting on the cases published in this book.



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# Preface

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The idea of producing this book came from work conducted during the writing and development of two volumes on the subject of *The University of the Future*. These two books directly addressed what a number of academics from around the world suggested was necessary to improve in order to be more effective in overcoming the challenges currently facing and those to be faced by universities in the forthcoming years. By their nature meant these two books tended to focus on the short comings or potential shortcomings of different parts of the university system. However, it is important to recognise that viewed at a global level, universities have been an overwhelming success, in fact one of the most successful organisations ever devised by humanity, and this is evidenced by Willetts' comment (2017) when he pointed out;

*There are now over ten thousand universities, compared with five hundred after the Second World War*<sup>1</sup>.

In order to take the focus away from shortcomings and to examine the positive achievements of universities, this book was conceived.

After a Call for Chapters, 16 case histories have been chosen, all of which represent stories of success in bringing new thinking to university operation.

It is well known indeed that introducing innovation to universities has been a challenge and that it has always required considerable skill by the university's leadership and management. This can be understood to be the story of this book, told through the different case histories.

Dan Remenyi

Editor

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<sup>1</sup> There are clearly definitional issues with regards to what should be regarded as a university. Some estimates today suggest that the number of universities might be between 20,000 to 30,000. <https://truowl.com/university/how-many-universities-exist-in-the-world/>

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# Introduction

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## Management and Leadership

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When writing about leadership and management and citing examples of excellence it is clearly important to establish how these concepts are being used. This is not an easy task as there can be a number of nuances deeply embedded in these ideas. The following provides a basis on which these concepts may be explored.

Management, the easier of the two concepts, is usually understood to refer to how objectives are achieved through the application of human thought and effort. This has been expressed colloquially as “getting things done through people”. The essence of management is that objectives have been set and that the expectation of achieving these objectives has been placed in the hands of one of more individuals who will have access to the appropriate resources to realise them. We understand that managers have at their disposal a collection of techniques which help identify the work required and facilitate its performance and allow for the evaluation of its success.

Leadership may be understood as the ability to engage the attention of one or more people so that he, she or they accept the suggestions of the leader to the extent that they will assert their belief in the validity of these suggestions and even work towards their attainment. Leadership is often assumed to be directly associated with authority, but this is not always the case. In civil society leadership is that dimension which is often necessary when establishing the objectives required by management and is therefore closely associated with it. In general, leadership does not have the range of techniques which are available to management. We look to leaders and their leadership to provide a vision of where or to what, individuals or society or even nations might aspire. Such visions often have to be further developed and refined so that they may be stated as missions. In this context the term mission may be understood to refer to both the journey and the position on arrival required to realise the vision.

In discussing excellence, it is useful to start with agreement about what may be considered “good<sup>2</sup>” and “not good”. In every sense of these words, it is difficult to define “good” and “not good” as these concepts are often even more highly coupled with personal values than many other aspects of academic discourse. In the context of this discussion good management may refer to the achievement of outcomes which satisfy the objectives originally set whereas not good management will probably be denoted by delivery of something other than what was required. Of course, there are all sorts of non-delivery of objectives which in their own way may result in desirable outcomes (in some cases these can in a sense be better and

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<sup>2</sup> The word “good” is problematic and in some senses it may have been better to use the word satisfactory here. However, the use of the idea of “good” makes it easier to envision what might be meant by the word “excellent”. For “not good” it is possible to read not satisfactory.

more beneficial than the original required objectives). But in the domain of leadership and management the words “good” and “not good” will normally be seen in the context of objectives and outcome achievement.

From the idea of good it is easy to progress to the concept of excellence. A state of excellence is when a remarkable level of “good” is achieved. It is clearly a subjective matter as to when a good outcome should be regarded as remarkable, but the achievement must be quite substantial. It should be noted that the accolade excellent does not imply “best” but rather a state that is simply better than merely good.

Before leaving this topic, it is necessary to say that whether anything is “good” or satisfactory or not, always depends upon the lens through which it is being viewed. Each group of stakeholders has its own lens or set of lenses through which such decisions are made, and a university is an organisation with many different stakeholders. This must always be borne in mind.

### **Universities are different**

Although it is clear that leadership and management are essential to the effective operation of the University, they normally do not take the same form as they are found in other organisations, and this is because the organisational culture within many if not most universities is quite different if not actually unique. When universities were first created in the early Renaissance period and again when they were re-organised in the 19<sup>th</sup> century, it was established that they should be independent. In those days independence or self-government meant self-governing, that their affairs would not be directed by Royal or Heavenly Authority, despite the fact that universities were normally brought into existence either by direct Royal diktat i.e. Royal Charter, Papal Bulls or Acts of Parliament. As part of the demand for independence the concept of Academic Freedom became a cornerstone of the values espoused by universities. Academic freedom means that members of the academy and their students reserved for themselves the right to determine what they studied, how they studied and how they used the results of their intellectual endeavours. Individual intellectual independence was at the heart of academic freedom, and this has always been highly cherished. Academic freedom also gave the university the right to determine who they appointed to university posts and how all aspects of the institution were administered. In former times Academic Freedom was never fully realised in that the influence of the Church of Rome and subsequently its Protestant equivalents were nearly always present. In recent times the influence of governments and other funding bodies can be quite significant.

But nonetheless the notion of academic freedom still retains an important influence in university culture. University faculties are often highly antithetical to the notion of any form of formal guidance. They frequently do not accept that the hierarchical structures found within universities implies anything like the degree of responsibility or control which equivalent hierarchies would in other organisations. This attitude, whereby even the idea of “management<sup>3</sup>” was to a large extent seen as a taboo notion, may well have been suitable when universities were small elitist

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<sup>3</sup> In place of the word “management” universities were inclined to talk about administration and administrators. In fact, the terms management came only into popular use in the mid-20<sup>th</sup> century.

organisations but as they have grown in the past century, circumstances have indeed changed. Today universities are often highly complex, large-scale organisations with multi-processes, multi-functions, multi-objectives, multinational, and sometimes with multiple contradictory or conflicting goals. Collini (2012) argues that now, due to the way universities have expanded<sup>4</sup>, the true nature of a university can be forgotten. And in certain parts of universities there can be resistance to any attempt to apply modern management techniques. This has been evidenced in several ways, but especially through the use of the term managerialism (Enteman 1993), by disgruntled faculty. Managerialism is muttered under the breath of even senior academics at attempts to introduce rational management practices.

The success of the introduction of management practices have been mixed with the expansion of layers of administrators applying top-down rules and regulations, sometimes without appropriate consultation and adequate justifications. And alongside this there has been a general shift in university ethos towards marketisation in terms of fee structures and a focus on student service level, which is summarised by the introduction of the notion that students are clients of the institution. Critiques of these actions have referred to universities following a neo-liberalist approach (Garland 2008).

### **The collegiate ethos**

The spirit of individualism, which is so important for creative teaching and learning, does not always or even often translate to a cooperative attitude among university staff. This was interestingly referred to by Clark Kerr (1972) in his book, *The Uses of the University*, when he said:

*Hitchens once describes the modern university as a series of separate schools and departments held together by a central heating system. In an area where heating is less important and the automobile more, I have sometimes thought of it as a series of individual faculty entrepreneurs held together by a common grievance over parking.*

What makes management in the university really difficult is the fact that there are so many different groups and cultures involved in its operation. There are those interested in working with undergraduates and those whose preference is facilitating post-graduate work. There are faculty who are primarily or even only interested in research. There is the great divide, best described by C P Snow's (1959) term the Two Cultures and inbetween these positions there are the social scientists. Although the differences between the physical sciences, the humanities and the social sciences are substantial they are often exaggerated during the internal wrangling among academics. There are those concerned with interfacing university activities with a variety of professional bodies. There is a whole range of non-academic personnel with special concerns of their own. There is trade union involvement. There are those with direct involvement with either or both the business and government communities. There is often a range of sporting activities and perhaps finally the question of the alumni. Producing a vision, mission and set

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<sup>4</sup> For a biting critique of university expansion see Craig and Openshaw (2018).

of objectives which can embrace the diversity inherent in a university is a remarkable challenge and is therefore not often produced in an easily operational way. In fact, Kerr went much further in describing the potential conflicts between different groups in the university when he said that a university was,

*so many things to so many different people that it must, of necessity, be partially at war with itself.*

In a number of important universities there have been remarkably unpleasant public disputes between Vice-Chancellors and more traditionally orientated groups of Professors about their attempts to modernise. The fact that senior academics are often quite articulate and prepared to forcibly speak their minds has not helped. Sometimes these disputes have remained unresolved for quite some time. It has been said more than once that collegiality is the ghost of years gone by. In some universities the modernisation agenda has resulted in appointments to non-academic posts of administrators whose approach has not been amicable to the general academic ethos.

### **High office bearers and leadership**

The head of the university, often referred to as the Chancellor, is invariably an honorary position with little or no influence in the routine operation of the institution. The person holding actual responsibility may be called the *Vice-Chancellor, the Provost, the President, the Principal* or some other such name. This person, who can be seen as being responsible for enormous resources and the jobs of perhaps thousands of individuals, is expected to exert his or her influence on the organisation using the lightest of touches. Kerr states that a university President is,

*... expected to be a friend of the students, a colleague of the faculty, a good fellow with the alumni, a sound administrator with the trustees, a good speaker with the public, and astute bargaining with the foundations ... a spokesman to the press, a scholar in his own right ... Above all he must enjoy travelling in aeroplanes ... etc.*

And Kerr suggests that in the history of American academe there have been four or five such people who he has referred to as “giants”. Clearly there are not many ideal Vice-Chancellors available for the many jobs on offer.

The leadership role may be seen to be constrained either by academic freedom itself or more likely in today’s environment by what might be referred to as *The Ghost of Academic Freedom*. By this is meant a significant reluctance by high office bearers (a term used to describe the top man or woman and the people reporting to him or her with academic titles) to articulate a strong position on the subject of a unique personal vision and mission.

Regarding the issue of excellence, without a clear articulation of the university’s vision, mission, and objectives it is difficult to conceptualise how any realistic assessment can be made of its true performance. Nonetheless society has over the years evolved notions of university excellence which are in many ways quite effective. There is no doubt that every country has a number of prestigious universities which are seen by all concerned to be excellent. When these

institutions are investigated closely this excellence transpires to consist mostly (and of course not exclusively) of admiration for the achievement of its graduates. Some might argue that this is enough for any institution of higher education to be regarded as excellent, and although few would doubt it is a necessary condition, it could hardly be sufficient or in fact the complete story. There are many more aspects of an institution to be considered before it should be considered excellent. In this book some of these will be discussed.

### **A measure of excellence**

The complexity of the task of establishing and measuring university performance has in a sense been embraced by those who are involved in creating university league tables. For about two decades a variety of organisations have been producing university rankings or listings of the best institutions in a country or even in the world and those institutions who appear not to perform well. There are hundreds of universities listed. The criteria used by different ranking agencies can be quite different and consequently they can produce different rankings for the same university. Among the criteria used are entry requirements, student satisfaction, research quality and graduate employment prospects and these issues are reflected in a large list of data which the agencies collect.

These league tables are clearly of use to students and parents who find themselves faced with a bewildering list of choices of competing institutions from which to choose. And university management has increasingly placed great weight on the position they have been allocated or rather awarded in league tables. Individual faculty members are often much more sanguine about the position of their institution in these league tables.

Probably of more importance to the academic community is the periodic assessment of the research output of the universities. In the UK this assessment is currently referred to as the Research Excellence Framework (REF) and is a major exercise to evaluate the impact of the research conducted. The results have a direct impact on university funding and the careers of the individuals who are deemed to be active researchers (Willetts 2017).

According to Collini (2012),

*the truth is that the 'higher education sector' in Britain is now too large and too diverse, both in terms of types of institution and types of discipline, to be sensibly subject to a single uniform motive assessment.*

Willetts (2017) puts this argument more strongly,

*Those of us ... must do everything possible to liberate us from a single scale for judging what makes a good university.*

It would be remiss not to say that to a certain extent excellence is in the eye of the beholder. If the university meets the expectations of the students and the community in which it is based, then there is a case for saying that it has achieved some sort of level or excellence.



## **The current challenges**

There are those who argue that many higher education institutions are currently in deep trouble, trying to cope with a range of difficulties and that a material number of such institutions – if left to market forces – may not even survive. Some of the difficulties these institutions face have been well documented – costs exceeding revenues, demographics that lead to challenges in acquiring their target number of college-age candidates, changing public perceptions of the role of higher education, the profound impact of technology and – in some cases – the perception of an inferior product that fails to meet the needs (such as well-paid jobs) of its graduates. It is being increasingly accepted that universities and colleges must rethink both their mission and vision in society, along with an across-the-board, operations-wide assessment of their capabilities. Moreover, it is important that such a reassessment should not just be aimed at short term palliatives but should concentrate on flexible, resilient long-term initiatives that will encourage serious strategic, tactical and operational planning for the foreseeable future.

But from the university culture described previously, in terms of university leadership and management, such a journey is highly problematic. Nonetheless a start needs to be made and the questions are *What is a suitable starting point?* and *How to progress this journey?* There are of course no simple answers.

## **A bottom-up approach**

From the case histories received from our call for chapters it could be suggested that a bottom-up approach is underway to deliver improvements to various aspects of university performance. In some respects, this can be seen as a slow route to university transformation. As has been pointed out above in the discussion of the challenges inherent in the concept of academic freedom, perhaps this may be the only way available for universities to engage in important transformation without facing major internal conflicts and subsequent traumas. When looking at the improvements identified in this anthology of case histories with an analytical eye, it is possible to observe a type of Kaizen or continuous improvement attitude emanating largely, but not exclusively, from the not-high-office bearer ranks of the university community. There is little doubt that there is plenty of scope for improvements, especially at the interface between faculty and students. Bottom-up initiatives can inevitably only take transformation so far, as leadership and top management are always required to ensure that individual initiatives are in line with the organisation's overall strategic objectives.

In the case of universities this will mean a distinct shift in mind set. Many universities are now so big and so complex that it is hard to believe any one person or for that matter any group of people i.e., a committee, has a coherent, non-contradictory understanding of the organisation. Because of this complexity and size there is often a blurring of values and objectives and the realisation of what constitutes good or appropriate outcomes of decisions or policy. And despite what has just been said about bottom-up change, one of the paradoxes university administrators face is that there is frequently considerable reluctance to change among the relatively non-senior faculty.

## **Is transformation the answer?**

Specifically, to achieve any real level of transformation it is necessary to develop a different attitude or culture towards governance which will be more welcoming to notions of innovation and entrepreneurship. The following of tradition may have much to recommend it but when circumstances change it is most important to recognise the requirements of the new environment. This needs to be done without causing too much offence to those who still cherish academic freedom.

University leadership will need to revisit their understanding of the full range of stakeholders involved in university affairs to include additional groups from the greater society. This is sometimes referred to as greater civic involvement. And both faculty and students will have to become more personally aware of their responsibility to the greater society.

The opportunities which are available through the application of developments in technology must be more actively embraced. Old attitudes to teaching and learning are just no longer viable.

Attitudes which argue that universities should have a privileged position because they are somehow special due to their ancestry have no place in today's educational horizon. Of course, universities are vital institutions in the complex civilization we have created. Furthermore, they offer those who persevere and obtain a degree significant advantage in most aspects of their lives. But it should not be taken for granted that all universities do this well and those who do not should be identified and appropriate action taken.

Obviously, none of this will happen without a substantial change in mindset which will need to be accompanied by revisiting current attitudes towards university structure and the selection of both high office bearers and operational executives. Regrettably, there are no quick fixes to the problems universities are facing, and these matters need attention if the good work being achieved through the bottom-up endeavors mentioned in these case histories is to be realised and further developed.

The transformation of universities is probably one the most challenging notions facing society today.

## **The last words for now**

This introduction and indeed the chapters in this book do not deliver a definitive answer as to how universities can achieve excellence. Universities are by their very nature works-in-progress and thus they are moving targets. It will always be a mammoth task nudging a university towards excellence. In thinking about this task, I am tempted to repeat that marvelous quotation well known and beloved by academics, "*We have not succeeded in answering all our problems. The answers we have found only serve to raise a whole set of new questions. In some ways we feel we are as confused as ever, but we believe we are confused on a higher level and about more important things*".

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# A Short Summary of each Chapter

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## **ONE**

### **Noroff University College: The Creation of a New University**

**Iain Sutherland<sup>1</sup> and Mikhaila Burgess<sup>2</sup>**

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This case study, written from the perspective of two senior academics, describes the successful educational strategies employed to build a new university. It focuses on the organisational and educational decisions made to manage limited resources whilst maintaining educational standards, to develop a functioning, self-sustaining private university college. It describes some of the challenges faced during the start-up phase, including reaching a consensus on the more subtle requirements of a university within the existing organisation. Delivery mechanisms including campus and online modalities are described. Other topics include building the quality assurance system required to gain the necessary government accreditation for the proposed degree programmes, teaching strategies to deal with the requirement for both a campus and on-line based delivery and assessment techniques to ensure a rigorous learning assessment regime. Lessons learnt are relevant for those starting a new educational institution and mature institutions facing challenges and the need for change.

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## **TWO**

### **Leadership and Organizational Revitalization in a Period of Disruption and Change: Adaption and Innovation in the Rutgers School of Health Professions**

**Brent D. Ruben, Gwen Mahon, Ralph A. Gigliotti and Christine Goldthwaite,**

**Rutgers University, New Jersey, USA**

This case history focuses on the Rutgers University School of Health Professions (SHP), a large, multifaceted academic unit that offers more than 40-degree programs. SHP is ranked among the top schools of its kind within the United States, having achieved this status and standing as a consequence of a multiyear commitment to the pursuit of a well-defined vision of excellence. As described in this chapter, SHP utilized Excellence in Higher Education (EHE), a continuous improvement model inspired by the Malcolm Baldrige framework as a guide for organizational review, strategy formulation, planning, and improvement. The case history provides an overview of the way the SHP leadership team has used the EHE framework to pursue their aspirations, and more specifically how the leadership team used

EHE to review and reprioritize their goals in transitioning into a post-pandemic future.

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### **THREE**

#### **Towards a Model for Multi-directed Lifelong and Work-integrated Professional Development**

**Peter Mozelius**

**Mid Sweden University, Sweden**

This chapter presents, analyses and discusses the case history of the BUFFL project, a Swedish two-year pilot project. The overall aim of the project has been to develop a national model for flexible, work-integrated professional development. A fundamental component in the project is the idea of organisations bringing their own data (BYOD). Case units were 14 course modules for banking and insurance company staff. Data about the course modules have been gathered from course evaluation questionnaires, and data about the support model are from e-mail interviews with 8 teachers. Considering the technical problems at some of the course starts the mean values from the questionnaires are surprisingly high, and especially for the BYOD concept. What many course participants perceive as a challenge is the relatively high study pace. Finally, the support model needs to be extended to better support the idea of a multi-directed, and work-integrated professional development.

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### **FOUR**

#### **Ryerson: Canada's Innovation University**

**Kenneth A. Grant and John MacRitchie**

**Ryerson University, Toronto, Canada**

In some 70 years, Ryerson University has evolved from a technical school retraining returning WW2 service people to become one of Canada's largest comprehensive universities, with respectable but not outstanding rankings. However, what stands out is not its success in achieving this status but rather the ways in which it has differentiated itself, by embracing its urban location, maintaining a focus on applied and practical education, creating an innovative and entrepreneurial ecosystem, and recognising its responsibility to Canada's indigenous peoples. This case study sets the Ryerson experience in the context of the specific challenges faced by urban universities and universities that have evolved from other forms of higher education institutions such as technical colleges and polytechnics. After a brief discussion on the challenges newer universities face in finding an appropriate role and position and a short summary of Ryerson's history, the paper expands on each of these key differentiation factors.

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## **FIVE**

### **Building the World’s Most Relevant Business school: The Hult Ashridge Story**

**Dina Dommett and Roger Delves,**

**Hult International Business School, Berkhamsted, Hertfordshire, UK**

This is the story of Ashridge Business School’s evolution from a standalone entity to the executive education division of Hult International Business School and the thought leadership partner of EF (originally known as Education First), the global private education company founded by Swedish entrepreneur, Bertil Hult. Hult International Business School earned its name in 2002 when Bertil Hult bought the Boston-based Arthur D Little School of Management. Hult announced plans to merge with Ashridge in 2014. EF became Ashridge’s operational partner in 2019. With its reputation for experiential learning and practitioner research, Ashridge seemed a perfect fit with Hult’s vision “to be the world’s most relevant business school” and EF’s vision “to open the world through education.” With fresh insights from senior leaders, we offer this case history of an ambitious, resilient, people-centric, interdependent ecosystem which faced the ultimate stress test when the Covid crisis hit in 2020.

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## **SIX**

### **Clearing the Cultural Hurdles in a New University**

**Stephen J. Barnes**

**University of Suffolk, Ipswich, Suffolk, UK**

In a unique event, the University of Suffolk (UoS) was transformed from a Further Education College (FEC) and opened its doors to students at a new waterfront building in September 2007. The old building had been demolished but the old managerial culture of the FEC remained. This culture was defined by an adversarial working relationship between managers and lecturers, and by a close relationship between students and lecturers. This is coined a *loosely coupled process* between managers and teaching staff, but *close process-coupling* between students and lecturers. The erosion of cultural barriers means that educational processes became more holistic and financial performance improved, as managers, students, and lecturers became more closely coupled. The financial growth ambitions required a change from teaching and learning to more partnership and research work. The university learned to address market-based logic by working with international partnerships, focussing more closely on research, enterprise, and sustainability.

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## **SEVEN**

### **Ten Years of Advancing Across Disciplines:**

**A reflection on the development of Chalmers University of Technology**

**Anna Dubois**

**Chalmers University of Technology, Gothenburg, Sweden**

This chapter tells the story of how Chalmers University of Technology implemented and developed Areas of Advance as a challenge driven and multi-disciplinary matrix dimension operating across its departments. The chapter describes the set-up, mechanisms and outcomes of this way of organising academic activity. The story begins in 2006, when a new visionary rector and president was appointed, and ends in spring 2021. The long time period permits reflection on how Chalmers' performance has been enhanced by the extensive networking, within and across the university's boundary, that has become an important result of the new matrix dimension. While the most striking performance improvement may be the strengthened position in the QS ranking; from 223 in 2012 to 121 in 2021, the dynamics behind this outcome is described and discussed in terms of an interplay between the governance forms – markets, hierarchies and networks - that academic activity is subject to.

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## **EIGHT**

### **The University-Industry Relationship in Brazil:**

**From applied research to ready-to-use solution, spin-off business and knowledge royalties**

**Klaus de Geus and Walter Tadahiro Shima**

**Universidade Federal do Paraná, Brazil**

There is a well-recognized gap in the policies to promote scientific and technological development in Brazil: the lack of mechanisms that allow and assist the process of establishing new technology businesses, especially those coming from scientific undertakings, which, in principle, generate specialized knowledge and, therefore, an opportunity for sustained competitive differential. This is a case study based on the results obtained in R&D projects developed during the past few years, within a partnership between an energy utility company, a research institute with experience in the development of R&D projects focused on energy and a public university. The partnership consolidated a methodology for training critical activities based on virtual reality technology, gamification techniques and learning theories. The interdisciplinarity involved leads to complexity, which in turn leads to a specialized solution for an elaborate and dangerous task. Achievements go beyond the developed solution, reaching the consolidation of a fruitful university-industry interaction mechanism.

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## **NINE**

### **The Glendon Tournament: Re-imagining the Student Experience**

**Ian Roberge and Éric Mézin**

**Glendon Campus, York University, Toronto, Canada**

The Glendon campus of York University in Toronto, Canada, is an in-person institution that prides itself on having a close-knit community and in giving its 2500 students a personalized experience. As a result of the pandemic, the campus was closed for the 2020-2021 academic year. In this context, how was the student experience to be maintained? Glendon responded to this challenge by developing the Glendon tournament; this pilot project was designed as an online co-curricular year-long friendly competition to bolster the student experience. Throughout the year, students engaged in a series of online and offline games with the stated aim to connect with each other. As evidenced by the level of participation and student testimonials, the tournament exceeded expectations, and is expected to grow with the return to campus using a hybrid model that offers students the opportunity to engage in both online and in-person activities.

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## **TEN**

### **Increasing Student Retention at a Hispanic-Serving Institution**

**Manuel G. Saldivar and Jose Saldivar**

**University of Texas Rio Grande Valley, Texas, USA**

The University of Texas Rio Grande Valley (UTRGV) enrolls approximately 32,000 students, of whom more than 90% are Latino. In this case study, we describe a set of retention initiatives undertaken by UTRGV with the aim of creating a holistic first-year experience (FYE) for new students. The FYE spans from New Student Orientations the summer before matriculating into UTRGV to the beginning of students' Fall semester and through to the end of their first year at UTRGV. Evidence suggests that these efforts were successful in fostering student retention - for the period from the 2015-2016 to 2019-2020 school years, the retention rate (percentage of first-year students who returned for a second year of study) remained stable between approximately 78.5% and 79.5%; in comparison, the average retention rate at postsecondary institutions in the United States during most of the same period was between 66% and 67%.

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## **ELEVEN**

### **A Case History of Excellence of the University of Eastern Finland**

**Sari-Johanna Karhapää**

**University of Eastern Finland, Business School, Joensuu, Finland**

This chapter focuses on a case history of excellence regarding the University of Eastern Finland. In Finland, a major university reform was completed in 2010. The University of Joensuu and the University of Kuopio decided to form a cooperative inter-organisational relationship through a merger and made the strategic choice of aiming at excellence as an international research university. The COVID-19 pandemic transformed the operational environment of universities globally in



2020. The University of Eastern Finland has developed innovative management and e-communicating practices since 2010. Thus, during the COVID-19 pandemic, remote working and e-learning practices were achieved within two weeks as the pandemic situation unfolded. The international research teams were already familiar with online cooperation before the pandemic. Therefore, the main tasks of the university, teaching and research, have not suffered a great deal due to the disruption, which is shown in the university's rankings.

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## **TWELVE**

### **The Single Silo University**

**Gordon Fletcher<sup>1</sup>, Richard Dron<sup>1</sup> and Mònica Dalmau Gimeno<sup>2</sup>**

**<sup>1</sup>University of Salford, Salford, UK**

**<sup>2</sup>Independent Scholar, Barcelona, Spain**

In 2015, the University of Salford committed to a new five-year institutional strategy. A hallmark of this strategy was the single focus on industrial collaboration. Over the duration of the strategy's and in an institution more comfortable with annual revisions to its strategy the persistence of this challenge continued to confront colleagues. The comparative longevity of the strategy also brought positive change by converging perspectives and breaking down traditional demarcations of research, enterprise and, teaching and learning. A nascent realisation that all of these normally discrete activities were knowledge exchange began to find traction across departments. Our role within this strategy was to understand and evaluate the partnerships being developed as a result of the strategic focus. We were able to recognise the many individual parameters of a high-quality partnership and how they did (or did not) manifest.

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## **THIRTEEN**

### **How Transforming a Teaching Center Prepares a University to Adapt to Change**

**Laurie J. Kirsch and Cynthia Golden**

**University of Pittsburgh, Pittsburgh, PA, USA**

The case history begins in 1996, when the University of Pittsburgh established the Center for Instructional Development and Distance Education (CIDDE) with a portfolio including many teaching related resources and programs. Nevertheless, in 2014, when the University embarked on a strategic planning process, it became clear that CIDDE was not strategically positioned to help the University meet its teaching and learning goals. Thus, in 2016, we began a process to transform CIDDE into the University Center for Teaching and Learning. We concentrated on building a strong foundation for the Center and positioning resources to flexibly adapt its focus as needs and the environment changed over time. The successful transformation to the University Center for Teaching and Learning not only contributed to meeting the goals in the University's new strategic plan, but, in the

wake of COVID-19, allowed us to quickly build a flexible environment for remote teaching and learning.

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## **FOURTEEN**

### **Middlesex University Towards a 2031 Strategy: A Case History of Excellence in Transformative Leadership**

**Christopher J Moon, Middlesex University, UK**

This chapter provides a case history of how Middlesex University has developed its new 2031 strategy by focussing on excellence as a key driver but in a way that raised ambition rather than as it is currently enshrined in the ‘excellence framework’ applied to Higher Education in general. Thus, to some extent, problems of defining excellence were circumvented by placing emphasis on excelling rather than substantive standards per se. The strategy also included sustainability at its core, with the university signing the SDG Accord and determining to become Net-Zero by 2040, but the above aspirations are clearly not without significant management challenges. Preliminary research conducted by the author, involving interviews with the Vice-Chancellor and all members of the University Executive Team and other senior colleagues, coupled with a review of key strategy documents and participant observation highlights the extent to which the culture has developed and needs to develop.

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## **FIFTEEN**

### **The Smart-up Program: Lucerne University of Applied Science and Arts, Switzerland**

**Christian Hohmann, Isabelle Oehri, René Zeier, Andrea Eichholzer  
Lucerne University of Applied Sciences and Arts, Switzerland**

In 2012, the Lucerne University of Applied Sciences and Arts launched a project to foster entrepreneurship among students and university members. By today, Smart-up has become a university-wide program designed to inspire all university members to start their own business and to support the entrepreneurs and ventures along their journey. The program is located within the Higher Education Development and University Services unit. The case history presents the key success factors of the Smart-up program and its importance in attracting students, alumni, and academic staff to the university. The entrepreneurial spirit generated by the activities of the program is of enormous importance for the development of the university. Smart-up encourages everyone to adopt a basic entrepreneurial attitude and to contribute and implement their own ideas for the further development of the organization. In this way, a university-wide bottom-up development is created which is supported and moderated by the management bodies.

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## **SIXTEEN**

### **Towards Human Resources Excellence at Sofia University Elissaveta Gourova, Eliza Stefanova and Albena Antonova Sofia University “St. Kliment Ohridski”, Sofia, Bulgaria**

The chapter presents the case of Sofia University “St. Kliment Ohridski” for applying a Human Resources Strategy for researchers and obtaining the “HR Excellence in Research” award from European Commission. It provides a deep insight into the experience of the University in designing, managing and implementing various activities for applying the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, which involved a large number of researchers, managers and administrative staff. The process of a significant organisational change was facilitated by several factors highlighted in the chapter: changes in the University environment – legislative and funding requirements; strong management push and efficient leadership; availability of knowledgeable and committed experts; a consultative and participative change management approach; appropriate measures to raise the awareness and commit the academic staff to the expected changes and timely measures to prepare the administrative staff for implementation of the activities planned.

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# 1

## Noroff University College: The Creation of a New University

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**Iain Sutherland<sup>1</sup> and Mikhaila Burgess<sup>2</sup>**

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### **Introduction:**

Noroff University College (NUC) is based in Kristiansand, Norway. Launched in 2012, this is a new university built on the platform of an existing educational institution founded in 1987. This case study outlines the successful educational strategies employed to build a new university, from an initial handful of students and a few members of staff in 2012 to over 500 students and 20+ academics in 2020 (0.17% of all higher education students in Norway in 2020-2021).

This case study is written from the perspective of two senior academics instrumental throughout the start-up phase of this new university college. The initial preparation period, followed by the first five years of operation are described. It outlines some of the organisational and educational decisions made to manage the limited resources whilst maintaining educational standards, to develop a functioning, self-sustaining private university college. The case study also describes some of the significant challenges faced during the start-up phase, including reaching a consensus on some of the more subtle requirements of a university within the existing organisation.

It outlines successes in several areas including building the quality assurance system required to gain the necessary government accreditation for the proposed degree programmes, implementing teaching strategies to deal with the requirements of both campus and online based delivery, and developing assessment techniques to ensure a rigorous learning assessment regime. It also reflects on the active involvement of undergraduate students in determining the most suitable education delivery model for NUC, based on the diverse needs of the combined community of campus and online learners.

The lessons learnt during the start-up period are not only relevant for those starting a new educational institution or expanding an existing institution into a

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new area. Lessons learnt are also relevant for mature institutions facing challenges and the need for change.

### **Background and objectives**

Noroff began in 1987 as a private for-profit short course institution. By 2009 this had become a number of related companies including a successful secondary school (videregående) providing education to 16-19 year olds and a vocational school (fagskole) providing tertiary education to students aged 19+. Noroff has had a number of locations in Norway over the years. At various times Noroff had locations in Lillehammer, Arendal, Trondheim, Fredrikstad and Lyngdal. These were over time consolidated into the larger cities with main campuses located in Oslo, Bergen, Stavanger and Kristiansand, with the latter being the head office and administrative centre of the organisation.

The owner and board of the then Noroff Institute<sup>1</sup> took the decision to expand the tertiary education provision to include bachelor degrees and open a university college in the company's southernmost location of the coastal city of Kristiansand, Norway.

The main driver behind this desire to develop a university college was the possibility for expansion. The vocational school, while having some English Language courses, mainly catered for Norwegian students. This was successful and at the time of writing the Noroff Vocational School is one of the largest vocational schools in Norway. The desire to provide degree programmes in English opened another possible market for Noroff with the long-term possibility of recruiting international degree students from a global market.

In order to achieve the delivery of bachelor degree programmes, a number of goals had to be reached. Any selected degrees and the routines and processes to deliver the degrees had to be approved by the Norwegian national education accreditation body, the Norwegian Agency for Quality Assurance in Education (NOKUT)<sup>2</sup>. Academic staff had to be persuaded to join the venture to deliver the degree programmes. Students had to be recruited to study on the degree programmes.

Clearly there were some significant challenges, in particular when the development was taking place with international academics with the aim of delivering an internationally flavoured degree programme, in English and also with an ambitious desire to deliver the degrees to both on campus and online students.

The new organisation was based within the culture of an existing vocational school for which there was already physical infrastructure, some of which could be used by the new university degree programme deliveries. This also meant some existing reputation in the topics specialised in Noroff vocational courses, with courses including Network Security and Systems Administration, Film, Graphic Design and 3D. However, building a university college within an existing

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<sup>1</sup> At time of publication the parent company is named 'Noroff Education' (English name).

<sup>2</sup> NOKUT - Norwegian Agency for Quality Assurance in Education - <https://www.nokut.no/>

organisational culture of a vocational school also provided a number of significant challenges.

Based on the subject area specialisation of the vocational school, and the Noroff Institute strategy, the decision was taken to initially develop areas in which Noroff had an established reputation and experience in delivering vocational-level education. This was realised through the updated business strategy to expand Noroff by focusing initially on digital media and computer security. The overall objective of the initial strategy realisation project was to design and gain approval for degrees to be able to launch and establish a viable private university college, starting with the recruitment of professorial-level subject area experts<sup>3</sup> in order to lead the subject-area development. This led to the approval of two degrees during the start-up period: Interactive Media (with specialisations in games and animation) and Digital Forensics (covering digital forensics and security).

### **Essential activities and challenges**

The analogy frequently used during the initial start-up phase when explaining the complexity of a university is that of an antique clock, comprising numerous small cogs, with many often hidden behind the clock face. Each cog, including those that are hidden, are needed for the clock to function. Although some physical infrastructure was in place at the start, structures for the planning and delivery of degree studies were absent. There was a need to develop: flexible timetabling systems, effective university-level student record systems, processes for recognition of prior learning (RPL), technical systems for online live streaming, higher education-related regulations, policies and procedures, and an academic environment. Many of these small, but essential, 'cogs' were needed to enable the university to operate. In this chapter we specifically focus on the following key areas; study programme accreditation, the education quality assurance system, issues of staffing, infrastructure and delivery requirements, development of an academic environment and the supporting academic research activity.

### **Study programme accreditation**

A university is not a university without degrees. The primary driving force during the initial start-up phase therefore involved the process of determining the initial study programmes based on the primary goals of launching such an institution, followed by programme design and the largest challenge - gaining accreditation of the programmes from the relevant education quality assurance body to run and award those degrees. In Norway that body is the Norwegian Agency for Quality Assurance in Education (NOKUT).

At that time NOKUT did not offer an interactive approach once a degree application had been submitted. Feedback on the application process once an application was submitted was limited to the fixed, formal written dialogue given at the end of the initial assessment to respond to comments from reviewers, within a strict schedule of communication. For example, a formal response to criticism or questions raised in the accreditation process, sometimes requiring a complex

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<sup>3</sup> Interactive Media - Professor Katherine Blashki; Digital Forensics - Professor Iain Sutherland

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answer, was often limited to three sides of A4 with a specific font size. This was also a learning curve for NUC as further details on requirements were uncovered. For example, due to the small number of students at start-up the student Learning Environment committee and Student Council committees were initially combined and run as one meeting. However, it quickly became apparent that accreditation required these mandated committees to be run separately with separate minutes, even though the same students and NUC staff sat on both committees.

### *Process for accreditation*

Creation of the initial degree applications demanded intensive work, with the challenge of copious documentation requirements not only regarding the details of the learning outcomes for each course and the overall degree, but also regarding aspects of the organisational structure. All NUC operational practices, regulations and processes had to be described in addition to the educational material and structure of the degree.

Existing systems within Noroff's vocational school were able to provide limited assistance and administrative support, as they had been developed over time with the focus of supporting the different vocational accreditation process. This meant academic staff were mainly responsible for developing the NUC applications with assistance provided by the University Rector and Pro-Rector who were native Norwegians and able to deal with the complexities of the Norwegian language paperwork that featured in the process. With NOKUT guidance on some of the details being limited at that time, processes existing in other Norwegian universities were explored as templates for Noroff's programme development. However, as most other universities were established and therefore self-accrediting, they appeared to have wider leeway in their documentation requirements than newly established private institutions not yet accredited at the institutional level, and so were of limited use in providing examples of the structures needed for accreditation.

The development of the initial approved bachelor degrees, Interactive Media and Digital Forensics, was undertaken between 2010 and 2012 by the NUC start-up team, the academic components overseen by international academics whilst also utilising some subject specialists from within Noroff Vocational School and academic staff at partner institutions. Having gone through several iterations with applications submitted to NOKUT and reviewed by external experts recruited to review committees, responding to feedback from those committees, improving the program design and resubmitting, the bachelor degrees were finally approved and accredited for delivery and award in spring 2012. This meant NUC was finally ready to launch in Autumn 2012 with its first cohort of students.

### *A working accreditation process model*

NOKUT's process for study programme accreditation is under constant review and improvement. The adoption of the Norwegian Qualifications Framework for Lifelong Learning (NQF) by the Ministry of Education and Research in late 2011 and NOKUT's subsequent update of study programme requirements also helped to add clarity and rigour both to the process and to the study programmes themselves. As a result of this external change plus internal reflections on the lessons learned

from the submission of applications to NOKUT, a rigorous internal process was developed to both improve and streamline the NUC degree application process. This included:

- Continuous monitoring of regulation revisions and relevant environmental changes, including (but not limited to) subject domain developments and innovation, graduate employability changes, developments in Norwegian education provisions and aligning degree program market opportunities with NUC strategy and professional competence.
- The development and maintenance of a documentation repository for NUC, enabling quick access to the latest version of supporting documentation required by NOKUT processes.
- Implementation of a programme development team for reviewing and balancing proposals from within NUC and externally from NUC stakeholders (specifically Noroff senior management and the Board of Directors), plus coordinating and managing a strategic approach to bachelor degree development and growth within the holistic context of the Noroff companies.
- Development of a multi-step time-lined process for developing bachelor degree applications for approval, including explicit tasks for domain-specific environmental analysis, development of programme aims and learning outcomes, design of courses in line with those aims and learning outcomes, determination of required resources and development of plans for putting all resources in place upon successfully gaining NOKUT approval.
- Development of mechanisms and processes for ongoing reflection on, and revision of, bachelor programmes post approval, supported by a documentation strategy for stakeholder (including NOKUT) auditing.

Linked to this process was the development of a policy and transparent process for recognition of prior learning (RPL) in the intake of applicants. Based on practices implemented across the European Higher Education Area (EHEA) and RPL projects being undertaken across Norway in response to a call to engage from the Ministry of Education and Research<sup>4</sup> and guidance from VOX<sup>5</sup> (Storli, 2021; Alfson & Storli, 2013; Alfson et al. 2015), NUC developed a two-pronged approach. Firstly, the development and implementation of an RPL process for all applicants into all NUC bachelor programs, enabling both certified and experiential learning to be evaluated against course and programme learning outcomes according to a transparent RPL review framework, on a case-by-case basis. Secondly, a proactive review of candidate feeder study programs into NUC, offered by Noroff Vocational School and a selection of partner colleges, to enable publication of pre-approved study routes for students of those programmes to ‘top-up’ their studies to a degree level upon successful completion of their prior studies.

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<sup>4</sup> Kunnskapsdepartementet (Ministry of Education and Research): <https://www.regjeringen.no/en/dep/kd/id586/>

<sup>5</sup> Directorate under the Ministry of Education and Research, from 2017 known as Kompetance Norge: <https://www.kompetans norge.no/>



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Although each student application would undergo a case-by-case approval as required under Norwegian law, the pre-approved route greatly simplified this assessment.

The RPL process opened access to higher education to more applicants, providing more people with an opportunity to further their studies and gain a bachelor qualification. It also helped to provide a bridge between the vocational school and university college, enabling NUC to offer more study opportunities to successful Noroff vocational graduates.

An ever present challenge for any private education provider is to balance the financial realities of the need for growth and the education-driven need for quality and integrity. Transparency in the process of growing education provision is therefore key to providing a foundation for discussions and sustainable growth. The development and implementation of the above provided NUC with a path to transparent, open discussions with stakeholders, putting developments in context with the organisational strategy and developing marketplace, managing stakeholder expectations, and supporting strategic and sustainable growth in education provision. It also provided the foundation for the NUC programme team to successfully develop additional bachelor study programs, resulting in the NUC gaining accreditation for a bachelor program in Applied Data Science in 2017, followed in 2018 by Cyber Security.

### **Quality assurance system**

To be successful in delivering quality education within the relevant frameworks and legislation, a University College needs appropriate regulations, processes, procedures and practices relating to both Teaching and Learning and Education Quality Assurance. Being a new institution provided NUC with the opportunity to develop a light touch system to support the institution. Rather than working with a pre-existing system, such as the one that was present in the vocational school to make it fit the needs of a university, a new system was developed based on:

- Requirements of national legislation, including the Act relating to Universities and University Colleges (LOV-2005-04-01-15).
- Regulations and guidance from government bodies (primarily NOKUT and the Norwegian Ministry of Education and Research).
- Regulations and best practice across comparable institutions across Norway (inc. UiA, UiO & UiB), EHEA and Noroff partner institutions.
- NUC's strategy for a blended higher education delivery model
- Academic experience from systems used in other European academic institutions.

This resulted in a portfolio of tools for supporting professional educational practice and ensuring continuous quality improvement. This toolkit included regulations, policies, procedures and processes for, but not limited to, the following:

- Assessment development, grading, and scheduling.
- Peer reviews of Teaching and Learning.

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- Inclusion of external assessors (examiners) and annual assessment boards (including developments in enhancing quality of the external review of authentic assessments (Burgess and Philips, 2021)).
- Mechanisms for eliciting feedback from students both during and at the end of each course.
- An internal annual students' survey based on the national university Studiebarometeret<sup>6</sup> (Norway's National Student Survey).
- Management and processing of Academic Misconduct.
- Annual review of study programmes.
- A Teaching and Learning team, established to provide a mechanism for academic staff to affect this system to ensure continuous alignment with academic requirements and developments in best practice.

Developing these through research into, and reflection upon existing best practices resulted in a holistic system that was as light as possible yet suited to the needs of a start-up institution. Linking this to an academic review process also enabled NUC to develop this over time in line with growth and company strategy, whilst minimising the risk of the education administration system becoming cumbersome.

### **Staffing, infrastructure and education delivery**

Three of the most significant challenges faced in the early days of NUC were those often faced by institutions of higher education: recruiting, developing and retaining the best staff, building and maintaining physical infrastructure for supporting operations, and ensuring resources are in place to facilitate the effective delivery of education to students.

#### *Staffing*

An academic environment requires a mixture of academic staff to lecture, tutor and manage the degree delivery, whilst engaging in the academic research vital in underpinning higher education. Recruiting and retaining good people who fit well within any team is a challenge for every institution. This is amplified when you need to build a cohesive team of appropriately qualified and experienced research-active academics within a short period of time in order to successfully launch a new university. The development of such a team was arguably more challenging than the initial degree approval process.

Being newly established meant that NUC initially had no existing reputation in higher education or academic research. It would also mean that any new academic team member would need to be prepared to invest considerable time and effort in developing the programmes and environment. This meant NUC needed to find research active staff willing to focus on the development of a new institution whilst maintaining a strand of research work, essentially sacrificing several years of a research career in order to gain experience in creating a new institution. To grow such a team it was therefore vital to develop and sustain a supportive and collegial environment, particularly one that fosters organisational commitment (Joo, 2010; Sheikh & Aghaz, 2019).

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<sup>6</sup> Studiebarometeret: <https://studiebarometeret.no/no/>

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We succeeded in this area by focusing on the whole work life balance of Norwegian society, finding opportunities to make the entire package attractive for staff. This included Rector support for flexible vacation arrangements and working hours, allowing for a more personal and family-centric approach to managing the often overly heavy workload present in a start-up venture. In reality, few took full advantage of this because during this period we were fortunate in recruiting dedicated staff who were invested in the overall success of the institution. There was also an emphasis on the rare opportunity to contribute and experience the development of a new university. It offered the possibility to gain experience in many more aspects of a university in a much shorter space of time and so provided the potential for personal and career growth. This proved to be an asset to recruitment as academic promotions increasingly require demonstration not only of excellence in teaching but also higher-level expertise including leadership and innovation in teaching and learning (Fahnert, 2015). In the first 5 years of operation NUC recruited academic staff from a number of countries including Australia, Scotland, Portugal, Romania, Wales, United States, Iceland and Norway, thus developing a unique multi-cultural environment comprising a range of cultural perspectives and experiences.

Staffing challenges continued throughout the start-up period. Most staff were recruited and relocated from outside of Norway which required staff and their families to obtain appropriate visas in some instances. This led to challenges, including the loss of some vital staff in the early days of the project. This was a significant blow as it highlighted that changing staff so early on in the development process leads to subtle changes in direction and in the vision of the degree programmes as they develop. However, the recruitment of new expertise in this area ensured the programmes developed appropriately and were able to continue growing over time.

### *Infrastructure*

Infrastructure at start-up was better than might be expected for a new university due to the financial support from the other parts of the Noroff organisation and grants from the regional development funds (Sørlandets Kompetansesfond and Cultiva). NUC rented larger premises in Kristiansand to build and equip new lecture auditoria and teaching laboratories, designed to support the synchronous and asynchronous blended education of both campus and online students. Laboratory resources were well designed and equipped with an eye on future expansion with labs designed for 30 students. Auditoriums were designed that enabled NUC to develop its own streaming systems, built on a combination of Cisco and Crestron hardware.

Library resources were an area that required some extensive work, as the vocational school either did not provide regular access to textbooks or used classroom teaching sets. Therefore, at the start of NUC the library consisted of a number of boxes of stored books. Upon inspection many of these books were multiple copies of outdated software specific books relating to courses that were no longer delivered in the vocational school. Around two third of these were recycled and the remaining re-catalogued by academic staff working after hours over a number of months to create a library database. NUC was still a small family-owned

private institution so there were limited resources to build up an extensive library collection. To be efficient in the use of these resources, staff were advised, where possible, to consider appropriate textbooks that could be used over multiple courses. A digital library (as outlined in the research section later in this chapter) was created to provide access to reading material for online students. This included the possibility to share the resource with the vocational school. A similar stance was taken with software to see what was already in use and paid for by the vocational school that could be included in disk images on NUC computers.

#### *Education delivery*

A requirement in developing the new institution was to be able to deliver classes online. This provided some challenges in that online delivery would require additional resources, both infrastructure and staffing. It also provided opportunities in that the minimum number of students required for a viable class could be achieved if the online and on campus student numbers were combined. This meant combining the two groups of students for all aspects of the delivery. This model of teaching online and classroom together in a ‘lockstep’ delivery provided some benefits:

- The streaming of lectures from the auditoriums meant a single combined delivery, with one unit of staff time used for delivery to both online and campus students, thus resulting in a more effective use of staff time.
- The decision to fix live delivery to regular daily schedules consistent throughout the academic year provided a regular routine timetable for the online students to focus on their studies and deliver their work. This solved the challenge of motivation for some of our online students.
- Live, synchronous delivery provided guaranteed instant staff responses to questions posed by online students through the instant messaging service during teaching sessions.
- The ability to record teaching sessions, then subsequently publishing them within the online learning management system, helped online students who were not able to study in the same timeframe by providing all students with persistent access to these sessions.
- Online and campus students were able to communicate in real time during each teaching session via the instant messaging platform, thus fostering a supportive study community for all students, but especially online students studying in physical isolation.

In order to deliver an effective education programme, a decision needed to be made at start-up whether to schedule courses to run sequentially, running one after the other, in an approach commonly referred to as ‘block’ mode, or running several courses concurrently over a longer period of time in ‘long-and-thin’ mode. Both approaches have their merits and drawbacks, and after consideration it was decided that NUC programmes could be delivered in block mode. This applied to all taught courses, running in either blocks of 4 or 7 weeks (dependent upon course size, determined by ECTS<sup>7</sup> value), with each academic year also including one project-

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<sup>7</sup> ECTS - European Credit Transfer System

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based course schedule to run long-and-thin throughout that full academic year. The start-up period provided NUC with a rare opportunity to reflect on that decision directly with the students. Towards the end of year 1 the decisions and justifications behind the selection of block mode delivery were discussed with the first student cohort, where they were also provided with information about the alternative (long-and-thin). Working with the students it was decided that in year 2 their courses would be run in long-and-thin mode, in a trial that would be reviewed towards the end of that year. Feedback was gathered from students throughout the year, then their experience discussed in more detail towards the end of the trial. The first cohort of students were instrumental in making the decision to trial long-and-thin mode, and based on the feedback on their experience they were key in the final decision to revert back to the original block mode, which has been employed across all NUC study programmes since.

### **Developing an academic environment**

The challenge was not just creating new degrees and processes to ensure their correct operation, but also to develop a new academic environment, a university culture for Noroff University College. The new organisation development was based within the culture of an existing vocational school, with no experience of the environment or requirements to deliver university level degree programmes.

Building NUC from inside a vocational school proved to be a significant challenge. The structure of the organisation was radically different from a university with common courses but staffing and to some extent budgets managed at campus level. The work pattern of a vocational school has a higher number of contact hours with a greater emphasis on teacher presence and support throughout all learning activities, both taught and student-directed, with one tutor teaching one cohort of students in one classroom being the main process of course delivery. The need to develop university academic subject teams, capable of shared delivery of a number of degrees was a very different approach to education. There were different structures used in the vocational school to deliver online and on campus versions of the courses via two different teams. The university was focused on delivering both online and on campus using the same team to drive economies of scale. Advertising this on a single website on occasion caused challenges with students not grasping the difference in the delivery methodologies.

A positive aspect was that the vocational school initially supported NUC with funding to start the university college and shared infrastructure. Without the vocational school, NUC would not have had the resources to start, but all still needed to be convinced of the benefits of change. Effective change management was therefore essential to the successful development of Noroff in this direction.

There were some interesting organisational and cultural norms that required some adjustments for international staff relocating to and working in Norway for the first time. A flat organisational structure, resulting in decision making capacity lying with the most senior staff or those assigned specific roles, was different from most established institutions.

Acclimatizing international staff to the Norwegian working culture as well as incorporating international practices to improve NUC were both challenging, but

essential to its success. Initially academic meetings tended to be lengthier and discussion based consultation process. The decision was therefore taken early on to restrict meetings to a maximum of 1 hour to provide focused discussion, and to take extensive minutes in the meeting to reflect in detail the decisions taken. Further research in the organisation on cultural issues was highlighted by Kasztan (2020).

The decision was to have the language of business as English as the institution teaches in English and this enabled the recruitment of international staff. The vocational school operated in Norwegian so initially there was sometimes a challenge obtaining documents in both languages. Although English is widely spoken and most Norwegians are excellent English speakers, there are subtle differences in meaning or interpretation which could lead to some confusion. The use of an agreed glossary of terms helped to resolve some of these issues.

There were challenges within the fledgling university college with rapid growth and an initially high turnover of staff, sometimes due to differing expectations or fixed term agreements, or moving on in their career having gained experience in the institution over a period. It is however a goal of a successfully functioning university to not only provide opportunities for growth for students, but also for academic staff in supporting their career development, so advancing staff careers was regarded overall as a success.

Noroff University College demonstrated the success of focusing on the goal of maintaining the institutional aim of creating a working university college. The continuity of senior staff, both academic staff and management team cannot be overestimated as a contributing factor to success.

### **Research activity**

Maintaining university level research activity during this period was a significant challenge. The existing vocational school culture had no interest or experience in the area. There was also a need to expound the distinction between academic research and other activities associated with the role of an academic, including product development (degree programs, digital artifacts, etc) and personal skill development. It is the one area of university life that most undergraduate and some postgraduate students do not experience. As a result, non-research active academic staff and most administrative staff had no experience on which to base the needs of establishing a research culture. However, due to the importance of academic research to any institution of higher education, the incorporation of research into the university was mandated by NOKUT. Thus, to obtain and retain accreditation, research was required to be undertaken by staff and included in various aspects of the degree curriculum. It was also vital to provide some research activity to recruit, retain and develop staff.

The challenges of maintaining a strong focus on research was addressed in several ways. After some discussion, listing papers and projects on the top menu of the organisation's website helped to show a focus on academic research, demonstrating to both internal and external entities that research was seen as an important factor for success. The management at that time also recognised the need to support staff research activity, so internal funding was made available for all

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accepted conference submissions to recognised (double blind peer reviewed) conferences. Investments also were made in a digital library and access to library facilities was agreed with partner institutions.

Obtaining resources for research activities was, as in most institutions, somewhat challenging. As a new institution research time was limited, the initial focus being the creation of teaching material for the degree programmes. During the start-up many staff initially worked in their own time to develop research work and research papers related to the degree programmes. A further challenge was the organization's status of being a private, for-profit institution. This meant that NUC was not eligible to bid for a large swath of research council and other government funding. It was however possible to act as a company in some research bids and this approach was used to participate in an EU project bid.

NUC was able to bid for funding from other sources, one of these being funds for student exchanges made available by the Directorate for Internationalization and Quality Development in Higher Education (DIKU)<sup>8</sup>. This bid was successful and focused on student internationalization, but both NUC and the American university involved were able to devise a research project for the students. This became the central activity with students exchanged between Norway and the USA. For NUC, lacking a postgraduate programme, this was the start of involving undergraduate students in research and the students involved in the DIKU funded project later wrote and presented the research findings at a well-established academic conference. Their paper was cited in other papers including the Interpol Review of Digital Evidence 2016-2019 (Reedy 2020).

Academic research is a long-term goal, and this was also recognised by the management team. Junior staff who were interested in joining the university from the vocational school were supported by encouraging them to join PhD programmes. This would enhance skill sets and start to grow our own research active academic staff. This further helped to develop a research culture and aspects of the work were innovative, and so development work from teaching could be put into research papers and published. Examples include Drange, T., Burgess, M., Dysvik-Brandt, E., Nor, G., Irons, A., (2016), Read H., Sutherland I., Xynos K., Drange T., Sundt E., (2017), Drange, T., Irons, A., Kargaard, J. (2017), Drange, T. and Kargaard, J. (2018). This helped to meet the need of the university being research active and, as in the case of Drange et al (2017), explicitly included NUC students within the research process.

The combination of funding and encouraging staff to study and publish, developing available resources, the use of novel funding sources and the involvement of undergraduates in research programmes all contributed to the initial success of research activity across this young university.

### **Measures of success**

The measure of success was the simplest element of this venture; survival, and growth in terms of student numbers, and income to the point that the university

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<sup>8</sup> DIKU - Direktoratet for internasjonalsisering og kvalitetsutvikling i høyere utdanning: <https://diku.no/>

college was no longer reliant on funding from the vocational school. This has been achieved at the time of writing, indicating that overall, the initial decisions made in the first 5 years of operation of the institution set it on the path to financial viability while delivering quality controlled educational material by competent academic staff. Table 1 summarises the key events in developing Noroff University College.

**Table 1:** Timeline of events

2010	Planning of the degrees begins for a new University College
2012 April	IM & DF approved by NOKUT for campus (KRS) and online delivery
2012 Spring	Established Academics move from UK (March) and Australia, Two Degrees running (Digital Forensics / Interactive Media (Games and Animation))
2012 Summer	Noroff Kristiansand campus redeveloped ahead of NUC launch
2012 August	NUC LAUNCH; First intake of students for IM & DF
2013 August	Second year of NUC; Academic delivery model experiment (DF)
2015 June	First set of NUC Graduates – IM and DF
2015 August	Trym Skeie buys Noroff (University College & Fagskole/Vocational) from Finn Mathiesen
2017 May	ADS approved by NOKUT for campus (KRS) and online delivery
2017 August	First intake of ADS students

*KEY - KRS: Kristiansand, Norway. OSL: Oslo, Norway. IM: Bachelor in Interactive Media. DF: Bachelor in Digital Forensics. ADS: Bachelor in Applied Data Science.*

The transfer of Noroff ownership at the end of August 2015 opened further opportunities at a strategic level for additional funding, with an investor taking on the task of further growth for the Noroff group of companies. This provided Noroff University College with the support to facilitate further development and growth, gaining accreditation for additional bachelor study programmes and continuing to increase student numbers.

Upon inception in 2012, NUC launched with a modest cohort of students, enrolling 9 full-time students - 5 in Digital Forensics (DF) and 4 in Interactive Media (IM). This grew steadily during the start-up period:

- 2013 intake: 18 students - 2 DF and 16 IM,
- 2014 intake: 41 students - 12 DF and 29 IM,
- 2015 intake: 47 students - 16 DF and 31 IM,
- 2016 intake: 88 students - 46 DF and 42 IM<sup>9</sup>.

A low number of dropouts occurred each year, as is typically expected in such an educational environment. These occurred due to a number of reasons, and included:

- changes in the work, financial or health situation of individual students,
- students transferring to Noroff vocational school study programs and some to partner universities.

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<sup>9</sup> Data as submitted to NOKUT in “Innhenting Av Informasjon 3 År Etter Akkreditering Av Nytt Studium”, 2016.



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Although some attrition is always expected and, as such, planned for, NUC dropout rates were on average maintained below or near the initially expected 10%. This was helped by NUC having the ability to offer students flexibility in study schedules where it would facilitate successful completion of their education (for example, as a result of mandatory military service). As such some full-time students switched to part-time, not completing within their original schedule but remaining active and engaged, and completing some time later.

The gradual growth in numbers meant that by 2017 NUC exceeded its recruitment target to become a fully viable institution. Student numbers have continued to grow every year at NUC, through recruitment to the original degrees and additional programmes in Applied Data Science and Cyber Security.

### **Summary and conclusion**

Several lessons were learnt during the start-up of NUC and its first 5 years of operation.

Quality processes are vital. These need to be understood and followed, both to ensure and be seen to ensure quality throughout the processes that run the institution and the educational programmes.

To build the reputation of the institution it is important to have several key processes in place:

- Processes to assure admissions are carried out to agreed entry criteria.
- Processes to assure and check the educational material is delivered to an agreed standard.
- Processes to cross check assessments and provide an overview of student performance.
- Processes to involve external experts, both academic and industrial in the regular validation of education provision and quality of education, in particular assessment strategies.
- Processes to continuously reflect upon progress, learn and continuously improve the quality of education provision, environment and practices.

A critical part of the venture was the number of unknowns for both the staff and the organisation. Creating a new university from scratch is rare, creating one from inside the culture of a vocational school with an international staff provides a unique set of circumstances and challenges:

- When working with different organisational cultures or languages, create an agreed glossary of terms to ensure you are using the same terms to mean the same things.
- Be aware that different cultures and organisations operate in different ways. e.g. meetings may be an opportunity for discussion, but decisions may be taken in a different forum or affected by business needs.

In the absence of any of the normal university structures, the choice of staff is critical. Due to the lack of formal process and procedures, institutional knowledge resides within the staff. Until the point is reached where policies and procedures are created for the institution, continuity of staffing is vital to prevent the waste of resources in constantly redeveloping procedures.

The best way to ensure continued progress is to employ experienced academic staff with a range of practical experience and who understand all of the key aspects of how a university functions. This includes both academic and administrative experience. This also needs to be supported by the development of a system that actively supports academic research productivity, which facilitates building a national and international reputation for the growing organisation and improves student learning outcomes (Machado-Taylor et al., 2016).

When adding local and regional requirements for current research activity and corporate constraints on finance, this makes the recruitment of staff possibly the most critical factor in the success of the organisation. Staff should deliver according to a clear academic vision on where the institution needs to develop, allowing the institution to grow effectively.

### **Future goals: Going forward**

The focus of the institution at the end of the period covered in this case study was to continue the direction of growth and, as such, increase student numbers. As a result, there was, and continues to be, a desire to launch further undergraduate degree programmes, followed by expansion into offering postgraduate study opportunities. The institutional accreditation path in Norway requires that bachelor degrees must be successfully operating for a number of years before taking the next logical step of applying for Master's before considering PhD programmes. NUC therefore continues to work within the regulatory frameworks to expand study provisions, launching programmes according to the opportunities conferred.

Going forwards with an organisation that is growing so rapidly in terms of student numbers and the necessary academic and administrative staff to deliver the programmes, there are obviously a number of future areas to consider. These include:

- Ensuring university success factors are clearly understood, enabling further growth on early successes to avoid risking progress made to date.
- Retaining core staff, avoiding loss either to other institutions or to other roles in the organisation to retain institutional knowledge as processes and procedures are formalised.
- Sustaining a university environment that is attractive to staff. Rapid increases in student numbers can produce spikes in staff workload, often faster than it is possible to recruit the specialised staff needed to deliver the degrees. This can be an opportunity to recruit and develop junior staff if the delivery mechanisms make this possible.
- Ensuring stable goals and directions; as a private company with owners / investors there is the potential for changes in direction. Keeping a clear focus on maintaining consistent educational goals is important for stability.
- Continuing to invest in staff development and research including maintaining staff involvement in PhD programmes and Masters programmes.

We have learned that with clear strategic direction and transparency in operations, and in particular clear and open lines of communication, it is possible to build a supportive and inclusive culture. All staff and students should be actively involved

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and their contributions valued, fostering a collegial environment through building a team of expertise whilst ensuring each are working in an area where they excel. Explicit regular active reflection on practice and a fully supported company-wide change management processes ensure pitfalls can be avoided, or successfully managed and mitigated when encountered.

### **Acknowledgements**

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Our thanks to all the other dedicated staff and their families who in various ways supported the growth of the Noroff University College during the first five years and the vision of creating a new institution. Dedicated staff are the irreplaceable resource who make this venture possible. To all the Noroff University College staff who relocated to a foreign country (often with family), volunteered extra time and hours, juggling work and family time and even sleeping in marketing booths with 5000 teenagers gaming 24/7 around you for three days generating so much noise that the floor vibrated. For your dedication and belief in the vision of the new institution, thank you.

Professor Sutherland was involved during the initial start-up development phase, joining Noroff full time in 2012, after working on the start-up initially during a sabbatical from the University of Glamorgan (now the University of South Wales). Dr Burgess joined NUC full time in 2014. Both authors were subsequently closely involved throughout all activities and events described in this case study and were instrumental in developing the study programs and related processes and procedures for teaching, learning and education quality assurance, and growing NUC into a sustainable institution of higher education.

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## **Author Biographies**



**Professor Iain Sutherland BSc MSc PhD MBCS** is Professor of Digital Forensics at Noroff University College (NUC) in Kristiansand, Norway. Seconded from the University of Glamorgan (now University of South Wales) to establish NUC computing programmes in 2012 and remaining to see the first of many student cohorts successfully graduate.



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# 2

## Leadership and Organizational Revitalization in a Period of Disruption and Change

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Adaption and Innovation in the Rutgers School of Health  
Professions

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### **Introduction: “Normal” times in Higher Education**

Higher education has not been a standard setter within the realm of self-motivated change or innovation. Rather, colleges and universities are generally recognized as being reasonably predictable, stable, and tradition-bound places to work and learn. For administrators, faculty, staff, and students, each new semester is often quite like the last, and this anticipated consistency brings a level of comfort and reassurance to all.

In response to a variety of external and internal influences in recent years, however, more spirited innovation and change have become increasingly accepted components of the rhetoric and reality of the academy. Academic and administrative departments have become progressively more attuned to the virtues of incremental and continuous improvement, and these efforts have led to new and more energized approaches to program, school, and institutional review, planning, and advancement. In turn, these developments have resulted in the emergence of new methods and processes related to instruction, research, information management, decision making, and outcomes tracking across academic and administrative areas.

Other signs of change and innovation dot the landscape of our institutions and higher education more generally. Notable among these are advances in leadership and organizational development, areas in which higher education has long trailed other sectors. Reflecting this trend, the popularity of campus-based, association-based, and national programs devoted to continuous improvement, organizational effectiveness, strategy and planning, change management, and leadership and

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organizational development continue to increase in quite dramatic fashion (Ruben et al., 2021).

One such initiative developed to advance leadership and organizational effectiveness is Excellence Higher Education (EHE) (Ruben, 2016). Inspired by the Malcolm Baldrige Performance Excellence framework (National Institute of Standards and Technology, n.d.), arguably the most influential organizational assessment and improvement framework, EHE provides a systematic guide to organizational assessment, improvement, planning, and design tailored specifically for colleges and universities and their constituent units. The EHE framework, explained in greater detail in the pages ahead, provides the foundation for the case discussed in this chapter.

### **The impact of COVID-19 on change and innovation**

Despite the expansion of innovative administrative and educational practices, tools, and techniques across higher education, few would characterize such efforts as “disruptive” or “transformational” for the sector as a whole. However, the onset of the COVID-19 pandemic in early 2020 led to rapid and disquieting changes across the higher education landscape. Almost overnight, a stable environment that prided itself on tradition, incremental innovation, and continuous—albeit gradual—improvement was replaced with an imperative for fundamental and transformative change and innovation in nearly all functional areas. This pivot was essential for ensuring the continuity and well-being of many institutions and their constituent programs, services, faculty, and staff in response to the pandemic.

In a sector not well prepared for major environmental disruption, the ongoing response to the pandemic has been extremely stressful for administrators, faculty, staff, and students alike, and it is possible that much of that stress and many of the troubling consequences will continue (Gigliotti, 2019, 2020b; Govindarajan & Srivastava, 2020). In addition to responding to the immediate issues related to the crisis, the situation has called for a proactive approach in planning for a “new normal.” As a consequence of these efforts, a new higher education agenda may emerge that alters our preferred ways of designing and delivering academic programs and services.

In an effort to help colleges and universities systematically address the urgent challenges of organizational review, reimagination, and renewal inspired by the pandemic, the basic EHE framework was adapted to meet the needs of the current situation. A variation of the model—Excellence in Higher Education-Renewal (EHE-R)—was developed and disseminated to various audiences for their use (Ruben, 2020a, 2020b, 2020c). This chapter will explore the adaptation of the EHE model, key dimensions related to the adapted model, and an overview of how this model was applied by the Rutgers School of Health Professions (SHP) for the review, reaffirmation, and renewal of its purposes, aspirations, and programs.

### **The treasured purposes of Higher Education: A mixed blessing**

Colleges and universities occupy a unique position among institutions throughout the world as they carry on the time-honored traditions of creating, advancing, and imparting knowledge. They are recognized as special in their mission and aspirations by the faculty, staff, and students who are most directly engaged with

their work, and by their many other beneficiaries and the vast array of communities whom they serve. Indeed, they are among our most revered institutions, and widely regarded as standard bearers for many of society's most coveted values.

While the distinctive mission of colleges and universities differentiates them in many ways from any other institution, there is also a sense in which this uniqueness is a mixed blessing. The unique mission and character of higher education is a virtue in many respects. Yet, to the extent that colleges and universities and their constituent academic departments are preoccupied with their distinctiveness, the possibilities for learning from the experiences of other institutions and other sectors are limited. In this respect, the perception of uniqueness can become an obstacle when it comes to gaining insights from successful practices of other institutions. Somewhat ironically, then, a focus on the distinctive mission and character of institutions of higher education can easily become a barrier to identifying potentially applicable lessons from other organizations and sectors.

Without engaging in an extensive debate about whether higher education is a business, colleges and universities unquestionably share some features in common with businesses, as they do with government, health care, and organized religion. While each of these domains is distinct in terms of its purpose and the constituencies served by their work, personnel within each organization create and deliver mission-critical programs and services for the constituencies they serve and upon whom they depend, and from which it is possible for professionals in any sector to learn from one another's practices if viewed from an appropriate level of analysis.

### **Performance and organizational excellence**

Of the many performance and organizational excellence concepts, tools, and methods, none has been as pervasive or influential, nor more widely adopted or adapted, than the Malcolm Baldrige Performance Excellence framework. First developed by the U.S. Institute of Standards and Technology (NIST) for business leaders, the model was subsequently adapted for health care, education, and public sector organizations. As described by the Baldrige Program, "as the drivers of long-term success have evolved, so, too, have the award and the Baldrige Framework and Criteria. Today, the Baldrige Award recognizes U.S. organizations that are role models for organization-wide excellence" (National Institute of Standards and Technology, n.d.). Since the first group was recognized in 1988, 134 national-level awards have been presented to 124 organizations (including eight two-time award recipients and one three-time recipient) (National Institute of Standards and Technology, 2020).

For higher education, there was no rush to adopt the framework. Predictably, this was particularly true among larger research universities and the more elite private institutions where the applicability of the model to the distinctive and specialized missions of higher education institutions was questioned. The Baldrige education model was originally applied to teaching and learning in K-12 schools, which was an important and worthy focus within the United States at that time. However, this emphasis was not well suited to large, complex, multifaceted colleges and universities for which classroom instruction was but one element of



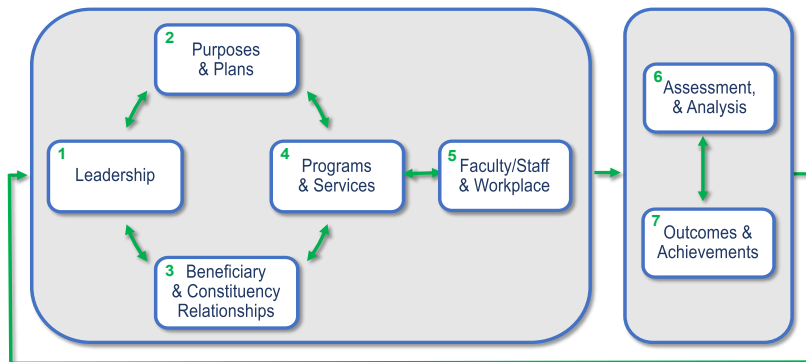
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their mission (Ruben, 2018, 2020c, forthcoming). To be useful for leadership review, strategy formulation, and improvement in a higher education context, an adapted model would need to be appropriate for all mission areas related to research, teaching, and community engagement, and for the broad array of academic and professional disciplines as well as for administrative and support units and functions.

### **Excellence in Higher Education**

Excellence in Higher Education (EHE) was developed to address these needs. EHE was inspired by Baldrige but adopted to reflect the distinctive missions, language, and self- and societal perceptions of the work of higher education. The EHE model was created to be sensitive to the culture of higher education, to align with accreditation standards, to accommodate multiple missions, to emphasize collaborative rather than top-down leadership, and to avoid business terminology. All of these characteristics typically led to resistance and dismissal of cross-cutting macro-level models by a sector that regarded itself as unique and special in so many ways (Ruben, 2018).

The EHE framework, illustrated in Figure 1, provides a visualization of the systems-oriented model and its individual components.



Ruben, B. D., *The Excellence in Higher Education Guide: A Framework for the Design, Assessment and Continuous Improvement of Institutions, Departments, and Programs* (Sterling, VA: Stylus Publishing, 2016. Revised 2021).

**Figure 1.** The EHE System

### **The EHE Process**

The Baldrige and EHE frameworks were developed to advance institutional effectiveness through a process of continuing improvement. Essentially, this approach provides a guide that focuses leadership attention on the design, implementation, assessment, evaluation, and ongoing refinement of key components of an organization. By focusing individually and collectively on the system components of leadership, plans and planning, stakeholders, programs and services, and workforce and cultural considerations, along with outcomes assessment, documentation, and use it becomes possible to create a systematic and sustainable approach to advance organizational purposes and aspirations.

Components 1-5 in the model are core areas of organizational activity which, independently and through interactions have a variety of consequences. Category 6 focuses on the assessment and analysis of these outcomes along with information on environmental factors for ongoing refinements in organizational functioning. Category 7 focuses on the uses of assessment information to fuel iterative processes of organizational improvement related to leadership practices, strategy formulation and planning, strengthening relationships with stakeholders, enhancing the quality and relevance of programs and services, and advancing the quality of faculty, staff, and organizational culture.

Rather than conceiving of review or assessment as episodic events undertaken by leaders and their colleagues for a specific purpose, the Baldrige and EHE models envision leadership as consisting of ongoing processes of strategy and goal setting, implementation, evaluation, feedback aggregation, and refinement and redirection to move toward organizational goals and aspirations.

Another noteworthy contribution of the EHE paradigm is its departure from traditional conceptions of institutional excellence that may focus quite exclusively on academic distinctions of the faculty or institutional resources and characteristics. While these features are not unimportant within the EHE framework, primary attention is focused on higher education institutions at an organizational level of analysis, emphasizing the whole and interactions among components creating systems that are greater than the simple sum of their distinguished parts.

The EHE framework has been broadly implemented and refined over the course of 25 years. The model has received national awards from the Baldrige Foundation (2018) and the Network for Change and Continuous Innovation (2021), and the framework has been adopted and applied in colleges and universities nationally and internationally. At Rutgers University, roughly 65 academic and administrative departments have utilized the framework in various ways, and a similar number of other institutions have also found this program effective in their assessment, planning, and improvement efforts. The model has been used in various research and training contexts in Botswana, Canada, China, Chile, Iran, Northern Ireland, Qatar, Saudi Arabia, and Thailand, and the EHE guide has also been translated and published by Wuhan University Press for use in China.

### **Normal and not-so-normal times: Continuous and transformational improvement**

Both the Baldrige and EHE frameworks were developed and envisioned for applicability in “normal” times; neither were designed for dealing with massive disruption, anxiety, disarray, crisis, or existential challenges to continuity of one’s core mission elements, such as we have experienced as a result of the COVID-19 pandemic. The pandemic created unprecedented crisis conditions and existential threats for organizations in various sectors, including higher education, which required a sudden shift to a fully online teaching and working environment (Gigliotti, 2020a; Ruben, 2020a; Wallace et al., 2020). Colleges and universities were forced to confront organizational challenges related to instructional delivery, campus openings and closings (temporary and permanent), long-term financial

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stability, employment, campus governance, faculty engagement in decision making, confidence in administrators, and many other issues (Fernandes, 2020; Flaherty, 2020; Furstenberg, 2020; Nadworny, 2020; Paquette, 2020; Vedder, 2020; Zahneis, 2020). These disruptions have raised an important question as to whether and how Baldrige and EHE concepts might apply in this context.

It was, and is clear that the crisis in higher education was defined by three conditions that were unlikely to be resolved easily or rapidly:

1. Social distancing in an industry where social interaction and physical presence are central to the work we do, whether it occurs in the classroom, the residence halls and off-campus housing, or in the labs, libraries, and field sites where students and faculty conduct their research.
2. Fiscal emergencies in a sector that has confronted financial challenges for some time, especially but not exclusively at schools that receive state funding, and at small private institutions that were struggling financially before the pandemic. Specific challenges include the unpredictability of demand/tuition revenue; the decline of international students; the impact on revenue from auxiliary services, such as sports, summer rentals of facilities, campus stores, and restaurants; and increased financial need among students, all of which contributed to a widespread financial impact across colleges and universities. Although the “doomsday scenario” of significant school closures was avoided due to significant relief funds provided by the federal government and the slashing of institutional expense (Gardner, 2021), the impact on college and university operations, personnel, and priorities has been extensive.
3. Increasing demand for healthcare services delivered in hazardous conditions for those schools with medical schools/hospitals, while simultaneously losing revenue from delayed elective surgeries (S. Lawrence, personal communication, May 2, 2020).

Rather than following the norm of incremental and continuous change, a radical and transformational mindset became an imperative for college and university leaders, with an evidence-based focus on leadership, organizational change, and institutional strategy. As discussed in greater detail elsewhere (Ruben, 2020a, 2020b), critical questions in this context related to whether and how core missions, visions, program and service offerings, stakeholder relationships, assessment approaches, and communication strategies might need to change; how academic and administrative leaders would guide faculty and staff through a process of systematic review, reflection, and reinvention while fostering resilience and maintaining core values and a sense of community; and how these difficult decisions would be made and communicated. Each of these changes needed to be made quickly in responding to the “new normal” and in exercising some control in the creation of viable future options (Cantwell & Taylor, 2020; Whitford, 2020).

A key element of the Baldrige and EHE frameworks is the active engagement of colleagues throughout the organization in the review process in order to enhance the quality of goal-setting, planning, implementation, and assessment, and also to foster increased buy-in and ownership of the plans and action commitments that emerge. Importantly, then, the broad-based engagement by leaders and colleagues

throughout an organization contributes to the quality of the review process, the results of that review, and the motivation necessary to energize meaningful and sustained improvement activities following up on the initiative.

### **The excellence in Higher Education-Renewal (EHE-R) framework**

The EHE-R model, described in the following sections, was created to expand the standard EHE model to assist college or university leaders, faculty, and staff in identifying critical questions to guide institutional response and rebuilding within a unit, school, or institution. The framework is designed to assist college and university leaders in a systematic process of conceptualizing, reimagining, and implementing elements of the path forward to the “new normal.”

EHE-R actively engages leaders and their colleagues in aggregating and cataloguing critical questions related to mission and vision, changing priorities, modifications in programs and services, and adjustments in faculty and staff responsibilities in the face of shifting needs among present and potential students and other constituencies in the dramatically transformed environment. EHE-R identifies critical issues for leaders at all levels of their organizations as they guide and support the community through the process of review and renewal. Both the sense of need and opportunity enhance motivation for all involved, fueled by a recognition that future aspirations and perhaps even the sustainability of the organization may well depend on thoughtful review and significant change. Given these aims, the EHE-R model is built on a foundation that recognizes the importance of each of the seven EHE components in the context of organizational reimagination and renewal, as shown in Table 1.

**Table 1.** The Excellence in Higher Education-Renewal (EHE-R) 3.0 framework (Ruben, 2022)

<b>CATEGORIES</b>	<b>QUESTIONS</b>
<p><b>Category 1:</b>  <b>Leadership</b>                      ❖ <i>Communicating core values and a forward-looking vision that underscores the importance of core purposes, aspirations, emerging strategic priorities, and the sense of community.</i></p>	<ul style="list-style-type: none"> <li>• What are the guiding principles and values necessary to achieve a shared, compelling, and motivating vision in this environment?</li> <li>• What are the most critical leadership goals now and going forward?</li> <li>• How will the values of diversity, equity, and inclusion be preserved and nurtured?</li> <li>• What preexisting leadership roles or structures need to be reimagined and refined? How will emergent leadership roles and decision-making protocols be coordinated with existing organizational structures, and how will communication infrastructures support both?</li> <li>• How will communication within the leadership team and throughout the unit/school/institution be effectively coordinated? What leadership messages are most essential at this moment in time, and how should they be disseminated?</li> </ul>

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CATEGORIES	QUESTIONS
	<ul style="list-style-type: none"> <li>• How can leaders sustain and strengthen the sense of community within the unit/school/institution? What settings can be created to allow ideas and policies to be candidly discussed and evaluated by leaders at various administrative levels?</li> <li>• How can leaders ensure that decision-making protocols and processes instituted for expediency and predictability in such areas as health, finance, and personnel will not inadvertently undermine effective organizational functioning and employee morale and performance?</li> </ul>
<p><b>Category 2:</b>  <b>Purposes and Plans</b>            ❖ <i>Creating a time-sensitive process for clarifying directions, aspirations, plans, strategies, goals, and action steps in a manner that engages faculty and staff in the planning efforts.</i></p>	<ul style="list-style-type: none"> <li>• What will be the timing and the process through which a vision for the future, shared priorities, plans, and goals for the unit/school/institution are formulated?</li> <li>• How will the planning process be structured, and how will renewal plans be linked to previously established plans?</li> <li>• What current strengths, weaknesses, opportunities, and threats are important considerations in planning, and what information is available and needed to provide clarity in each area?</li> <li>• What chronic problems have plagued the unit/school/institution, and is there now an urgency and an opportunity to address and resolve these ongoing issues?</li> <li>• What opportunities for innovation and improvement have been created? What new or expanded program or service needs or opportunities has the crisis made possible?</li> <li>• How will faculty, staff, students, and other groups' perspectives be represented in planning? How will meetings be structured to benefit from the perspective and intelligence of the entire community?</li> <li>• How will plans across the unit/school/institution be communicated and coordinated, and how will cross-cutting priorities be determined and aligned?</li> <li>• How will the institution or department consider contingencies related to changing environmental conditions, available resources, timing, and other uncertainties?</li> </ul>
<p><b>Category 3:</b>  <b>Beneficiary and Constituency Relationships</b>            ❖ <i>Listening to, understanding, and responding to</i></p>	<ul style="list-style-type: none"> <li>• How will student needs, expectations, and concerns be monitored and addressed?</li> <li>• What other groups and organizations are traditionally served by the unit/school/institution, and how will these needs be taken into account going forward?</li> <li>• Are there new constituencies that become a focus of attention due to the impact of the crisis?</li> </ul>

CATEGORIES	QUESTIONS
<p><i>the immediate and forward-looking needs of current and prospective students, parents, and other key constituencies and collaborators to sustain and ideally strengthen relationships going forward.</i></p>	<ul style="list-style-type: none"> <li>• What programs, offices, and services should be available to provide academic, emotional, financial, and social support for students and other constituency groups? How will these programs and services be coordinated, and how will their availability be communicated?</li> <li>• What new communication approaches will be needed to sustain relationships with each beneficiary and constituency group?</li> <li>• What approaches are needed for gathering, organizing, and disseminating information regarding the needs, concerns, and forward-looking expectations of faculty, staff, and students and other constituencies to guide planning and day-to-day decision making?</li> <li>• What important unit/school/institutional benefits are realized through engagements with various constituency groups (e.g., collaborative research and community engagement), and how can these mutual benefits be preserved?</li> </ul>
<p><b>Category 4: Programs and Services</b></p> <p>❖ <i>Engaging in a review of mission-critical and support programs and services in relation to defined criteria to clarify actions needed for each.</i></p>	<ul style="list-style-type: none"> <li>• How will programs and services be systematically reviewed, inventoried, and prioritized, and what changes will be needed in these offerings going forward?</li> <li>• What criteria, and weightings of these criteria, should be used in reviewing and considering program/service prioritization and possible changes?</li> <li>• How will criteria such as mission centrality, alignment with aspirations, importance to stakeholders, distinctiveness, safety, resources required and revenue generated, redundancy, importance to faculty and staff, and reputational contribution be taken into account?</li> <li>• What programs, services, or centers are candidates for initiation, improvement, expansion, downsizing, restructuring, or discontinuation?</li> <li>• How can virtual and other technologies be used to support and enhance various mission-critical functions and important administrative and support functions going forward?</li> <li>• What innovations are possible in mission-critical, administrative, and support processes?</li> <li>• What opportunities exist for optimizing the relationship between centralization and decentralization in administrative areas based on current and anticipated circumstances?</li> <li>• What opportunities for innovations in instruction, research, and community engagement are now made possible by the disruption of larger lectures and in-</li> </ul>

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CATEGORIES	QUESTIONS
	<p>person proctored exams and current research and community outreach practices?</p>
<p><b>Category 5: Faculty/Staff and Workplace</b></p> <p>❖ <i>Recognizing and addressing faculty, staff, and community support needs while also considering changes in roles, responsibilities, workplace practices, and workforce policies.</i></p>	<ul style="list-style-type: none"> <li>• How will faculty and staff uncertainties and morale issues related to health, safety, security of their employment, transportation, and possible personnel changes be addressed?</li> <li>• What values and principles should be the focus of communication and engagement efforts with faculty and staff in the present situation and going forward?</li> <li>• What is the distribution of faculty and staff work roles and responsibilities, and what opportunities/necessities exist for recalibration, reallocation, temporary or longer-term reassignment, cross-training, and professional development to address needed changes in workload and workplace priorities? How will right-sizing or downsizing be handled? How will institutional commitments to diversity, equity, and inclusion be taken into account in decisions relative to temporary or permanent workforce reductions?</li> <li>• What services will be needed to support faculty and staff in times of transition, reinvention, and renewal?</li> <li>• What innovations in faculty and staff work practices might be considered?</li> <li>• What communication approaches will be needed for effective two-way interaction with faculty and staff, and how will these communication efforts be planned and coordinated?</li> </ul>
<p><b>Category 6: Assessment and Analysis</b></p> <p>❖ <i>Implementing processes and systems for assessment, analysis, and the effective and efficient sharing of information regarding current environmental conditions, progress, and outcomes of organizational renewal efforts, and other issues of concern facing the institution.</i></p>	<ul style="list-style-type: none"> <li>• What information will be needed to monitor current environmental conditions, progress, and outcomes of organizational renewal efforts, and other issues of concern facing the institution?</li> <li>• Are metrics and methods for assessment and analysis agreed upon and widely understood?</li> <li>• What processes and systems are available to assess, integrate, analyze, and share current information with decision makers throughout the organization?</li> <li>• What information should be shared, when, how often, and with what audiences?</li> <li>• What relevant information is currently available, and what additional information and technological support are needed?</li> <li>• How will information on strategies, innovations, and accomplishments of peer or leading institutions be gathered, analyzed, and shared?</li> <li>• How will information relative to progress and outcomes be communicated and made easily accessible, and</li> </ul>

CATEGORIES	QUESTIONS
	what individuals, teams, or offices will coordinate this function?
<p><b>Category 7:</b>  <b>Outcomes and Achievements</b>  ❖ <i>Documenting and using information on outcomes, environmental, trend, and peer comparison insights to guide institutional renewal efforts, organizational alignment, forward planning, and day-to-day decision making by leaders at all levels in all functional areas.</i></p>	<ul style="list-style-type: none"> <li>• How is progress and outcome information being used for internal and external reporting and accountability?</li> <li>• How is information on environmental conditions, challenges, and opportunities being used?</li> <li>• How has progress and outcomes information been used to enhance organizational alignment, forward planning, and day-to-day decision making by leaders?</li> <li>• What significant organizational achievements, innovations, and improvements have been realized?</li> <li>• What priorities for change have been identified based on reviews of information progress and outcomes to date?</li> <li>• How is information from peers and leaders being used?</li> <li>• How is information on progress and outcomes being used for internal and external reporting and accountability, facilitating alignment, celebrating accomplishments and identifying needed changes, and guiding day-to-day decision making and future planning?</li> </ul>

**Application: The Rutgers School of Health Professions (SHP)**

The focal organization for this case history, the Rutgers School of Health Professions (SHP), applied EHE-R in the first quarter of 2021, nearly one year into the pandemic in the United States. As explained in this chapter, the leadership team of SHP, which had been guided in their work by the EHE philosophy for a number of years used the EHE-R framework for the review, reaffirmation, and renewal of their purposes, aspirations, and programs. They also considered ways of reimagining many of the insights generated from earlier uses of the EHE framework in the context of a post-pandemic higher education landscape (Gigliotti & Goldthwaite, 2021; Gigliotti et al., 2021; Mahon et al., 2019a, 2019b).

The Rutgers School of Health Professions is a large, multifaceted academic unit that offers more than 40-degree programs ranging from associate, baccalaureate, masters, and doctoral level to post-professional advanced practice and continuing education programs. The school is situated on three geographically distinct campuses, employs 160 full-time faculty, over 300 part-time and volunteer faculty, 80 staff, and enrolls approximately 2,000 students per year. The practitioners prepared by the school represent about 80% of the healthcare workforce, including those who are licensed or credentialed to practice as physician assistants, physical and occupational therapists, speech language pathologists, psychiatric rehabilitation counselors, nutritionists, health information managers, data analysts, healthcare managers, medical imaging and clinical laboratory professionals. Many of the school’s educational programs are offered both in-person on the school’s



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physical campuses as well as via distance learning through the use of web-based instructional technologies and hospital affiliates located across the country. Because the school's educational offerings are provided on campus as well as at a distance, SHP's approximately 500 graduates per year meet both local and national workforce needs and are particularly critical in rural or underserved areas across the country where educational programs are not accessible or available, and where the workforce shortage is severe.

SHP is ranked among the top schools of its kind nationally, having achieved this status and national standing as a consequence of a multiyear commitment to building a vision of excellence, through a process that was informed by the use of the EHE framework in recent years (Gigliotti et al., 2019). This work began in 2010 and included a number of developmental steps. The need to accelerate this development process was made necessary in 2013, when the school transitioned from being part of a health workforce-focused institution to a large comprehensive research-intensive institution when the New Jersey state legislature called for a merger of the state's public health sciences university, called the University of Medicine and Dentistry of New Jersey (UMDNJ), with the state's flagship undergraduate university, Rutgers University. This merger essentially dissolved UMDNJ by transitioning seven of its eight schools to Rutgers under a newly created umbrella, Rutgers Biomedical and Health Sciences. The framework for planning and improvement became even more critical when the school was incorporated into this new institutional setting at Rutgers that had different expectations and priorities than the institution it had been part of for the previous 40 years. These requirements called for expanded scholarly publication in peer reviewed journals, books, and other publicly accessible publications; increased extramural funded and investigator-initiated research; doctoral-level preparedness for the entire faculty; and a shift away from vocational and technical training programs across a large spectrum of professions, towards more cohesive, complementary, and advanced degree level program offerings.

This merger provided an impetus and an opportunity to critically examine the school's programs and offerings, reflect on what its collective identity was at the time, and envision what it could and should be given the new context of the school as part of a research-intensive university. To achieve that aspirational identity, it was necessary to reimagine how the collection of programs and offerings could be most effectively organized, including the potential for expansion of some and closure of others. Using the EHE model as a framework, a series of steps were taken to reorganize and reshape accordingly to achieve this newly envisioned identity. What was once a school that was difficult to describe beyond providing a listing of programs and offerings was renamed, rebranded, and the portfolio of programs was organized such that they could be described as a collective both simply and with clarity. The name of the school was changed to reflect this new identity, from the *School of Health-Related Professions* to the *School of Health Professions*, removing a word that implied the school's programs were somewhat random and auxiliary in nature, rather than central to health care. An aggressive branding and marketing plan was developed, and infrastructure was put in place to ensure that all communications produced by the school (newsletters, brochures, websites, oral or written messages) had the same look and feel and utilized a

common and familiar language that would consistently communicate the school’s newly envisioned identity, both internally and externally.

Efforts were made to organize the school in such a way that it could be described cohesively in a few sentences as a collective, not as a listing of programs or offerings. This critical self-evaluation and the use of EHE as a framework resulted in plans to reorganize the leadership structure and philosophy, enhance and grow some programs, close others, and merge some departments to build on potential for collaboration and interdisciplinary programming around themes. Programs were re-aligned geographically, when necessary, to capitalize on shared facility needs or to foster faculty and student collaboration, and two campus locations were closed to allow for consolidation, enhance collaboration, and to reduce silos.

Figure 2 provides the foundational framework developed by SHP to continue its positive trajectory toward excellence while reshaping its offerings and faculty workforce to meet the new expectations resulting from the merger of the two universities. Nationally, health professions schools place a primary focus on educational programs that prepare clinical professionals who are competent in the skills necessary to serve their patients or clients. The measures typically used to judge the success of such schools, or to assess excellence, are based on educational program outcomes such as student’s licensure exam pass rates, job placement rates, and employer satisfaction. The measure of excellence of such a school’s faculty is in its ability to advance its professions, such as by setting national practice guidelines that allow clinicians to function at the top of their scope of practice, or by leading changes within their professions to respond to the local and national healthcare landscape.

Leadership: People and Process	Build integrated, high-performance leadership team across units
Vision/Mission and Strategic Plans	Engage in dynamic and collaborative implementation of 5-year strategic plan
Sustainability and Growth	Define programs, services, and infrastructure; assess financial viability and sustainability; transition from broad to deep; build new revenue streams; evolve infrastructure; develop workforce
Partnerships and Stakeholder	Identify key constituencies and build partnerships within the organization and across the University, state, nation, and globally
Workforce and Workplace	Evolve workforce to meet new vision; improve workplace and infrastructure to attract, develop, and retain talent
Communication and Brand	Build a brand that reflects mission and vision; create a visual identity; develop a digital presence; create a more robust and effective communication strategy with key constituencies
Metrics and Outcomes	Track outcomes at every level; share data to build transparency; develop and distribute dashboards

**Figure 2.** Establishing a Foundation of Excellence (Mahon et al., 2019a)

The SHP’s new institutional home focused more keenly on outcomes such as obtaining competitive extramural research grants, getting work published in top-tiered research journals, and winning prestigious prizes for scientific discovery.

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The school's faculty had been encouraged over decades to be nationally recognized for preparing highly sought-after clinicians and professionals, not for preparing federally funded researchers and scientific scholars. If the school failed to adapt in expanding its mission, it would be at certain risk of closure in the future. New guidelines for academic promotion put in place by the university shortly after the merger focused on a high level of research and scholarship, rather than on teaching and service outcomes. The school's leadership needed a plan that could be rapidly implemented to reshape it to meet these new expectations, without negatively impacting what it was already doing extremely well. That plan also had to incorporate strategies to keep morale high and the culture collaborative, despite the need to implement rapid, and fairly drastic changes. To do this, the school utilized the EHE model as a framework to build the foundation and to plan for this rapid pivot to meet these expanded expectations and additional measures of success.

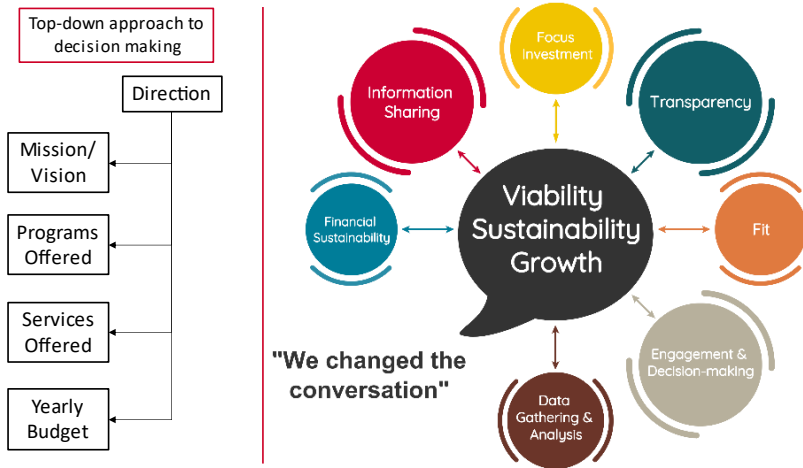
An important early step in the EHE process is a candid and rigorous organizational self-assessment to determine "where you are now," followed by the formulation of a vision of "where you want to be," including plans, goals, and strategies for achieving those aspirations. The self-assessment and development of a resulting aspirational vision was followed by a self-examination of leadership practices and approaches, and the development of goals to guide the leadership team in helping the organization move to realize the vision. Early in the process, SHP engaged in this candid reflection and assessment with the leadership team, faculty, and staff. Together, they developed a specific set of leadership goals, as shown in Figure 3.



**Figure 3.** Shifting Focus (Mahon et al., 2019a)

Consistent with the guidance provided by Category 6 of the EHE Framework, a set of metrics and measurement methods, shown in Figure 4, were developed as a means of tracking progress toward SHP’s expanded vision and goals. These efforts were among the many undertaken by SHP as a part of their ongoing continuous improvement and re-shaping efforts.

## Leadership Response: Shifting Focus



**Figure 4.** Defining Measures and Outcomes (Mahon et al. 2019a)

As is typical of such a process, many insights and lessons emerged from their effort. SHP lists the following, most if not all of which apply more broadly to nearly every continuous improvement initiative (Mahon et al., 2019b):

- Managing change and resistance is a leadership priority and takes significant time and effort.
- Regularly test capacity and readiness for change before implementation; change fatigue is real and can lead to failure.
- Look for and engage change champions: listeners, informal influencers, sentinels, ears-on-the-ground.
- Engage stakeholders; learn from those who are happy and unhappy; be willing to change direction; accept feedback.
- Be aware of opportunity cost; every choice has an alternative choice; every investment limits other investments.
- Be present/visible, be consistent in messaging.
- Self-reflection and self-awareness are critical for leaders.
- The words you use are very important.

### **Enter COVID-19**

In the wake of the pandemic, SHP decided to apply the EHE-R model to a post-COVID-19 internal review and to initiate a new five-year strategic planning process. By 2020, when the pandemic hit, the school had already undergone significant re-shaping and expansion of its mission to meet the university’s

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expectations for extramurally funded research and scholarship. In just five years, its faculty workforce had been transformed from 30% to 80% doctoral preparedness, publications in peer-reviewed journals increased by 270%, and extramural research grant funding increased fourfold. Because the school already had established web-based and distance learning programs decades before the COVID crisis, the transition to fully online education was not as difficult as it was for other schools. In addition, because the practice of continuous improvement through the EHE model was ingrained in the way the school operated over the previous five years, the community was well-positioned, and was equipped with organizational tools to deal effectively with the rapid changes and uncertainties brought on by the pandemic. In Spring of 2021, the school’s leadership decided it was time to begin to plan for a post-COVID workforce and workplace, and to think about what was learned during the crisis that could be carried forward in returning to a new normal, and to plans for the next five years.

### **The facilitated EHE-R workshop**

Rutgers Center for Organizational Leadership designed and facilitated a two-day workshop for the School of Health Professions Leadership Council, which includes 17 faculty and staff. Each participant was given a series of questions to consider prior to the session. The goal was to have participants capture their thoughts and suggestions before the session to ensure that a wide range of ideas and perspectives were offered and discussed in the workshop. Day one of the workshop focused on a refresher of the principles and practices of the foundational EHE framework, an introduction to EHE-R model, a review focusing on categories 1–3, and a breakout discussion and report-out of each of these categories. Participants were instructed to share one or two key insights from the notes they had prepared in preparation for the workshop, then to share one or two strengths of the school in order to recognize the ways in which they had successfully navigated the pandemic crisis. Finally, participants were instructed to identify and share up to five potential areas for improvement under each category. The second day of the workshop followed the same process for categories 4–7. Each breakout group captured their notes, which were shared with the facilitators to be used for prioritizing and a final report.

The second step in the workshop process involved a consolidation of the data into distinct areas for improvement in each of the categories. These areas for improvement are used to create a questionnaire that asks participants to individually select and rank five items in each of the seven EHE-R categories. Broadly stated examples of priorities that emerged are included in Table 2 below.

**Table 2.** Identified Priorities

<b>Category 1: Leadership</b>
<ul style="list-style-type: none"><li>• Review governance and administrative structures to assure broad representation and engagement of all faculty groups with attention to issues of diversity, equity, and inclusion in the process.</li><li>• Develop more systematic approaches for succession planning throughout the school.</li></ul>

<b>Category 2: Purposes and Plans</b>
<ul style="list-style-type: none"><li>• Review and coordinate program and department priorities to align with the broader vision of the school.</li><li>• Provide guidance for faculty to facilitate a better understanding of how their individual roles and activities align with the aims and priorities of their program, department, school, and university.</li></ul>
<b>Category 3: Beneficiary and Constituency Relationships</b>
<ul style="list-style-type: none"><li>• Build and expand relationships with other university schools and units.</li><li>• Develop an external advisory board of community and healthcare system partners to better understand healthcare training needs.</li></ul>
<b>Category 4: Programs and Services</b>
<ul style="list-style-type: none"><li>• Evaluate additional investment in research and clinical practice and further integrate students, faculty, and professions into the university health partner system.</li><li>• Identify mission-critical programs and conduct program reviews to identify redundancies, sharing of courses, sequencing issues, scheduling matters, and opportunities for increased interprofessional collaboration and coordination.</li></ul>
<b>Category 5: Faculty/Staff and Workplace Climate/Culture</b>
<ul style="list-style-type: none"><li>• Assess and recalibrate faculty responsibilities in a post-COVID environment.</li><li>• Develop post-COVID return-to-work strategy and plan considering physical and mental health and safety needs to mitigate stress level for faculty and staff.</li></ul>
<b>Category 6—Assessment and Analysis</b>
<ul style="list-style-type: none"><li>• Develop a comprehensive dashboard with internal success measures that is organized around key categories and functions.</li><li>• Determine how best to use metrics information to establish goals and track progress toward achieving them.</li></ul>
<b>Category 7—Outcomes and Achievements</b>
<ul style="list-style-type: none"><li>• Develop mechanisms to make the dashboard more broadly accessible and useful within the school for strategic planning and other purposes (and perhaps more broadly).</li><li>• Integrate student data on recruitment, admission, support, workload, success, retention, and wellness within the department dashboard to inform planning and decision making.</li></ul>

The top five priority areas for improvement and a summary of the school’s strengths are included in a final report prepared by the Center and provided to the

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school. This report is in turn used to guide further conversation and the development of an action plan for each priority.

### **Conclusion**

Over the past six years, the Rutgers School of Health Professions has utilized the EHE model in planning for continued excellence while navigating change during the transformation that was necessary when the School became part of Rutgers during the merger of 2013. In early 2020, in the middle of transformational re-shaping due to the merger, the school had to rapidly pivot to respond to a new pandemic world of virtual learning and social distancing. Clinical training had to occur in a crisis environment where students required personal protective equipment that was in short supply, and where there were uncertainties related to the safety of healthcare providers and their trainees while caring for their patients. In the Spring of 2021, it became clear that it was time to prepare a plan for a post-pandemic world and to think about what was learned from the crisis experience that should be carried forward. Using the EHE Renewal (EHE-R) process, the school leadership reflected on the past pandemic experience, extracted important lessons, and developed a strategy and plan for moving forward in returning to fully populated campuses, and to initiating the development of the next five-year strategic plan. The EHE-R framework was particularly effective because it provided a structured and familiar medium for the leadership team to reflect, think forward, and prioritize goals in transitioning into a post-pandemic future.

The EHE renewal process served as a “refresh and invigorate” moment for the school leadership team, which had been in chronic crisis response mode for just over one year. First, it was a team-building opportunity. Even though it was delivered virtually using zoom and zoom breakout sessions, it created a sense of comradery and collegiality that boosted leadership morale at a time when it was most needed. Second, the process provided a systematic method for the school leadership to think about its strengths and weaknesses in a post-COVID world in a facilitated “safe” and non-judgmental manner. Third, it provided an avenue for school leadership to identify high-priority goals as it emerged from the COVID world and embarked on the next five-year strategic planning effort. Going forward, school leaders anticipate that the EHE process will continue to serve as a useful framework for advancing effectiveness and excellence of the school, its programs, and faculties. However, to be most effective, it is recognized that the EHE process likely should be utilized more widely throughout the school, not just at a leadership level. The use of EHE at all levels of decisions-making could better engage all community members and enhance a communal focus on, and understanding of, continuous improvement and long-term goals by all members of the School, regardless of one’s role or place in the governance structure.

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# 3

## Towards a Model for Multi-directed Lifelong and Work-integrated Professional Development

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### Introduction

This is the story of the Mid Sweden University which during the last decade has engaged in a critical discussion of how it sees the future role of higher education and how it intends to realise its ambition of being the nation's leading university in the area of technology enhanced learning. In a time when the average age of Swedish students has decreased significantly, pedagogues at the Mid Sweden University have been advocated the long view which focuses on lifelong learning. In addition, Mid Sweden University has been addressing the issue of work-integrated learning and thus developing tailored pedagogy and course design for professional development.

In the contemporary knowledge society, the investment in human resources is an important and continuous process across the lifespan. Technology enhanced learning has opened up new forms of work-integrated learning, involving virtual learning environments and online conferencing tools for a more flexible study design. At the same time this requires universities to rethink the so called 'Ivory Tower Model' with higher education as the knowledge producer, with the traditional one-directional knowledge transfer from the university to the surrounding society. For an improved collaboration there is a need for a multi-directional interchange, including the concept of learners bringing their own data, and learners bringing their own devices. Furthermore, professional should better be designed to stimulate intrinsic motivation and learner agency, in a continuous, lifelong and self-determined process.

This case history analyses and discusses the BUFFL project, a two year pilot project with funding from the Swedish innovation agency Vinnova (2021). The overall aim for the project is to develop a national model for flexible and work-integrated professional development with the idea of organisations and companies bringing their own data. Case units have been courses and course modules for organisational upskilling in the field of banking and insurance companies. All courses are given in the university's virtual learning environment, and on a 25%

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study pace. Course participants have a nation-wide spread in a collaboration with two other Swedish universities. All ingoing course modules have been developed to offer a participation where all activities can be carried out in distance mode. Synchronous learning activities are enabled by the use of video conferencing tools, where lectures and workshops often are recorded for storage in a learning object repository.

The teaching and learning process should also be work-integrated in the classic sense, with work-integrated learning defined as the combination of work-placed practical activities and the university tradition of theoretical studies. So far 23 course modules have been developed aligned to course blocks on themes such as Organisational development, Change management, and Client and business relations. Thematic course blocks that contain modules with up-to-date concepts like Digitalisation and business models, Value adding artificial intelligence, and Orchestration of innovation. Altogether, a set of course modules with a strong emphasis on new ideas for business models and organisational development tailored for the participating bank and insurance companies. In parallel with this niched course design, the more long-term project aim is to develop a model for continuous work-integrated learning that is flexible enough to fit all kind of companies and organisations. The overall aim of this chapter is to describe and discuss the general BUFFL project design. More specific objectives are to present and discuss the concept of Bringing your own data and a draft support model for lifelong professional development. Furthermore, the chapter presents some findings from the first preliminary evaluation of the project.

### **Lifelong learning and lifelong education**

The concept of lifelong learning is not only a modern phenomenon, and can be traced back to at least Plato's 'The Republic', where he discusses the idea of continuous learning to improve leadership (Williamson, 2008). Still very relevant, but that the contemporary lifelong learning ought to have a more a less elitist perspective, and a more democratic and inclusive model. In the 17<sup>th</sup> century the Czech philosopher and educationalist Johann Amos Comenius was a pioneer in advocating the idea of a lifelong learning for all. Two perspectives that later were combined by the French Enlightenment philosopher and mathematician Nicolas de Condorcet who introduced that lifelong learning should involve both professional and personal development (Jaldemark, 2020). In the discussion on lifelong learning today Billet (2010) has highlighted the importance of a distinction between lifelong learning and lifelong education, and that those terms should not be used as synonyms.

Furthermore, it has been recommended that modern lifelong learning and lifelong education should be designed to support learner agency and self-determination, provided with an instructional design that stimulates intrinsic motivation. (Blaschke, 2019). A concept that also contains Plato's recommendation of a continuous and lifelong learning process, in the category that Billet would call lifelong education. Important though to include that contemporary lifelong learning also should contain a socio-personal process where the personal learning trajectory is important. Most content and activities in the BUFFL project courses do definitely belong to the Billet category of lifelong education, but a future multi-

directed university model must also embrace what Billet (2010, p. 412) presented as a framework that should be *"inclusive of the entire scope of purposes and experiences that shape the personal fact of ongoing learning"*.

### **The BUFFL project**

BUFFL is an acronym that could be translated from Swedish to English as 'Industry development at bank and insurance companies through flexible lifelong learning'. The BUFFL project is a two-year pilot containing three phases that partially intersect and repeat on several occasions. Furthermore, BUFFL could be described as a project that combines work-integrated learning with lifelong learning, addressing the increasing need for continuous professional development. A professional development that the BUFFL project design has defined to be technology enhanced online learning with a flexible integration in the participants' daily working life. A must, since all learners are working full-time, and for the same reason courses have been divided into course modules given at a lower study pace. The project includes the Mid Sweden University and the (MSU research groups Centre for research in Economic Relations (CER) and Higher Education and E-Learning (HEEL). The CER and HEEL research groups collaborate in the BUFFL project with the Faculty of Business at Kristianstad University and the Department of Business Studies at Uppsala University. The purpose of the BUFFL project is to strengthen skills in the strategically important labour market area of banking and insurance, and at the same time develop a more general model for technology enhanced lifelong professional development.

The project started out with an initial pre-project phase that was based on the cross-disciplinary competence from the involved universities, and the needs that were identified by the partner organisations. Three main themes that were defined for the professional development were change management, company valuation, and customer relationship. Definitions that were carried out in sessions where all the collaborating organisations participated. In a combination of disciplinary competencies and organisational needs, shorter courses modules were designed with themes and learning objectives. The inception phase also involved activities where subject matter experts in the area of technology-enhanced learning created examples of course templates, online assessment, and technology enhanced learning activities for online environments (Jaldemark & Öhman, 2020).

In the next project phase implementation, preliminary course modules were implemented and tested together with employees from the ingoing organisations as course participants. University teachers and subject matter experts for course modules were given support in a combination of face-to-face and online sessions. Some teachers had an earlier experience of online teaching and technology-enabled learning activities, but they had a need for upskilling for the migrating to new virtual learning environment and new rich media conference tools. Most teachers had earlier experience of technology enhanced teaching and learning, but some teachers must be classified as pure beginners. What became a good practice during the process was that the more experienced teachers developed semi-detailed course templates that the less experienced teachers and content developers could use as start structure. It also turned out to be a good idea to use a common structure for modules belonging to a common thematic block, to facilitate for learners that were

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new to online learning environments. Finally, what took time and needed most support was the recording and deployment of lectures and tutorials, and how to create automatised assessment in the online learning platform.

The BUFFL project design is inspired by the set of principles that has been recommended by Cremers et al. (2016). Their nine design principles that are discussed for configuring the interface between university and workplace, to create a multi-directed educational environment are: 1) Fostering authenticity, 2) Creating a learning community, 3) Increasing ownership, 4) Utilising diversity. 5) Inter-linking of working and learning, 6) Facilitating reflection, 7) Enhancing individual talents, 8) Assessing for learning, and the overarching principle of 9) Enabling organisation. To support the principles of creating learning communities and to facilitate reflection some of the project designers have looked at the concept Communities of Practice (COP), a well-known concept that first was presented by Lave and Wenger (1991). CoPs should by definition consist of a group where the members share a collective responsibility for management of useful knowledge. Important activities for a CoP are: 1) Brainstorming and problem solving, 2) Knowledge seeking and knowledge sharing, 3) Experience sharing, 4) The reuse and sharing of resources, 5) Discussions on further development, 6) Project and activity documentation, 7) Identifying knowledge gaps, 8) Study visits and 9) Coordination for synergy (Wenger, 2011). Activities that have to find their new adapted forms in virtual learning environments.

The BUFFL project is a collaboration between six private companies, three universities and with researchers from university departments for Economy, Education and Computer and System Science. A common goal is to develop a framework for truly needs-based professional development in user-friendly technology enhanced settings. Moreover, it is essential to work with concepts and challenges that the involves organisations and companies brings to the university, and not the opposite. Course activities should build on data and practical problems from the participants daily working life, but at the same time also contain important principles of Work-integrated learning (WIL). What always must be a fundamental WIL principle is to combine the work-based practical activities with the university tradition of theoretical studies (Jackson, 2015). To achieve the fruitful collaboration where theories and tools from academia facilitates the solving of real-world-problems in the industry.

### **Work-integrated learning**

The importance of investing in human resources by continuous professional development has been widely discussed, and highlighted in policy documents. Thoroughly designed, WIL collaborations could be both profitable and innovative for higher education as well as for the industry partners. Most WIL initiatives are today using information and communication technology to realise the idea of anytime and anywhere. From a learner perspective, technology enhancement facilitates individualised study schedules, a flexible study pace, and continuous distance support from qualified instructors (Gordon, 2014). From a teacher perspective, technology enhancement enables flexible teaching activities that could be both synchronous and asynchronous, and the use of interactive multi-modal course content.

WIL should by definition be based upon a curriculum design in where learners carry out parts of their studies in professional settings relevant to the course subject. The university also has a responsibility to provide education that corresponds to learners' present and future needs, with the aim of increased employability (Smith, 2012). In the contemporary knowledge economy, the higher education sector must in several aspects transform the current educational strategy. What seems important for a future WIL-aligned strategy is to enable learners to participate authentic real-world activities where theory and methods from academia should be applied to conduct practice-based workplace tasks (Ferns, Campbell & Zegwaard, 2014). An idea in the BUFFL project for aligning course modules with practice-based workplace tasks is to design activities with the concept of Bringing Your Own Data (BYOD).

### **Bringing your own data**

BYOD is an acronym with several interpretation where the most well-known is the idea of Bringing Your Own Device. Something that started in 2009 when the IT-company Intel made a test where employees were allowed to bring their own computers and mobile phones to be used in the workplace. A trend that later also spread to higher education where the use of personal ICT devices created new opportunities, but also new challenges (Mozelius et al., 2020a). A challenge for universities as well as for companies is that security policies are difficult to implement and control in a heterogeneous variety of personal devices with different operating systems and a plethora of software applications. In the BUFFL project, the use of own devices is a part of flexible learning anytime and anywhere, but that companies and organisations security regulations sometimes overrides the idea of bringing your own software. As an example, some companies do not allow the video conferencing system Zoom.

The less well-known BYOD interpretation 'Bringing Your Own Data', is a core concept in the BUFFL project. In the design of course activities that involve authentic practice-based workplace tasks, it is essential that companies and organisations are the main data providers. Moreover, bringing authentic data from workplaces supports the heutagogical principles of contextualised learning and self-determination. WIL should build upon real-world problem assignments that develop skills that are useful in the workplace. As in most WIL projects it is important to balance between academical theories, and practical problems aligned to the workplace. A design rule for the BUFFL project is that all course modules ought to include at least one assignment related to theory in the course literature, and at least one based on the involved company's own data. The vision for tomorrow's lifelong WIL, is to combine formal and informal learning with bring-your-own-data activities, to create the desired alignment between theory and practice. (Jaldemark & Öhman, 2020).

### **CHIM: A draft for a support model**

An online educational initiative where many participants are new to technology enhanced learning does not run itself without issues. Along the project a draft support model has been developed around the ideas presented at the Networked Learning 2020 conference (Håkansson Lindqvist et al., 2020). As discussed at the



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conference the presented ideas should need a more distinct description. Later this first sketch has been redefined as the CHIM model, building on the four steps of 1) Creating a common virtual space, 2) Handshake, 3) Initial teacher support, and 4) Mentorship.

1. **Creating a common virtual space.** Learning activities can be carried out more focused in dedicated learning spaces, and for online learning the classroom has to be a virtual one. Considering that some teachers and a majority of the learners are new to the Moodle learning environment. A learning platform that is considered to be user-friendly, but with the university customisation the first login has been troublesome for both teachers and learners. Several teachers also have their design habits for technology enhanced learning from other learning platforms that needs to be modified. The most successful strategy has been to create and fine-tune course modules with a relatively long pre-planning in a continuous discussion between teachers, facilitating researchers, and the university technical support unit. For the majority of learners, an initial guided tour through the online environment seems to facilitate, but before participating in a guided tour they need a successful handshake to be able to logon to the common virtual space. (Mozelius et al., 2020b)
2. **Handshake.** First impression lasts, and a smooth virtual handshake can be more crucial than the real-world ones. Previous research has highlighted that the frustration from a bad initial handshake can lead to online learners quitting immediately after a first negative experience (Sun et al., 2008; Monteiro et al., 2016). Beside the frustration from repeated login failures or other technical traps, there is also an identified risk of cognitive overload in the first contact with a virtual classroom (Tyler-Smith, 2006). These handshake issues concerns both teachers and course participants, and experiences from the BUFFL project indicate that there is also handshake frustration related to the university's administrative routines. One example is the distribution of account information to persons that are not earlier registered at the university, something that would need a more straightforward approach (Håkansson Lindqvist et al., 2020). A remedy against bad handshakes could be early facilitating meetings, face-to-face or online (Gregori, Martínez & Moyano-Fernández, 2018). Something that leads to the next CHIM step of initial support.
3. **Initial support.** To address the described challenges for the C-step and the H-step in CHIM, the initial teachers support should better start one semester before the start of their first course module. However, this has not been possible to apply for all teachers and course designers. All teachers in the BUFFL project have previous pedagogical knowledge, but many of them are new to technology-enabled teaching. Some important parts of the initial support were to provide examples of study guides, examples of online assessment and general technical information. Another important part of the initial training was to offer specific guidance for the Moodle platform, and for the video conferencing tool Zoom. To simulate realistic conditions in the initial training they were carried out as Zoom sessions with course design exercises in the Moodle system. Considering

the initial support of course participants the basic idea was the same, to establish contact before the course start. The lesson learnt is that the majority of course participants do not login and explore the virtual learning environment on beforehand if they are not encouraged to. Without any prophylactic action the C- and H-steps have to be handled simultaneously for all course participants on the day a course module starts.

4. **Mentorship.** In the inception phase of the BUFFL project most effort was put on the first three steps. However, in the larger perspective support must also strive for a mentorship involving all stakeholders. Important components for the long-term mentorship are to evaluate outcomes from course activities, and to further develop the course modules for multidirectional collaboration. This should build on local mentors in a workplace, but at the same time develop a network with collaborating mentors in other workplaces. A rule for companies and organisations in the BUFFL project is that they must enrol at least two participants for a course module. This has worked well for the creation of study groups during the course span, but there is also the aspect of mentorship after the course span, and something that is sustainable after the end of the project. This mentorship should not only be for participation in technology enhanced course activities, but also with the long-term objective of organisational development. The way to achieve this is a further use of theories from the course activities applied to concrete real-world problems in the local workplace, with the possibility of mentorship from elsewhere in the network.

### **A first preliminary evaluation**

Findings from the first preliminary evaluation show that the BUFFL model have a potential to improve the university-industry collaboration, at the same time as this creates new challenges for both universities and companies. To eliminate geographical boundaries with technology enhancement, and to provide to short flexible course modules with relevant needs-based content have been appreciated both by learners and companies. Considering challenges, bank and insurance company staff often have a long and qualified earlier educational training, but not in the field of technology enhanced learning.

However, results from the first evaluation of 14 course modules with 69 respondents shows that the usability of the virtual learning environment was appreciated with a mean value of 3.97 on a Likert scale from 1 to 5. Despite technical incidents in some course modules, answers to the question on how well the technology had worked had a mean value of 3.72. Less appreciation for the study pace with a mean of 2.57, and that the answers to the question on how the course design was adapted to the participants work load got a mean value of 3.34. The concept of Bringing Your Own Data appears not to have been fully implemented, but the mean value was as high as 3.81 for the question on how well the course assessment has been adapted to the company's data.

In the answers to the free text some course participants have questioned that the mandatory assignments involve academic writing, and more surprising, they

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question the idea of course literature in English. Furthermore, both universities and companies have security restrictions and routines that need to be adapted for a user-friendly and truly work-integrated collaboration, anytime and anywhere. The idea that course participants use their own devices has worked well, but the idea of organisations bringing their own data is still a challenge. All of the findings above will be further investigated by an evaluation team that also will involve guest professors from universities outside the BUFFL project.

The CHIM support model has got a first evaluation by email interviews with 7 teachers and subject matter experts in the project. Furthermore, an analysis of email conversations between teachers and facilitators was conducted. Results are presented step by step according to the CHIM model:

### **1) Creating a common virtual space**

The first and most important finding that also was reported in (Håkansson Lindqvist et al., 2020), is that the university work routines and administrative rules create problems for teachers from other external universities. In the bureaucratic and hierarchic request order external teachers had to contact project researchers and facilitators before passing the request on to project leaders before the virtual classrooms finally are created by the university's technical support team. Something that has made the initial C-step unnecessarily slow and there are now discussions on a faster more straightforward and faster process. This first and crucial step has in several aspects been slow, and as pointed out by one of the interviewed teachers *"Userids and password must work in order to be able to access the VLE. To have to wait for a week to just be able to get into the VLE I extremely frustrating for both teachers and participants"*. In the email conversation it was questioned why course rooms cannot be created without a course id number, and a course session id number, which are not available before that the official syllabus is approved and published. This clashes with the idea that good design of virtual learning environments should be done with pre-planning and start early.

### **2) Handshake**

For the second step a teacher highlighted that the most important thing initially is *"information about the course site and its support functions, and login details"*. However, according to the email correspondence several teachers found the login procedure to be irritating, and sometimes with vague instructions on how to reset and handle passwords for the various logins. Login instructions have been sent by email to teachers on beforehand, but one of the interviewed teachers would rather see *"a process driven approach without sending out any documents with instructions"*, and that *"it should be possible to reset the password without contacting the IT-support"*. Another teacher mentions the importance of getting the login details right as soon as possible, and that *"this is, beside the design of the course room, the most important thing"*. Furthermore, the manual enrolment of course participants has caused frustration. Participant information has been stored in Excel sheets that has been passed on between project leaders, facilitators and the IT-helpdesk. In a future model without support from project facilitators this has to be handled differently and expressed in an answer from one of the teachers *"All information about the participants should be stored centrally. So far, NN and I have emailed lists between us. This should be changed, so that the necessary*

*information can be found centrally and that I as a teacher should only have to fill in the necessary information in this central system."*

### **3) Initial support**

The importance of a rapid and relevant support in the inception phase was confirmed both in the email conversation and in the interview answers, and one teacher emphasised the importance of *"that the knowledgeable support is there when the need is urgent"*. This is also part of the project design, and another teacher had the positive experience that *"It worked fine at my last course start, nothing more to add here"*. A third teacher highlighted the importance of initial support for *"The Zoom tool, and the repository for recorded lectures"*, and a fourth teacher mentioned the value of *"Guidance for online course design, how to structure the recording of lectures"*. Regarding the course participants the email correspondence indicate that the email instructions in several cases had to be complemented with phone conversations to get things working. Furthermore, some course participants asked for study guides, and tutorials for the learning platform to strengthen the initial support. Several teachers stressed the importance of technical support, but there were also remarks such as *"I have done a course in higher Education and flexible Learning, but my experience is that I need to study more in the area of pedagogy"*. Finally, a detail that is mentioned is that the construction of assignments in an online platform is quite different from the creation of traditional assignments, and several teachers brought up the example of the Moodle peer-review assignment, that is far from self-explanatory.

### **4) Mentorship**

To summarise, all the interviewees had a positive but also a rather vague view on mentorship. One teacher answered that *"If a mentorship could increase the supply of support, it would be positive"*, while another confirmed that *"This sounds like a good idea, and I think that the course participants could be interested as well "*, and a third claimed *"That's always good, both from the pedagogical and the technological aspects "*. Positive and polite, but the most interesting answer was from the fourth teacher *"Don't know really what mentorship should refer to, but a group to discuss experiences and such would be of help "*. Important of course to find a structure that will increase both the technical and pedagogical support for both teachers and course participants. However, this might best be carried out in the suggested discussion groups, or in what has been defined as Communities of Practice (Wenger, 2011). The idea for the future could be a mentorship that is multi-directed, and there are several examples from the email correspondence when facilitators learn from teachers, and when teachers learn from course participants. An interesting future direction for the CHIM model would be to include a multi-directed mentorship based on peer-to-peer groups sharing not only experiences, but also solving practical real-world problems together. Complemented with the Community of Practice ideas of that the group also should store and share useful tools and resources.

## **Towards a multi-directed university model for lifelong education and lifelong learning**

A future multi-directed university model needs to be technology enhanced to bridge geographical boundaries and to realise the idea of anytime. However, despite the positive course participant attitudes in the first evaluation, there have been technical issues, especially in the inception phase for several course modules. The current university regulations for passwords and login were created for Bachelor's and Master's programmes with a majority of campus students. A participant left a course module early with the remark: *"I don't understand why it is more complicated to login to a university than to my internet bank"* There has been a need for support in general, and in the inception phase of the first course modules in particular. Once a BUFL participant is registered in the system it works better, but there are also examples of when login details from earlier studies did not work as expected. This must of course be improved and the CHIM model must be further developed. In its first version the acronym corresponded to the four steps of 1) Creating a common virtual space, 2) Handshake, 3) Initial support, and 4) Mentorship. The three first steps have all been useful in the daily support, but the mentorship has not yet found a meaningful form. The way further is probably to strive for a more multi-directed and work-integrated mentorship built on the concept of Communities of Practice.. This must of course be improved and the CHIM model must be further developed. In its first version the acronym corresponded to the four steps of 1) Creating a common virtual space, 2) Handshake, 3) Initial support, and 4) Mentorship. The three first steps have all been useful in the daily support, but the mentorship has not yet found a meaningful form. The way further is probably to strive for a more work-integrated mentorship built on the concept of Communities of Practice.

BYOD in both the presented interpretations definitely have a potential to make a contribution to a more agile interaction between universities and the surrounding society. To bring your own device has worked relatively well, but the most frequently used web browsers at banks and insurance companies are not the same as the ones that the university login is built around. While universities frequently use the Zoom system for video conferencing, this is a non-approved software at several bank and insurance companies. However, this could certainly be synchronised in the future with an agreement on which tools and applications to use. Considering the concept of bringing your own data the concept is appreciated by the course participants, but not yet fully implemented. To use data from outside the academia could definitely be a key to a multi-directed collaboration, and also a way to support organisational development. Only if companies and organisations bring their own data participant contributions have a possibility to survive the course span to be further processed in future course work.

As mentioned earlier, another important component to support sustainability would be to extend the CHIM model with a P for practice. The current idea in the BUFL project is to build around the concept of 'Communities of Practice' (CoP) with the idea of connecting course participants for peer discussions and exchange of ideas and tools. The CoP concept could later be extended in several directions, where one is the technology enhanced idea of 'Online Communities of Practice'

(OCOP). The rapid development in the field of information and communication technologies have created new possibilities for collaborative interactions beyond the traditional geographical and organisational boundaries (Jesionkowska, 2020). Another interesting extension for sustainability after the end of the BUFL project, and to reach out beyond bank and insurance companies would be to strive for landscapes of practice in companies and organisations. Landscapes of collaboration where the practices should be multileveled, include both local situated practices and generic practices, and also involve cultural aspects (Pyrko, Dörfler & Eden, 2019).

The model should be flexible enough to not only address the contemporary need for professional development in the industry, and also be developed around the Condorcian idea of personal development. As pointed out by Billett (2010) it is essential to distinct between lifelong education and the wider concept of lifelong learning. The BUFL model is mainly designed for lifelong education as a continuous professional development with a focus on human and organisation capital, but that the future multi-directed university model also should comprise lifelong learning as a personal emancipation with the capability approach described by Boyadjieva and Ilieva-Trichkova (2018). Finally, another important step further is to look at the sustainability aspects, and how the future lifelong learning should be financed. What seems like the most realistic is to build on contract courses where the work-integrated lifelong education is paid by companies, and the courses on more lifelong learning are paid by municipalities.

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# 4

## Ryerson: Canada's Innovation University

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### Setting the context

Despite the growth of urban universities in many Western countries, little attention has been paid to their roles and specific challenges (Riposa 2003). Riposa suggests that urban universities serve broad constituencies of students, often the first generation in their family to attend university, more likely to be from immigrant families, who are frequently place-bound and less privileged than those attending more conventional universities. In contrast to more established universities who tend to exhibit a “denial of place” – a physical and institutional separation from their local context (Addie 2016) – often located well away from major city centres, it has been suggested (Berube 1978) that urban universities need to be more directly connected to their milieu and serve their local communities. More recently, pressure have emerged for more universities to “make a contribution to society,” often articulated as a “Third Mission” (Compagnuccia and Spigarelli 2020).

Another relevant factor is how new universities come into existence. While many are founded directly as universities, others evolved from more specialised types of institutions, often applied in nature. Examples include colleges of science and technology, (for example in the UK) technical schools (such as those in Germany) and polytechnics. While some such institutions have global reputations (such as MIT), most have been transformations intended to broaden university access, while still maintaining an applied, and often technical focus. Regrettably, such evolved universities are often subject to criticisms and hostility by the academic establishment (Scott 2012).

Finally, and most recently, much discussion has revolved around innovative and entrepreneurial universities. Clark (2007), starting in the mid-1990's, has examined the phenomenon, describing it as “*a willful effort in institution building that requires much special activity and energy, an intentional transformation, where universities innovate using entrepreneurial approaches to obtain resources, creating a stimulated academic heartland and ... entrepreneurial culture*”. Some differentiate this from the basic provision of entrepreneurship education (Sperrer, Müller, and Soos 2016), others (e.g. Etzkowitz et al. 2008) see this as an extension of the triple helix model to more specifically address knowledge transfers to support regional or national economic development. It also appears that the



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occurrence of well recognised entrepreneurial universities is still quite rare. One study (Mora and Vieira 2009), examining a sample of 27 European universities, found that only about seven might be considered entrepreneurial, although many had aspirations. They also pointed out that the presence of an “entrepreneurial framework” of governance was a key indicator for those who had made progress toward this goal. Notably, in Clark’s eight case studies (Clark 2007, 2004) from which he evolved his framework for entrepreneurial universities, five had evolved from non-university entities, two were “new” universities and only one was a long established university.

In Canada, the term polytechnic has not seen wide use in higher education. Ryerson Polytechnic Institute was a rare exception although recently a group of thirteen institutions, mainly colleges, with a focus on technical education has formed an association called “Polytechnics Canada.”

The next section provides a brief review of Ryerson’s evolution.

### **A brief history of Ryerson**



**Figure 1:** The Ryerson Campus in Downtown Toronto

In 1948, after the end of the Second World War, the Ryerson Institute of Technology was established to meet a need for skilled tradespeople following the Second World War. Initially, it aimed to provide both theoretical and practical training in skilled trades, as diverse as architecture, costume design and photography, as well as more traditional engineering and business subjects. In 1963, recognising the broad range of programs offered, it became Ryerson Polytechnic Institute (a rare use of the “Polytechnic” term in Canada) and then gained direct degree granting status in 1971, achieving full university status in 1993. From 1993 to 2002, it was known as Ryerson Polytechnic University, with the name being shortened to its current Ryerson University in 2002.

Throughout its history, Ryerson has focused on providing university education appropriate to its community needs. Located in downtown Toronto, it is an urban University, closely linked to its community. Its history and evolution can be contrasted to the other major Toronto universities, – the University of Toronto and York University, the first of which is almost 200 years old and one of the world’s

leading research universities, with the other a 60-year-old comprehensive university located in a large campus on the outskirts of Toronto.

Given its evolution, rapid growth rate (Ryerson is now the 7<sup>th</sup> largest university in Canada) and location, the University faces some significant challenges, when compared to the 20 other Ontario Universities. Continued Provincial underfunding means that Ryerson has the highest student to faculty ratio in the Province of Ontario and the crowded downtown location results in a student/classroom space availability at about 65% of comparative universities. (Universities Canada 2021)

### **How Ryerson is different**

Universities have always been in competition with one another, but the nature of that competition has changed over the last century. Prior to the 20<sup>th</sup> century, the number of universities in the world was fairly small – at most, only a few hundred. By the mid 20<sup>th</sup> century, significant growth across the developed world could be observed and, over the last 50 years, the scale of university growth across the world has been dramatic. There are likely about 40,000 higher education institutions across the world, including at least 26,000 described as universities (UniRank 2021; Webometrics 2021). The elite universities, a small proportion of the total, compete at a different level to the others with high rankings and high levels of funding, but, for most others, by the end of the 20<sup>th</sup> century this competition had accelerated in the face of significant challenges -- including government policies to broaden participation in university education while reducing public funding provided per student.

For universities in many developed countries this funding gap has been met, often to a significant degree, by increasing the proportion of international students. The 2020-21 COVID-19 pandemic has threatened the status quo and even the survival of many universities. Historically, universities largely competed within a well-established hierarchy, rather like a pyramid, with a few elite universities at the top in each country and a broad spectrum of other institutions below. A small number of universities choose to have different approaches, whether in market focus, structure or program delivery. However most participate in what can generally be observed as a “push to the middle”, as Shattock (2010) suggests, demonstrating a high degree of institutional isomorphism, driven by coercive, mimetic and normative pressures (DiMaggio and Powell 1983). In this approach institutions aspire to move up in the well-established university rankings often used for comparative purposes, such as the Shanghai Rankings or the Times Higher Education Rankings. This is despite the recognised weaknesses and biases of such rankings (Kayyali 2020), and that significant movement within rankings is slow. However, as Shattock also points out, universities “do not all start from the same position” with some having a significant disadvantaged position, from which they find it difficult to overcome, citing the UK’s conversion of Colleges of Advanced Technology and of Polytechnics to Universities in the early 1990s as an example.

Competition in rankings systems is heavily focused on improving research performance (publications and grants/awards), institutional reputation and student recruitment. Regretfully, differentiation in such an environment is extremely difficult, producing, except for a relatively few elite universities, a mass of similar institutions, facing similar funding challenges and delivering similar programs, to

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an ever more demanding student population. When faced with limited opportunities to maintain sufficient funding levels -- challenged by government fiscal restraints and the competition for students (and their fees), most adopt cost containment and reduction strategies. Sources and opportunities to gain significant additional revenues are scarce.

### **Adopting a differentiation strategy**

Ryerson's history and evolution can be contrasted to the other two major Toronto universities, – the University of Toronto, Canada's first University, established in 1850 but with roots going back to 1827 and strong connections with the Anglican church in its early days, and York University, a suburban university located on the edge of Toronto and founded in 1959.

As it grew as a comprehensive university, Ryerson recognised that simply following the examples of other universities in similar transitions, such as expanding into more traditional academic programs and expanding research focus and achievements, while necessary, would not achieve its ambitions. Its differentiation strategy recognises key elements of its history while seizing opportunities that are, perhaps, less available and less attractive to more traditional universities. Ryerson's growth has taken place during a time of reduced levels of provincial government support for higher education (Usher 2020). The active contribution of two president/vice-chancellors is evident in the evolution of the strategy. The first, president from 1995-2005, led the evolution into a comprehensive university, the second, from 2005-2015, championed the innovation and entrepreneurship direction. These actions did receive criticism from some faculty and others as being a move towards "commercialisation" of the University.

Ryerson's strategy to respond to its challenging environment was first identified in its 2008 Academic Plan, "Shaping Our Future" (Office of the Provost and Vice President Academic 2008), more fully articulated in the 2014 plan, "A Time to Lead", developed in 2014, and has been significantly updated in the 2020-2025 Academic plan, which emphasises the need to take calculated risks in addressing important and relevant issues in its scholarly, research and creative activities and embracing new approaches to experiential education and student experience. (Office of the Provost and Vice President Academic 2008, 2014, 2020).

In addition to being innovative in teaching and research (often referred to as the two "main missions" of a university), Ryerson's strategy embraces the "Third Mission", a concept more recognised in the UK and Europe than in North America, which proposes that universities be expected to provide socio-economic impact, providing benefits to their host communities (Shattock 2009). It is a good example of the "triple-helix" model (Etzkowitz and Leydesdorff 2000), where the university plays an enhanced role in innovation in knowledge-based societies, in a three-way interaction between university, industry and government.

The key elements of this differentiation are:

1. Recognising its unique urban position and dealing with land scarcity

2. Building excellence in traditional academic programs and research, while recognising the broad range of applied disciplines across its faculty and the vital need for applied and relevant education
3. Adopting an innovation mindset in its activities and becoming an entrepreneurship hub
4. Acknowledging its responsibilities to Canada's indigenous peoples.

### **Embracing its urban location and facing its land and space challenge**

Ryerson's buildings are clustered around Yonge-Dundas Square, one of the busiest locations in downtown Toronto and in all of Canada. In contrast with its major local rivals, the University of Toronto and York University, it is extremely challenged by land availability (for every square metre of land occupied by Ryerson, the University of Toronto has 7 m<sup>2</sup> and York University some 17 m<sup>2</sup> (Note: with about 40,000 students on campus, contrasting with about 63,000 at the University of Toronto and 50,000 at York, this means that, in terms of land available per student, the University of Toronto has five times as much and York about 13!) As would be expected, the cost of land in downtown Toronto is extremely high and, in general, the provincial government, funder of public universities, is not willing to support the purchase of additional land. This permanent challenge with regard to space, was addressed in the first University Campus Master Plan which, rather aggressively, describes Ryerson as a "vertical campus", one that is "compact, accessible, with a truly inspiring learning and teaching environment that takes advantage of its strategic location within the City" (Ryerson University 2008).

Urban intensification is a phenomenon in virtually every major city and, given its location in downtown Toronto, Ryerson embraces this challenge. As an example, between 2020 and 2030, more than 50 very tall office or condominium buildings are expected to be built within a 15-minute walk of Ryerson. This will add some 40,000 new residents and 25,000 housing units, as well as many new businesses.

Starting in the early 2000's Ryerson adopted an aggressive strategy to remodel its campus. Its Master Planning Principles (Ryerson University 2016) envisages "the campus within the city", taking advantage of the strategic location of Ryerson University, and its demands and opportunities within the city's urban context. It aims to densify the campus and increase its visibility in relation to its surroundings and searches for opportunities for programs to integrate with its surrounding environment, including existing neighbourhoods, key institutions, retail uses and employers. These principles are articulated in Ryerson's 2020 Campus Master Plan (Ryerson University 2020), which states:

*The Ryerson University campus is a welcoming, exciting, diverse and urban destination in the heart of the City of Toronto. The campus defies typical convention and is deeply integrated within the downtown fabric: we pedestrianize public streets and our green spaces are parks for the community around us. The city and our neighbours are partners. As a future-facing city builder, Ryerson gives back as the campus evolves by*

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*creating dynamic, vibrant, high-quality, sustainable and accessible spaces that celebrate the neighbourhood character, promote our inclusive values and embrace reconciliation with Indigenous Peoples. Ryerson is a convener, with spaces that bring people together to spark the advancement of scholarly, research and creative activity in an environment that fosters personal and community wellbeing.*

In the last 20 years, it has added six major new facilities interspersed in the campus and campus periphery, frequently taking entrepreneurial advantage of unique situations providing non-traditional solutions to important needs. Key examples include:

1. *A Multi-functional Athletic and Recreation Centre:* Toronto's long-established ice hockey team, the Maple Leafs, had built a new arena and its iconic former home, Maple Leaf Gardens, despite several attempts at redevelopment, was languishing with no clear future. It has become the new home of Ryerson University's Sports and Recreation Centre. This acquisition and redevelopment dramatically changed the available student space for recreational activities, which had been the lowest in the province. The redevelopment of this site is a good example of university city-building. The funding model for this project demonstrates the collaborative potential of city-building through a public-private partnership (Grant & Chuang, 2011). The \$60 million project was funded by the University, its Student Association and Loblaw's, a major Canadian retailer. The three-floor athletic centre was built on top of a ground floor retail space, while preserving the building exterior and the original ice rink, along with about 2,500 seats, now used by Ryerson's own hockey team.
2. *10 Dundas East (formerly Toronto Life Square):* Ryerson's partnership with private developer PenEquity Management Corp. helped convert a large prime piece of land in Toronto's most expensive retail location at the north side of Yonge-Dundas Square. This represented a new form of university city-building that led to large classes being held in Cineplex digital auditorium cinemas. In 2010, Ryerson became a major tenant within the office portion of the complex (next to Google) with the establishment of the Digital Media Zone, one of the first startup incubators in Toronto. Ryerson is a significant contributor to the success of the Square, a city regeneration initiative that converted a run-down city block into Toronto's most visible and most visited space (150,000+ passers-by each day!) and the location for hundreds of events and celebrations each year (Yonge-Dundas Square Board of Management 2019).
3. *Ted Rogers School of Management:* Home to almost 12,000 business students, and located in the financial centre of Canada, Ryerson's \$75 million Ted Rogers School of Management is a mixed-use development project. It was a collaboration between a Canadian developer, Cadillac Fairview Corporation Limited, the City of Toronto and Ryerson University. It allowed the creation of a large academic facility with

virtually no land requirements. It replaced an aging parking facility with a 20,000 square metre three-storey business school facility built on top of retail space and a large parking garage adjacent to Toronto's most major shopping centre, with the developer taking complete responsibility for the delivery of the complete facility.

4. *The Student Learning Centre & University Gateway*: The Sheldon & Tracy Levy Student Learning Centre is a symbolic "front door" to Ryerson's campus and is a landmark presence for the University on Yonge Street, the major road that bisects Toronto. It highlights the presence and brand of the university, as an anchor institution in the heart of downtown Toronto; helping renew a deteriorating urban landscape a major retail area. The building provides a location for Ryerson students, who largely commute to the campus, to meet between classes. The award-winning design includes social gathering areas and collaborative meeting spaces with views of the city.
5. Most recently, the Daphne Cockwell Health Sciences Complex opened in 2019. Built on a vacant parking lot, this 29-story, 38,000 m<sup>2</sup> complex combines student housing (a major challenge for Ryerson), faculty and classroom space, retail, and pedestrian connections, transforming of an underutilized lot into a vertical campus and enhancing a disadvantaged area of the city.

Continuing this approach, the 2020 Campus Master Plan identifies new initiatives to update learning and teaching spaces, with redevelopment of existing buildings and increasing greenspace, developing emerging neighbourhoods through a series of areas to be supported by amenities, functions and facilities and "smart use" of downtown space: with plans to increase the capacity of the campus by over 200,000 new m<sup>2</sup> of space through redevelopment, renovation and adaptive re-use of existing university buildings. This Plan also embraces indigenous design principles, such as: Increased open space; more trees and greenery; biodiversity; open, inclusive and accessible design; promotion of a sense of belonging; and sustainable spaces reflecting an interrelatedness between land and people.

### **Embracing the urban connection**

Complementing its strategy to develop an Innovation Ecosystem is Ryerson's positioning as a city builder. As a downtown urban university, in 2020, it established City Building Ryerson. This university-wide, multi-disciplinary initiative works with partners across faculties and outside the university to deliver teaching, research, and public engagement on urban issues. To participate in the development of innovative community solutions, its students are encouraged to become involved in community events, projects, and specialized in-studio, for-credit courses. It includes Learning Hubs and Labs such as the Centre for Urban Innovation, the Centre for Urban Energy, the Laboratory for Innovations in Transportation and the Ryerson Urban Analytics Institute.

## **Combining the traditional with the applied and creative**

### **Continuing to focus on applied and professional education**

Ryerson's roots are in applied and professional education. As it moved towards comprehensive status, expanding its offerings in arts and science, it still emphasised applied disciplines and active learning. Table 1 demonstrates how its distribution of program offerings is significantly different than the norm in Canadian higher education institutions (Statistics Canada 2021), with its applied disciplines of management, community services, communication and design, and engineering and architectural science, making up almost 80% of its student population, compared to about 45% for these discipline areas across the Canadian higher education sector.

**Table 1:** Comparison of student mix by academic area (2021)

<b>RYERSON FACULTY GROUPINGS</b>	<b>% Student Population</b>	
	Ryerson	Canada
• Management	29%	19%
• Community Services	18%	12%
• Communication & Design	14%	4%
• Engineering & Architectural Science	16%	10%
• Arts	13%	26%
• Science	9%	13%
• Interdisciplinary	1%	

This unusual mix indicates a quite specific funding strategy. The programs in applied arts and in engineering are high-cost programs to deliver. Many universities use their business program as cash cows to fund other programs (Reed 2009; Morgan 2013) and Ryerson has used this as a primary source of funding, with the largest number of business students of any university in Canada. In addition, the limited number of Arts and Science programs allows the focus of the surplus funds raised to be on Ryerson's applied arts/creative industries programs, which have small class sizes and very good reputations.

In addition to its full-time degree programs, Ryerson also looks to its Raymond Chang School of Continuing Education to provide significant revenues. It is Canada's largest provider of university-based adult open education, facilitating access to the university's professionally relevant courses and programs. Each year, it supports over 70,000 enrolments through a combination of online and in-class learning, meeting a community need and generating significant revenue for the University. Its history includes launching, in 1971, Open College -- a pioneering radio-based distance education service offering degree courses to any who wished to take them.

Ryerson’s innovative approach to applied and relevant education is highlighted by its Faculty of Communications and Design and the Ted Rogers School of Management.

*The Faculty of Communications and Design* has nine schools (see Table2) that offer 22 world-class programs, frequently interdisciplinary, always with close industry linkages and co-curricular activities, including working with Ryerson’s Zone Learning community. This innovative combination of media design and creative industries provides a special environment in which students can begin their careers in creative fields, often with an innovative and entrepreneurial focus. Supporting the faculty and students is *The Catalyst*, a hub for scholarly, research and creative work, with research centres, labs and projects that span the creative industries. In total, the Faculty has 142 Labs and Studios and 18 Research Centres and has established many international relationships including Hubs in London, New York, Tuscany and Dubai. Graduates of its creative programs are frequent international award winners.

**Table 2:** Schools within the Faculty of Communications and Design

SCHOOL
• Creative industries
• Fashion
• Graphic Communications Management
• Image Arts
• Interior Design
• Journalism
• Performance
• Professional Communication
• Media
• Plus, cross-disciplinary programs in Digital Media, Media and Design Innovation, and Professional Music

In addition to being a major revenue source, *The Ted Rogers School of Management* is actually six linked business schools each serving discrete communities (see Table 3). The largest, the School of Business Management, has seven majors. The five other schools address the unique needs of specific sectors. These are the School of Information Technology Management (one of the largest combined business and IT degree programs in North America), the School of Accounting and Finance, the School of Hospitality and Tourism Management, the School of Retail Management and the School of Health Services Management. Each of these Schools has close links with their industries and communities, ensuring that the curriculum offered matches both formal and informal expectations of their target sectors.

Students take part in internships and coop employment to enhance their job preparedness. The Ted Rogers Schools have a focus on short-term employability as well as long-term career preparedness as evidenced by the successes of the Ted Rogers Career Hub and its extra and co-curricular activities.



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**Table 3:** Schools within the Ted Rogers School of Management

SCHOOL	Major
<ul style="list-style-type: none"> <li>• Business Management</li> </ul>	<ul style="list-style-type: none"> <li>• Economics and Management Science Entrepreneurship</li> <li>• Global Management Studies</li> <li>• Human Resource Management,</li> <li>• Marketing Management</li> <li>• Law and Business</li> <li>• Real Estate Management</li> </ul>
<ul style="list-style-type: none"> <li>• Accounting and Finance</li> </ul>	
<ul style="list-style-type: none"> <li>• Hospitality and Tourism Management</li> </ul>	
<ul style="list-style-type: none"> <li>• Health Services Management</li> </ul>	
<ul style="list-style-type: none"> <li>• Information Technology Management</li> </ul>	
<ul style="list-style-type: none"> <li>• Retail Management</li> </ul>	

Of particular note is its Bootcamp program. These workshops, with more than 30 topics available that address specific skills students need to succeed in the workplace are available free to all students within Ted Rogers and thousands attend each semester.

Ted Rogers is also home to 15 research centres, many of which reflect Ryerson’s focus on making an impact in its environment. These include the Diversity Institute, a leader in the advancement of diversity and inclusion in Canada, the Centre for the Study of Commercial Activity which examines location-based trends in the consumer service sector and the Institute for the Study of Corporate Social Responsibility.

While this paper has focused on the innovative activities of two of Ryerson’s Faculties, Ryerson sees itself as student and community focussed and each of its programs plays a role in this. This innovative applied and professional focus has most recently been recognised by the Ontario Government, with the approval to launch the Lincoln Alexander School of Law in 2020 and the award of a planning grant to design a new medical school, each targeting the development of professionals ready for the 21<sup>st</sup> century’s challenges in Canada’s diverse community.

### **Taking a broad perspective on “research”.**

Given the different mix of academic disciplines from the norm, as discussed above, with a significant presence of what it describes as the “creative industries”, Ryerson while still striving towards excellence in traditional research, actually defines this area as “Scholarly, Research and Creative activities” or “SRC”. This includes recognition beyond the more established publication of refereed scholarly works and the achievement of patentable research by encouraging and giving faculty career credit for a wide range of creative activities and teaching and pedagogical activities. This focus is recognised by granting agencies and, in

addition to traditional external research funding, Ryerson is a frequent recipient of large project awards designed to directly impact various parts of Canada’s economy and diverse communities.

It emphasises strategic and multidisciplinary collaborations, expanding international partnerships and promoting greater alignment between the innovation ecosystem and research. Ryerson is committed to enhancing the impact of its research with knowledge mobilization and open-access initiatives.

### **Building innovation and entrepreneurship into its DNA**

Ryerson University is Canada’s comprehensive innovation university — claiming in one strategic plan that “It’s in our DNA” (Office of the Provost and Vice President Academic 2014). Ryerson has established an integrated cross-campus ecosystem supporting innovation and entrepreneurship. The most recent Academic Plan (Office of the Provost and Vice President Academic 2020) states:

*The University champions creativity, innovation and ingenuity, encouraging students, faculty and staff to think boldly, take initiative and demonstrate resourcefulness. This includes civic, cultural and social advancements that enrich society’s fabric, improve quality of life and drive responsible change.*

### **Becoming a world-leading entrepreneurial university**

In many universities, entrepreneurial activities are restricted to programs to commercialise R&D through technology transfer offices and, perhaps, an isolated incubator. Regretfully, such efforts tend to have only marginal impacts on the local community and its economy (Mason and Brown 2014). While the concept of entrepreneurial ecosystems has become widely accepted and applied, there has been little attention paid on University entrepreneurial ecosystems, with some arguing that universities are, at best, peripheral members of such ecosystems (Bedő, Erdős, and Pittaway 2020).

Responding to the growing interest in fostering entrepreneurial activity within higher education, Ryerson University has incorporated extensive experiential learning and innovation in a traditional academic setting. Students’ classroom learning is enhanced by real-world knowledge through internships and co-ops and amplified through a unique “Zone Learning” program as well as specialized undergraduate majors, minors and graduate programs.

The scale of Ryerson’s commitment is demonstrated in Table 4, which shows how a comprehensive entrepreneurial ecosystem combines teaching, practice and Startup support for Ryerson faculty, students and the wider community.

**Table 4:** Key Components of Ryerson’s Entrepreneurial Ecosystem

<b>MAJOR ENTREPRENEURSHIP ACTIVITIES AT RYERSON</b>	
•	Ryerson has the largest entrepreneurship academic department in Canada teaching entrepreneurship to almost 6,000 students a year, offering 40+ courses across the campus.
•	Ten on-campus incubators, linked through its unique Zone Learning approach, with over 300 ventures operating on campus at any time.
•	Several pre-incubator resources available to Ryerson students and the wider community

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<b>MAJOR ENTREPRENEURSHIP ACTIVITIES AT RYERSON</b>
<ul style="list-style-type: none"> <li>• An open education offering, Startup School, providing a bridge between structured teaching and practical entrepreneurship that allows more than 1,000 students and community members each year to participate in customized practical learning on developing and launching start-ups.</li> </ul>
<ul style="list-style-type: none"> <li>• Active and successful student groups engaged in real word activities, including its multi-year national Enactus champions.</li> </ul>
<ul style="list-style-type: none"> <li>• Many on-campus awards and grant competitions to support individual student initiatives.</li> </ul>
<ul style="list-style-type: none"> <li>• Three dedicated entrepreneurship research units: the Diversity Institute, the Brookfield Institute for Innovation + Entrepreneurship, and the Entrepreneurship Research Institute.</li> </ul>

### **Academic offerings**

Ryerson’s broad range of entrepreneurship programs is shown in Table 5. Its entrepreneurship courses are delivered largely through experiential learning, with frequent interaction with the entrepreneurship community including co-op and internship programs as well as international trips, where students earn course credit while working with students in other countries.

**Table 5:** Full-time and part-time for-credit Entrepreneurship programs offered by Ryerson

<b>FOR-CREDIT ENTREPRENEURSHIP PROGRAMS</b>
<ul style="list-style-type: none"> <li>• Bachelor of Commerce undergraduate degree with a Major in Entrepreneurship</li> </ul>
<ul style="list-style-type: none"> <li>• Bachelor of Engineering with a Specialization in Engineering Innovation and Entrepreneurship</li> </ul>
<ul style="list-style-type: none"> <li>• Masters of Engineering Innovation and Entrepreneurship</li> </ul>
<ul style="list-style-type: none"> <li>• MBA with a concentration in Entrepreneurship</li> </ul>
<ul style="list-style-type: none"> <li>• Professional Master’s Diploma in the Management of Technology &amp; Innovation</li> </ul>
<ul style="list-style-type: none"> <li>• Minor in Entrepreneurship &amp; Innovation,</li> </ul>
<ul style="list-style-type: none"> <li>• Minor in Social Innovation</li> </ul>
<ul style="list-style-type: none"> <li>• Continuing Education Certificate in Entrepreneurship &amp; Small Business</li> </ul>
<ul style="list-style-type: none"> <li>• Continuing Education Certificate in Social Entrepreneurship</li> </ul>
<ul style="list-style-type: none"> <li>• Continuing Education Certificate in Entrepreneurship and Multiculturalism</li> </ul>

The teaching faculty include award-winning teachers, entrepreneurship authors and serial entrepreneurs, who successfully combine academic research with applied and practical program delivery.

### **Zone learning**

Young entrepreneurs in incubators and across the University do not always see taking formal programs as a necessary part of their Startup activities. Like all entrepreneurs, they are impatient and want to “get going.” Also, they may not always have easy and timely access to Ryerson’s academic offerings, depending on their educational path.

Zone Learning is a key contributor to the success of Ryerson’s innovation ecosystem. Its philosophy of co-curricular entrepreneurial learning is experiential,

student-driven, creative, and experimental, rooted in Startup and social change models for taking an idea from concept to viable prototype and beyond. The Office of Zone Learning oversees and coordinates the institutional strategy and direction of innovation zones and other entrepreneurial activities at Ryerson.

Leveraging Startup and venture creation as a vehicle to drive innovation, Zone Learning creates opportunities for students to pursue non-traditional careers via entrepreneurship and to achieve more in traditional career paths. Ten on-campus start-up incubators (“zones”) build skills and mindsets that complement academic learning and support the growth of individuals, as well as supporting the launch and growth of new ventures.

The first Zone (the DMZ) was established in 2010 as a space for students to incubate entrepreneurial projects and went on to be recognized globally as the top-ranked university-linked incubator (Castillo and Meyer 2018). The subsequent six years saw nine more Zones created with a range of industry or domain focuses, as shown in Table 6. The Office of Zone Learning was established in 2013 as a body to represent the 10 zones and report to the university and funders. An Assistant Vice-President Zone Learning & Strategic Initiatives was appointed in 2019 in recognition of the expanding portfolio and importance of Zone Learning to Ryerson.

**Table 6:** Ryerson’s Incubator Zones

<b>RYERSON'S INCUBATOR ZONES</b>
• DMZ
• Biomedical Zone
• Clean Energy Zone
• Design Fabrication Zone
• Fashion Zone
• Innovation Boost Zone
• Legal Innovation Zone
• Science Discovery Zone
• Social Ventures Zone
• Transmedia Zone

Unlike most other university-based incubators/campus-linked accelerators, Ryerson’s Zones are open to members from outside of Ryerson. Student members gain broader perspectives by interacting with working professionals, serial entrepreneurs and students from other universities. And external community members gain from access to the talent, energy and ideas of students, as well as access to the research capacity of the University.

Over the past 10 years, Zones have supported over 5,600 members and over 3,500 startup ventures, have created over 4,000 jobs and have raised over CAD \$1 Billion in funding. 40% of the Zone members identify as female. Each year, over 400 ventures with 800-1,000 members are supported and over 14,000 students are engaged in activities, events and programming offered by the Zones.

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For students, the entrepreneurial journey supported in the zones develops key 21<sup>st</sup> century skills critical to students in preparing for roles that have not yet been created, leading scientific developments that have not yet been foreseen, developing technologies that have not yet been anticipated, and solving problems that have not yet been encountered. These transferable skills include: creativity, imagination, adaptability, critical thinking, problem solving, among several other (Hasan et al. 2019; National Research Council 2012)

The on-campus experience is shared regionally and internationally, supporting economic development in other communities and building networks that develop the practice and extend the reach, impact and reputation of the university. The DMZ and the Office of Zone Learning support the development and operation of incubator and accelerator programs in partnership with economic development organizations in several locations in Ontario and internationally in locations including the Caribbean, Egypt, India, Jordan, and Japan. Ryerson is also co-founder of a national network connecting university-linked innovation to accelerate research from the lab to market and develop the entrepreneurial and innovation skills of graduate students. The Zones provide an additional gateway to the university, supporting an ecosystem that reaches beyond the campus.

### **Startup school co-curricular offerings**

As mentioned above, young people do not always see taking formal programs as a necessary part of their Startup activities. Like all entrepreneurs, they are impatient and want to “get going.” However, to maximise their potential, they should be exposed to current and relevant knowledge about entrepreneurship and startups

To respond to this need and support Zone Learning, the Ted Rogers School of Management runs Startup School, providing access to just-in-time, modular learning. Startup School meets the needs of Toronto’s entrepreneurs, including the Zone participants, Ryerson students with entrepreneurial aspirations who are not in Zones, and other potential entrepreneurs in the Greater Toronto Area. Weekly workshops are run each semester by the university’s top experts in startup-related subjects. Students can even combine Startup School modules with other activities to gain course credit in an entrepreneurship directed-studies course, guided by an entrepreneurship professor. Each semester, about 1,000 participants take part in Startup School

### **Results-oriented innovation research centres**

Ryerson has three major research centres that support its innovative and entrepreneurial initiatives, all engaging in broad partnerships across Canada and internationally:

1. The *Diversity Institute*, founded in 1999, promotes diversity and inclusion as the key to Canada’s competitiveness, through the lens of employment, innovation and skills. It conducts and coordinates multi-disciplinary, multi-stakeholder research to address the needs of diverse Canadians, the changing nature of skills and competencies, action-oriented research, and developing collaborative, innovative solutions to societal challenges.
2. The *Brookfield Institute for Innovation + Entrepreneurship* at Ryerson has a dual focus on innovation and entrepreneurship. The Institute was

created in early 2015 with a \$16 million donation. It runs pilot and prototype projects to provide support to both researchers and the startup community.

3. The *Entrepreneurship Research Institute* encourages and supports research that improves our understanding of the fundamental questions of entrepreneurship. Membership is open to any researcher at Ryerson University interested in studying entrepreneurship and how it contributes to social wellbeing and national development.

### **Truth and reconciliation and Ryerson**

*Toronto is in the 'Dish With One Spoon Territory.' The Dish With One Spoon is a treaty between the Anishinaabe, Mississaugas, and Haudenosaunee that bound them to share the territory and protect the land. Subsequent Indigenous Nations and peoples, Europeans and all newcomers have been invited into this treaty in the spirit of peace, friendship and respect. (The Ryerson University Land Acknowledgement)*

In recent years, Canada and Canadians are increasingly recognising the historical mistreatment of its Aboriginal peoples and, in 2015, the Truth and Reconciliation Commission of Canada produced the important report “Honouring the Truth, Reconciling for the Future” (The Truth and Reconciliation Commission of Canada 2015). This report addresses the history and legacy of Canada’s residential school system for Aboriginal children and its devastating effect on both the children themselves and aboriginal people as a whole.

While responding to this report and its recommendations is a Canada-wide responsibility, it has particular relevance to Ryerson. Ryerson is named after Egerton Ryerson, in recognition for his contributions to the establishment of public education in Ontario in the mid-19<sup>th</sup> century. The centre of the campus is built around the remains of his Normal School, the first teacher training establishment in Ontario. However, Egerton Ryerson was also a proponent for the establishment of residential schools and the University has recognised its responsibility to consider its role in reconciliation and, even, the continued use of Ryerson as its name.

The University is taking action, both symbolic and practical in responding to these challenges.

Symbolically, at every major Ryerson occasion the event is opened by recitation of the Ryerson University Land Acknowledgement and, since 2012, at convocation ceremonies, the traditional University Mace is accompanied by an Eagle Staff., which is often considered the traditional “flag” of Canada’s indigenous peoples.

Following a three-year process of consultation (O’Neill Green and Dallaire 2018), Ryerson established a number of initiatives to advance the principles of reconciliation, including the recognition of indigenisation as a priority in University planning, acknowledging the impact that Egerton Ryerson had on the residential school system the indigenisation of teaching and learning practices, increased support for indigenous learners and increasing indigenous staff and faculty. In August 2021 the University accepted 22 recommendations of a task

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force set up to consider further actions, including a decision to rename the University.

### **Recognition of Ryerson's impact**

Ryerson's contribution to Toronto and Canada can be assessed in several ways. A few brief items are presented below to indicate the scale of Ryerson's impact.

Despite increasing its student capacity to more than 40,000 places, Ryerson has the largest number of applications for each space of any university in Ontario. Some recent achievements and awards gained by the University, its students and its faculty relevant to its city-building, community contributions and entrepreneurial activities are shown in Table 7.

**Table 7:** Recognition of Achievements

<ul style="list-style-type: none"><li>• Becoming Canada's first Ashoka Changemaker Campus for social innovation (one of only 51 in the World) (Ashoka U 2021)</li></ul>
<ul style="list-style-type: none"><li>• Winning the Deshpande Foundation's Entrepreneurial University of the Year in 2017</li></ul>
<ul style="list-style-type: none"><li>• Receiving the Toronto Urban Design Award of Excellence for Public Buildings in Context, 2017, for the Student Learning Centre</li></ul>
<ul style="list-style-type: none"><li>• The Award of Excellence, Mixed Use from the Council on Tall Buildings and Urban Habitat, 2021 for the Daphne Cockwell Health Sciences Complex</li></ul>
<ul style="list-style-type: none"><li>• The Diversity Institute and its director have been recognised by many awards and grants, including running the Canadian Government's \$8 million project to create the Canadian Women's Entrepreneurship Knowledge Hub and is a leader in the \$100 million Canadian Future Skills program</li></ul>
<ul style="list-style-type: none"><li>• The DMZ has been recognised as the top university incubator in the world (Castillo and Meyer 2018)</li></ul>
<ul style="list-style-type: none"><li>• Google Impact Challenge Canada 2017 – two of the Top 10 finalists (from more than 900 entrants) were from Ryerson, including one of the winners</li></ul>
<ul style="list-style-type: none"><li>• A Ryerson student won the Global Red Bull Basement University Competition in Berlin in 2018</li></ul>
<ul style="list-style-type: none"><li>• A business professor was named Canadian Entrepreneurial Mentor of the Year, 2014, by Startup Canada</li></ul>

### **Conclusion**

Over the last 70 years, Ryerson has shown a continued ability to adapt to the world around it and recognise that universities can play major roles in their communities, with initiatives that go well beyond standard approaches to teaching and research. In its transition from a technical school to becoming a comprehensive university, it has faced similar challenges to those encountered by other specialised schools in the UK and Europe. It has chosen to differentiate by embracing its urban location and adopting a differentiation strategy that builds on its specific location and situation.

It can be seen an early pioneer and proponent of the “Third Mission” of universities – added to the traditional missions of teaching and research –where universities are expected to become “engines that contribute to the social, economic and cultural development of the regions in which they operate” (Compagnuccia and Spigarelli 2020). Its urban city building, its focus on applied

professional education and its direct engagement in the innovation and entrepreneurship ecosystem in Toronto, Canada and across the World exemplify this mission.

Its strategy is consistent with Clark's perspective on innovative and entrepreneurial universities (Clark 2007), who suggests that transforming universities requires a concentrated effort, with five "irreducible minimums" -- a strong steering core, an expanded developmental periphery, a diversified funding base, a stimulated and involved academic heartland and an integrated entrepreneurial culture. It can be argued that Ryerson has largely met all five hurdles, as demonstrated in this paper. Its transformation has been led from the centre but involves a wide range of players and units across the university. It remains financially solid. despite the pressures of a pandemic and government cuts, and innovation and entrepreneurship are very much part of its culture.

Despite its prior successes, it is appropriate to conclude this paper with the recognition that Ryerson University has new challenges to face, building on its successful history, recognising its past, and facing continued financial pressures if it is to continue as an innovative community-focused 21<sup>st</sup>-century urban University.

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# 5

## Building the World's Most Relevant Business School: The Hult Ashridge story

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### Introduction

This is the story of the evolution of Ashridge Business School from a standalone school of management to the executive education campus of Hult International Business School and the thought leadership partner of EF (Education First), the world's largest private education company founded by the Swedish entrepreneur and Hult's benefactor, Bertil Hult.

Since the *Financial Times* announced the Hult Ashridge merger on July 4, 2014, the academic world has been aware of Ashridge's absorption into Hult. Less obvious is the recent change in December 2019 to spin off the expensive elements of running Ashridge House, sales and operations, to EF.

EF (or Education First as it was originally known) is an international brand – the official partner of the Olympics and sponsor of a professional cycling team. The Hult family name has been attached to Hult International Business School since 2002 when Bertil Hult bought the Arthur D Little School of Management in Boston. Renamed as Hult International Business School, it runs as an organisation independent from EF, which is itself a private company devoted to language and cultural education.

We will explore what happened at Ashridge since the 2014 public announcement. On paper and in the press, Ashridge's sterling reputation for practical management education and practitioner-focused research seemed a perfect fit with Hult's vision "to be the world's most relevant business school" and EF's vision "to open the world through education."

With fresh insights from senior leaders at Hult and EF who are now responsible for the governance and legacy of Ashridge, we offer Ashridge today as a case history of an ambitious, evolving partnership with not one but two larger entities – a non-profit business school (Hult) and a private company (EF) while maintaining its core purpose at the heart of Ashridge's royal heritage: *esse quam videri*: "to be rather than to seem to be".



**Figure 1.** Historic Ashridge House in Berkhamsted, Hertfordshire, UK

### **Ashridge origins: 13<sup>th</sup> century monastery**

With its Gothic revival mansion on the site of the Ashridge Priory built in 1283, Ashridge became a school in 1928 as a College of Citizenship for the UK Conservative Party. Ashridge took several forms over the years, including a hospital and maternity ward during WWII.

In 1959, with support from Guinness, Schweppes, Shell, Unilever, Boots, BP and Beecham, the College became the Ashridge School of Management, also known as Ashridge Business School. The timing was auspicious for a school focused on the development of individual leaders. 1959 was the year the concept of “soft skills” began, coined by the US Army for non-technical skills required to lead and inspire troops.

Ashridge’s strategy as a standalone school before Hult was the result of its early association with a foundational set of organisational clients who relied on Ashridge to teach and develop their people to be better leaders.

Ashridge’s philosophy was to encourage faculty to develop their own programmes organically, securing clients based on research that clients and students found sympathetic. Since that time and to this day, most permanent faculty have degrees and training in areas such as psychology, coaching, organisational and behavioural sciences rather than finance and operations. The School leverages Adjunct faculty resources to teach whatever is needed on client or degree programmes, but the focus is squarely on the soft skills of leadership development.

A good example of Ashridge’s emphasis on soft power is the Ashridge Centre for Business and Sustainability. Launched in 1993 and led since 2009 by Ashridge Professor Matthew Gitsham (recognized in 2021 by *Thinkers50* for his contribution to the field), the Centre’s work established Ashridge as one of the earliest authorities on issues of ethics, responsibility and sustainability.

Through the early 2000s Ashridge achieved success through its open and custom executive education, organisational consulting and a growing emphasis on degrees to earn international rather than just UK clientele and legitimacy. Faculty

organized around research and practice in units such as the Ashridge Coaching Centre, the Ashridge Centre for Business and Sustainability, the Ashridge Strategic Management Centre, and the Virtual Learning Resource Centre (later called Virtual Ashridge, now called Leadership Live), each with their own programmes and clients. Faculty capitalised on the natural beauty of the House and grounds and intimate nature of the teaching space to deliver experiential learning in small cohorts.

The Ashridge strategy in this period was to use its unique blend of practitioner faculty, practical degrees and experiential executive education to earn the respect and patronage of the wider international business school fraternity. This approach paid off: Ashridge gained its own degree awarding powers in 2008 – a rare feat for a non-university entity. Every year it ranked at the top of *Bloomberg Business Week* and *Financial Times* rankings for Open and Custom executive education. Earning rare triple accreditation (AACSB, AMBA and EQUIS) for the school as a provider of both degrees and executive education, Ashridge was a boutique pioneer in leadership development, organisational design, development and change, executive coaching, sustainability and virtual learning.

Ashridge has long leaned into the psychological side of management education by facilitating challenging lasting learning journeys for leaders. This was a risky strategy for a small school in the decades when business schools prioritized finance, strategy and shareholder value maximisation in their curricula. Long before it was fashionable, Ashridge paid close attention to the study and practice of humane management as a key to employee engagement and productivity.

### **The 2008 financial crisis: The end of the beginning**

As the School's fiftieth anniversary approached, Ashridge was reputationally strong but financially vulnerable. Ashridge was managed eclectically around the exciting ideas and networks of its faculty. Unfortunately, this led at times to competing loyalties and client cannibalization. Ashridge may have been idyllic, but it was far from ideal. There was no robust, sustainable business model to protect the financial interests of the Trust. When the 2008 crisis hit, Ashridge suffered sudden, severe revenue losses.

Ashridge leaders knew they needed to reinvent the School drastically if it was to survive. Ashridge sought a partner who would appreciate what it had to offer. Financial salvation was the main driver for change. But there was another impetus that would be harder to satisfy. Ashridge's leaders wanted to protect the essence of this deeply historic institution by sharing more than just the physical estate.

Ashridge wanted more than an investor. They sought a meeting of minds as well as a commercial partnership.

### **A roadmap for survival**

The three main drivers for the transformation were:

1. Financial security – to offset the pension debt and high cost of maintaining the estate
2. Survival as an educational charity – in keeping with the 1954 Act of Parliament

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3. Preservation of the Ashridge ethos – its humanistic, psychological approach to executive education

Ashridge looked for investors while worrying about losing its identity. If it gained a new owner, could it survive as Ashridge?

The answer came in the form of a bold disruptor in higher education -- Hult International Business School.

Hult offered a global perspective that few other schools could match. Students rotated study across two or three campuses in Boston, London, Dubai, Shanghai, San Francisco and New York.

Many schools claimed a social conscience. Hult acted. Five years before the strategic alliance with Ashridge, Hult launched an initiative that matched the humanistic Ashridge ethos of social responsibility: the Hult Prize (<http://www.hultprize.org>), now the world's largest social impact competition. Ashridge faculty teaching for Hult prior to the merger as Adjuncts, some also as Hult Prize coaches, were excited about its resonance with Ashridge's commitment to social entrepreneurship.

In the October 1, 2012 *Time* magazine cover article, “5 ideas that are changing the world for the better”, Bill Clinton said “The Hult Prize is how the world has to work in the 21<sup>st</sup> century.” Nobel laureate Muhammad Yunus called the Hult Prize the ‘Nobel Prize for students’.

Run in partnership by Hult and the United Nations Foundation, every year over 250,000 student teams from 2,000 universities in 120 countries compete to solve a social issue through the development of a social enterprise. Ashridge hosts Hult Prize student teams on campus for the summer leading up to final presentations in New York, with the Hult-funded prize of \$1 million going to the winning team and conferred by Bill Clinton, representing the Clinton Foundation.

There was more synergy. Prior to the merger, Ashridge and Hult were early signatories to the United Nations *Principles for Responsible Management Education* (PRME). The Hult Prize and PRME membership are symbolic of the concordant philosophies of these two socially responsible institutions.

Professor Matt Gitsham, referenced earlier as Ashridge's expert on sustainability, became a valuable intellectual resource to Hult, just as he has been for Ashridge. He now authors the Hult PRME Report every two years which tracks the School's achievements in responsible management as part of the PRME charter.

Gitsham is also an example of a faculty member who is well integrated across Ashridge and Hult, teaching successfully on Hult undergraduate and masters programmes, Ashridge Apprenticeships and executive education.

Given these synergies, the partnership between Ashridge and Hult would create one of the world's largest international schools with an emphasis on practical, socially aware global management education.



**Figure 2.** The sleek, modern Hult Boston campus

### **The 2014 Ashridge Hult merger**

The Ashridge Board and its Chief Executive, Professor Kai Peters, negotiated a strategic alliance with Hult International Business School and its President, Professor Stephen Hodges. They announced their “Interdependence” Day in the *Financial Times* on the 4<sup>th</sup> of July 2014. FT reporter Della Bradshaw heralded the move as the creation of one of the largest business schools in the world by combining Ashridge, the UK executive education specialist, and Hult International Business School, the multi-campus business school, in “*a strategic alliance that is intended to lead to a full-blown merger.*” (Della Bradshaw, Ashridge and Hult International announce plans to merge, *Financial Times*, 4 July 2014).

Peters predicted the deal would prompt a major change in higher education: “*The whole value chain is being disaggregated and rearranged.*” Peters said the new school would answer the needs of the corporate world, giving companies a strong supply of graduates and top quality executive education teaching based on useful, high quality research.

Both CEOs expected the alliance to be easier because Ashridge and Hult were both standalone business schools with no structural attachment to a university. Hodges mentioned that Hult had walked away from a deal with Thunderbird in Arizona because they felt integration would be too difficult.

Hodges announced that the Hult family would support the alliance with a £50 million investment.

The deal was intended to create a full-service business school with undergraduate and postgraduate degrees alongside executive education and consulting.

The combined school would boast 300 professors. Like Ashridge, Hult employed faculty who were not tenured. Hult faculty – like Ashridge – were and are still today practitioner experts who are judged by student and client satisfaction ratings and repeat business, instead of being guaranteed their positions for life. To



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remain employed, Hult and Ashridge faculty must remain relevant to their learning community.

By 2014, Hult's innovative approach to international business studies had attracted over 4,000 students. CNN advertisements at the time proclaimed it "for the global generation". Ashridge had research and accreditation credentials and executive education worth £25 million from clients who would be ideal employers of Hult graduates.

Hodges announced the merger at the Hult Global Faculty Conference in Chicago. Most Hult faculty had no idea what Ashridge was. Hodges explained the decision by referring to the talks with Thunderbird and describing his "aha" moment when he realised "*we'd be buying ourselves*". Ashridge was valuable because of its differences. "*Grow by merging with people who do things you don't do,*" Hodges explained, "*not by merging with those who do what you already do.*"

In contrast to Hult's predominantly adjunct model, Ashridge's employed a core set of full-time faculty who published research – an area where Hodges wanted Hult to grow. Ashridge focused on experiential learning, action learning, organisational design and development and relational coaching for smaller cohorts than the average Hult class size (15-20 compared to 50 or more for Hult). Ashridge earned UK degree-granting powers and triple accreditation on the basis of its small, high quality specialised degrees such as the Ashridge Executive MBA for the Creative Industries (EMBACI), the Ashridge Masters in Organizational Change (AMOC), the Ashridge Doctorate in Organisational Change (ADOC), the Ashridge Masters in Sustainability and Responsibility (AMSR) and the Ashridge Masters in Executive Coaching (AMEC). Ashridge excelled in executive education, where Hult had interest but no activity.

The alliance would help both schools achieve their financial and reputational goals. Ashridge would be protected from the risky nature of executive education business. Hult would gain published business research that would help it seek accreditation from AACSB and EQUIS.

Internal strategy papers from 2015 to the present day explain in practical terms how the new entity operates.

*"Under the strategic alliance the governance of the two institutions is mirrored, and a common brand name (Hult International Business School) is used." (internal Hult Strategy Report, 2017)*

Due to legal issues in their home countries, Hult and Ashridge operated from 2015 onwards as two separate charities. Hult and Ashridge contemplated a full legal merger. However, the charitable status and degree awarding powers of each institution prevented this from being a viable option. Instead, a strategic alliance was agreed, which operationally merged key functions. Legally Ashridge remains a registered UK educational charity, and Hult remains a 501(c)3 Massachusetts educational non-profit in the US, and a charitable organization in the UK.

## **2015 Beyond due diligence: Hult absorbs Ashridge**

Ashridge's new partner was the result of three significant acquisitions:

1. In 2002 Hult purchased the Arthur D. Little School of Management in Cambridge, Massachusetts, founded in 1964 with US degree powers. This established Hult's US location in Boston, close to the flagship building of EF or Education First, the global private language and cultural training company founded in 1965 by Swedish entrepreneur Bertil Hult.
2. In 2008 Hult bought Huron University in London, a private American campus in London's Bloomsbury neighbourhood which became a postgraduate campus. In 2014 Hult opened its undergraduate campus in an architectural award winning building in Whitechapel.
3. In 2014 Hult announced the strategic alliance with Ashridge Business School in the UK with an initial investment of £50 million.

Ashridge plays a key role within Hult as one of three distinct "sub-schools": undergraduate, postgraduate and executive education. Internal Hult strategy documents recognize formally that *"Executive education is primarily of Ashridge origin, while undergraduate and postgraduate programs are primarily of Hult origin."*

With Ashridge embedded within Hult as the sub-school for executive education, the School has scale, an extended global reach, and a mature range of programs, from undergraduate through to doctorate, as well as executive education and considerable research facilities. "It strives to distinguish itself from other institutions by becoming 'the most relevant business school in the world,' with corporate employers turning to the School for recruitment of graduates with international business competencies, for applicable research insights, and for ongoing executive development of their managers." (internal Hult Self Assessment Report for EQUIS re-accreditation, December 2020).

In 2015 Hult and Ashridge began to operate as a singular entity with Ashridge enjoying primacy as the executive education "sub-school". Hult installed a new Chief Executive at Ashridge, Jason Cassidy, to lead a management team which included experts in finance, sales, marketing and operations alongside a few key faculty: Roger Delves for Qualifications and Paul Griffith for Open programmes.

Hult helped Ashridge expand its client base by adopting the business model of employing sales professionals around the world. Faculty were asked to focus on teaching and research and partner with sales professionals to a much lesser extent than was their custom.

Ashridge faculty drew intellectual direction on teaching, pedagogy and research strategy from Professor Johan Roos, a seasoned academic and entrepreneur (former IMD strategy professor, President of Copenhagen Business School, Dean of Jönköping International Business School and co-founder of LEGO Serious Play, a facilitation methodology developed at the LEGO Group) whom Hult recruited as Chief Academic Officer in January 2016.

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Hult concentrated on undergraduate and postgraduate degrees while Ashridge focused on open and custom executive education, while retaining a few popular degrees in coaching and change.

Hult President Hodges consolidated the overall portfolio to avoid product cannibalization. The Ashridge MBA was closed along with the specialist degrees AMOC, AMSR and EMBACI.

Faculty at the time were disappointed to lose these programmes, but the decision gave Ashridge capacity to develop something more ambitious. Ashridge launched five degree and non-degree Apprenticeships as part of an ambitious UK government scheme to develop working professionals whose employers draw on a learning levy to contract learning with approved providers.

In 2017 Ashridge was accepted to the UK's Register of Approved Training Providers (RoATP) for Apprenticeships, offering three degrees (Bachelors and Masters in Business Management and a Masters in Leadership) and two non-degree programmes for Associate Project Managers and Operational/Departmental Managers.

By summer 2021, Ashridge Apprenticeships have grown to 800 students – a number far above what might have been expected if the degree programmes had been continued.

### **The Ashridge merger from the perspective of Hult and EF**

The 2014 alliance was conceived purely as a Hult Ashridge amalgamation. At that time EF, the private language and cultural training company founded by Bertil Hult, had no formal affiliation with Ashridge, but the three organisations began liberally to trade people and best practice.

When Hult helped Ashridge with the 2014 alliance, Ashridge joined the orbit of organisations and ventures that benefit from the entrepreneurial, people-centric mindset of EF founder, Bertil Hult. Under his leadership, EF has grown to a multi-billion dollar global education company with more than 40,000 employees in 53 countries. It operates organically, as a family business devoted to the ideals of its philanthropic founder. Described in the press as “the billionaire with no master plan for his family business” (*Financial Times*, 1 February 2020), Bertil is semi-retired and shares the challenges of running the business with two of his sons, Philip and Edward.

The Hult family have a knack for commercial success as well as successful branding. From the Hult Prize to EF's sponsorship of the Olympics and their ownership of a professional cycling team, the Hult name and fortune actively benefit Ashridge's ability to compete in the crowded field of executive education.

In 2015 Ashridge lost its autonomy but continued to exist according to the the ideals of its original charter when it was established in 1928 by the UK Conservative party as the Ashridge Bonar Law Memorial Trust – in memory of Tory Prime Minister Andrew Bonar Law – “*to preserve for the nation a historic site and beautiful building, and to establish a Centre where all grades of Conservatives can find a curriculum suited to their requirements, and to give enjoyment to the public by admitting it to the gardens once a week*”.

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Ashridge benefited from the intellectual curiosity and calm leadership of senior leaders from both Hult and EF, and from the commerciality that was at the heart of both organisations which the old Ashridge lacked.

Some leaders pivotal to the alliance have moved on. Former Ashridge Chief Executive Kai Peters is now Pro Vice Chancellor of Business and Law at Coventry University Group. Other senior figures have also left. However, 25 of the 30 current permanent faculty were members of faculty prior to the merger. The Dean is a post-merger appointee with top objective experience outside of Hult Ashridge. Her five Associate Deans were all Ashridge faculty prior to the merger.

For continuity and stability, Hult President Hodges remains the key decision maker governing Ashridge. Bjorn Bengtsson, who has held senior roles at EF since 2009, became CEO of Ashridge Executive Education in 2016.

Under Bengtsson's leadership Ashridge won more top clients such as ABB, Novartis and Ericsson, taking advantage of Hult's global campuses and faculty, and of EF's sophisticated approach to sales and marketing using global dispersed teams of business development professionals around the world.

Both Hodges and Bengtsson shared fresh insights in July 2021.

Reflecting on the early days of working together, Hodges noted that Ashridge lacked formal business processes. It was a collection of individuals under a shared brand, with faculty selling to companies with whom they had relationships, while doing teaching and research.

Hard decisions needed to be made. "That's why the Ashridge board made the decision to look for a strategic partner. Hult brought a more commercial mindset. If you want to grow, you need an investable business model" Hult eliminated unnecessary costs, putting in place professional staffing to handle business development to effect real sales growth and to get faculty to focus their efforts on strategic teaching and research that related to priorities set from the top of the new organisation.

Hodges recognized the sensitive impact of the new approach to faculty who were used to owning client relationships. Then and today, salespeople need faculty engaged with clients. With faculty no longer multi-tasking, their time was better used to help salespeople retain and win new clients. In those first three years, Hodges says they didn't lose a major client.

Faculty admitted these changes were difficult. Some felt undervalued and upset to see Hult take over client direction and discontinue well-loved programmes such as the MBA.

Living through these events, as one author did, is markedly different from reflecting on them later. What seems like responsible action may feel a disproportionate response to some – especially those losing friends to redundancies or discontinued programmes. As the number of faculty who remain from prior to the merger suggests, many found the decisions proportionate.

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What even the Remainers (to steal a phrase from another divisive debate) did feel was an issue around identity. The sense of what it meant to be Ashridge faculty came under pressure. Had we sold out?

The identity issues that Ashridge experienced match what Ashridge Professor Ilze Lansdell-Zandvoort explained in her 2019 Hult Ashridge Research report, *Lessons leaders can learn from those living through change*. Her work was the result of a four year action research study of an organisational merger and restructuring process. Lansdell-Zandvoort explains the challenges of identity ambiguity and identity conflict that ensues after a merger. She recommends that leaders find opportunities to engage in “meaning-making activities” that will help employees embrace that shift in identity.

Hult leadership worked hard to revive the executive education business to sustain Ashridge financially, but devoted little time to sense-making activities to put people at ease. It took time to coalesce around the new business model. Faculty began to be more at ease around not being central to business generation, as they saw the business visibly turn around by 2018 with modest profitability and exciting big client wins. Instead of worrying about sales targets, faculty focused on research goals that were set by Hult Research to retain triple accreditation. Faculty were expected to produce what is known internally as “5-in-5”: at least five research outputs within a five year period, according to a concrete list of research outputs defined by Hult Research. Without the pressure to sell, faculty publications at Ashridge increased an additional 13% in 2020 compared to 2019.

CEO Bengtsson set two key goals for Ashridge: 1) grow Ashridge revenues and clients with an emphasis on larger deals (£100,000 or more) and 2) achieve high client retention and satisfaction with Net Promoter Scores above 70%. He was not concerned expressly with research and academic rigour. Those important areas gained greater clarity and direction in January 2020 when the Ashridge Dean switched from reporting to Bengtsson to joining the Hult Central Academic Team and reporting directly to Hult Chief Academic Officer Roos.

The Faculty Summits in July 2018 and May 2019 were increasingly optimistic gatherings for 100+ permanent and adjunct Faculty and a few dozen experienced sales experts to reflect on how far they had come together.

Hodges feels today that Hult has done a good job of reviving the old Ashridge executive education business that was declining. He cites winning blue chip clients such as Tesco, NATO and Ericsson as proof that the school competes well against IMD, LBS, Korn Ferry and other professional service providers.

Bengtsson is proud of the turnaround which now includes a good system of client relationship directors whose purpose is to ensure programmes run and well and that clients are satisfied – in close collaboration with faculty, not instead of faculty.

What did Hult see in Ashridge that made a £50 million initial investment worthwhile? Hodges reflects today:

*“In Ashridge we saw a school which, though less commercial than Hult, was still focused on business practice, not theory. There was a strong alignment between Hult and Ashridge on educational philosophy. Hult*

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*needed to have its finger on the pulse of what skills employers wanted Hult students to learn. Ashridge had a strong reputation and capability in executive education which includes the rankings and existing client relationships that yes, Hult could have built itself, but that would have taken a long, long time to achieve.”*

Bengtsson echoes these sentiments:

*“We recognized the quality of client interactions. Fundamentally there were challenges with how the business was run with profitability. But there was never a problem with delivering great quality service anchored in research, anchored in a culture that understands the challenges that the practical world of organisations – businesses and governments - face. That’s where Hult, EF and Ashridge met: We are all about making a real difference. Theory is important, but it’s about effecting real learning. That’s something EF and Hult saw in Ashridge and still see. Neither Hult nor EF had executive education, so Ashridge fit in well with Hult and EF.”*

### **Ashridge, Hult and EF come together as an ecosystem**

In the five years between 2015 and 2019 – a short time for a cultural and organisational integration of this complexity – Ashridge established itself as Hult’s executive education campus. The alliance offered much-needed financial stability. Old and new settled together well after the predictable difficult start, finding much in common and much to admire in each other’s work. People made career moves freely across Ashridge, Hult and increasingly EF.

When Bengtsson took on the role as CEO of Ashridge Executive Education in 2017, he wanted to enhance his Ashridge leadership team with someone who came from outside Ashridge, Hult and EF and had competitor experience and confidence about the industry. Hult’s due diligence about Ashridge in 2014 led to an appreciation for similar providers such as Duke Corporate Education and London Business School.

In June 2018 Bengtsson recruited Dr Dina Dommett from Oxford University as the new Dean for Ashridge. Her experience made it easier for Ashridge people to adjust to the impact of the Hult merger and for Hult leadership to make strides in the new people strategy to use faculty more strategically for research rather than sales.

In addition to her work as a Director at Oxford Saïd Business School, Dommett had worked for Duke Corporate Education in its early years (2009-2012) and for several years at London Business School in the same global markets (London, Dubai, China) as Hult. She knew and admired Ashridge, Hult and EF. From 2010-15 she served on the board of the Graduate Management Admission Council (GMAC) getting to know Hult experts who used GMAC data in their student recruitment campaigns. As a foreign language teacher in her native USA, she had interacted with EF account managers in their Boston office in the mid-1990s.

Crucially, Dommett had a positive association with Ashridge faculty as an Ashridge executive education client in 2001-02 in her former role as Vice President of Leadership Development for Marconi plc.

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Dommett told Bengtsson she wanted to bring together what she saw as the strengths of the Hult Ashridge alliance: Hult's entrepreneurial, iconoclastic spirit that bucked the trend of traditional business schools and Ashridge's practical, experiential learning technique and deeply customised, personal attention to clients.

This was an intense period for the people of Ashridge, Hult and EF. Thanks to how our leaders led and how we interacted as an emerging three-way partnership, we were able to navigate the changing organization. With the support of Bengtsson as her CEO and direct supervisor, Dean Dommett joined his Ashridge senior leadership team as Dean in June 2018. She relied on concepts developed by Ashridge faculty to engage people in the annual Faculty Summits and smaller action learning workshops for faculty and staff to process the tumult.

Dommett tapped Roger Delves to serve as Associate Dean of Faculty and UK Apprenticeships. Dommett and Delves together developed and promoted the idea internally that Ashridge, Hult and EF could best thrive if they recognised and leveraged each other's strengths: Ashridge in "compassionate humanity", Hult in "positive disruption" and EF in "entrepreneurial flair." Bengtsson agreed that this was a constructive approach.

Many faculty contributed to this internal activity – from resilience expert and former Dean Vicki Culpin, coaching experts Erik de Haan and Guy Lubitsh to action research practitioners Angelita Orbea, Debbie Bayntun-Lees (an expert on diversity and inclusion), Kerrie Fleming, Trudi West, emotional intelligence proponents Roger Delves and Lee Waller and team engagement experts Amy Bradley and Sharon Olivier, and Megan Reitz with her compelling work on Speaking truth to power and psychological safety – all useful themes to support people going through the disorienting effects of a merger.

### **Practicing what we preach: Ego, eco and intuitive intelligence**

In her 2019 Hult Ashridge Research report co-written with Kerrie Fleming, Frederick Holscher and Viki Holton, *Ego, eco and intuitive leadership: A new logic for disruptive times*, Ashridge Professor Sharon Olivier introduced the concept of three alternating leadership styles – Ego, eco and intuitive - as a way to embrace the world as linear, controllable and predictable *as well as* chaotic and mercurial. This idea was extremely relevant for Hult, Ashridge and EF leaders as their relationships developed within an entirely new ecosystem.

Olivier expanded the idea of these three different leadership styles in a 2021 book co-authored with Holscher and Colin Williams: *Agile leadership for turbulent times: Integrating your ego, eco and intuitive Intelligence*.

Olivier defines the three intelligences as follows:

- Ego intelligence (Shaping) is the capacity to *make* things happen.
- Eco intelligence (Integrating) is the capacity to *allow* things to happen.
- Intuitive intelligence (Sensing) is the capacity of *sensing* beyond the boundaries of a situation to bring fresh perspectives and insights.

The authors argue that a blend of all three is needed to lead organisational ecosystems – especially the type developing at Ashridge, Hult and EF. The key to

success is the leader's ability to adapt their leadership style to what is needed in the moment. This concept, explored in small workshops, resonated deeply with Ashridge people internally as well as our students and clients. In time, they also proved equally powerful as coping mechanisms for the pandemic.

The Hult Ashridge transformation continues to be fluid. The ability to influence and adapt using soft power and a style of appreciative inquiry are core Ashridge capabilities that have proved handy not only for survival after the merger (instead of becoming just another Hult campus, which we are not) and for surviving the pandemic. We've been nimble with our clients and students because we are used to asking and adapting to questions like "How are you? What do you need?" instead of saying they must learn exactly what and how we have always taught.

### **Brand identity crisis and inoculation against a global calamity**

Eco intelligence – the willingness to allow things to happen rather than to want control – became crucial to the people of Ashridge in the months just prior to the Covid-19 crisis.

In November 2019, in a strategic decision at the top level of Hult and EF leadership, just as the world was about to face the greatest health crisis in a century, Hult President Hodges and Ashridge President Bengtsson announced an intricate new legal structure.

A new EF corporate entity was created to manage Ashridge House and non-academic business lines: conferences, weddings and events, sales and marketing, and other non-charitable activities. Hult de-risked the executive education business by outsourcing sales, marketing, operations and capital projects to EF. Ashridge faculty and staff would continue to be employed by the Ashridge Trust, answering to Hodges as CEO of Hult International Business School as well as the Trust. Ashridge faculty have the right of first refusal to EF for any executive work that requires intellectual input. EF can only use external teaching resources if Ashridge faculty say no – which so far has not happened. Ashridge people were reassured that they would retain intellectual ownership of executive education programmes, as well as control of their own Ashridge degrees and revenues.

The complicated legal change fulfilled Ashridge CEO Kai Peters' prescient comments in 2014: "the whole value chain is being disaggregated and rearranged." EF's role in the disaggregated value chain is a fresh way for the triad to work together to offer surprising value to a wider set of customers made available to Ashridge because of the affiliation with a private company (EF) with its own large, loyal global client list to whom they now actively promote Ashridge expertise.

Nevertheless, Ashridge faculty and staff once again worried that they would lose their identity. Was there a catch? Still, the now smaller, more academic entity known as the Ashridge Trust suffered a brand identity crisis. Some Ashridge faculty began to feel their sense of purpose and of identity slipping away from them.



### **The new ecosystem using eco and intuitive intelligence**

Hodges admitted in July 2021 that he regretted this complicated new structure, even though the move proved lucky for Hult and Ashridge. The new interdependent model could only have worked after five years of building trust. The situation called for Ashridge egos to yield to their eco and intuitive intelligence to achieve innovation, financial security and growth through collaboration.

What clinched the new deal was the sobering impact of the Covid crisis. More dependent on each other than ever, everyone did their part to help the ecosystem thrive. The smaller Ashridge Trust concentrated on its own branded degrees and pragmatic applied research. Ashridge faculty pivoted to completely virtual delivery. As promised, EF bore the heavy costs of Ashridge House operations and executive education sales and marketing.

For now, Ashridge egos can rest easy: As of summer 2021, executive education programmes continue to be designed and taught by Ashridge faculty. A core team of Ashridge faculty and staff enjoy autonomy over a suite of strong degrees and apprenticeships based at the Ashridge campus which are legally branded and accredited under the Trust. Ashridge faculty teach regularly on Hult campuses and contribute to the Hult research strategy.

Ashridge contributes the academic excellence required to retain triple accreditation, as well as the thought leadership necessary for EF to compete in the crowded marketplace of corporate education.

Bolstered by fresh investment in the House and the added energy of people from Hult and EF, Ashridge again flourishes. All three entities – Ashridge, Hult and EF - benefit from Ashridge's strong performance in teaching and research.



**Figure 3.** Ashridge House interior – the historic heart of the Hult Ashridge campus

### **The World's most relevant business school?**

Is there an Ashridge Way? A secret ingredient that Hult and EF needed?

Hodges feel strongly about Hult's ambition to be relevant and says that made Ashridge so attractive. In 2014 and still today Hult has the vision to be the world's most relevant business school. That means caring about what employers need from

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graduates. Hult praises Ashridge's role in ensuring that "*we were having frequent conversations with employers and understanding what is it that they're struggling with.*" By providing executive education solutions, Ashridge to this day helps to inform Hult leadership what they should be doing on our degree programmes.

Even before the alliance, Hodges felt that many business schools were not talking to employers. For traditional schools, it's because they are focusing on research. Hult, he says, was equally guilty of not talking to employers, by being initially too focused on what students wanted: In 2012 (before Hult partnered with Ashridge), Hult kicked off an initiative to consult the top 100 employers in the world. Those companies fed back that schools put too much emphasis on knowledge and not enough on soft skills. This constructive criticism led Hult to set learning objectives such as the ability to work in teams, the ability to communicate, to problem solve because they were the number one things that companies wanted from an employee. It's not that Hult wasn't putting this into its teaching, but it was never a learning objective to make them good at it. "*We thought they would just figure it out*" says. Hodges. That was the first insight that Hult needed to make a philosophical change to its approach to pedagogy.

Hodges credits Ashridge with keeping Hult relevant in this important area. Conversations with Ashridge clients help Hult. Ashridge Executive Education is teaching skills to even more senior leaders within companies. It's all in the same spirit of teaching practical business skills to working professionals. This is what relevance means to Hult, and what Ashridge has been able consistently to contribute.

Bengtson adds that Ashridge executive education clients are the future employers of Hult students. As such, Ashridge makes Hult more relevant by helping us improve together at serving external organisations, offering more touch points between students, faculty and companies.

From an EF perspective, Bengtsson is excited about the fact that the new ecosystem of Hult, Ashridge and EF can give clients a wider range of services now that EF is connected to Ashridge as well as Hult. Ashridge's leadership and coaching programmes, like EF's language and culture products, are not only about globalisation. They are about broadening horizons. The life-changing nature of what we offer across the new arrangement is exceptional, as Bengtsson explains: "*EF cultural tours to Europe for the first time if you are an American. Open and Custom programmes that shake you to the core to become better leaders of organisations, of teams, of yourself.*"

### **Never let a good crisis go to waste**

Hodges felt the same pressure that the original Ashridge Board felt when they needed Hult to invest. He would have preferred that Hult continued to manage Ashridge Executive Education without the need to spin out costs to EF. The complicated transaction was a worrying distraction for the people of Ashridge as well as the Hult and EF senior leaders who needed to make it happen. The deal required careful negotiation with the UK Charities Commission so there was no interruption of the mission of the Ashridge Trust by order of the 1954 Act of Parliament.

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Today Hodges says “Everyone on the Ashridge Board felt vindicated by what we did three months after the EF transaction. We never anticipated a pandemic! We wish we hadn’t had to do this, but the pension costs alone were out of our control.”

### **Conclusions**

After two major structural deals and with great effort from their leaders and people, Ashridge, Hult and EF have come productively together in the past six years.

The three main drivers of the Ashridge transformation which began with the Hult alliance in 2015 and continued with EF in 2019 were financial security, survival as an educational institution and preservation of the Ashridge ethos.

How did we do?

Taking the three drivers in turn, as of this writing in summer 2021 we can confirm:

1. The Ashridge Trust is financially strong, having shed the burden of its pension and facilities costs to the generous Hult family foundation. Ashridge successfully pivoted to virtual teaching throughout the Covid-19 pandemic. Its own branded degrees – the Coaching suite, the Executive Doctorate in Organisational Change – remain popular and strong under their academic leaders, Associate Deans Erik de Haan and Kerrie Fleming. Ashridge Apprenticeships are booming under the leadership of Associate Dean Roger Delves, with over 800 apprentices in 2021.
2. Now recognized as the executive education campus of Hult International Business School, Ashridge fulfils its mission as an educational charity. It enjoys the philanthropy of the Hult family and the strategic direction of Hult President Hodges.
3. The Ashridge style of research and teaching remains strong and respected as an integral part of Hult and EF. Ashridge and Hult work closely to retain triple accreditation. Ashridge Faculty and Associates are the heart and mind of the executive education experiences that EF experts around the world sell with gusto – increasingly to companies who started as EF clients and would not otherwise have found their way to Ashridge.

Hult’s strategic decision to change the business model not once but twice (the second time with the help of EF) for Ashridge as part of Hult rather than a standalone entity has been successful.

Ashridge’s infusion of experienced teaching and research appeals to the mature student and client market, helping Hult achieve its accreditation goals and better understand the needs of employers for its graduates.

EF actively invests in Ashridge. The House and estate have never looked better, with continued enhancements planned, including educational technology for teaching rooms and an expansion of the courtyard café for public guests – a commercial venture which has brought us closer to our local community.

EF’s responsibility for Ashridge House, sales and operations liberates Ashridge and Hult to innovate with limitless learning and new programmes such as Ashridge UK Apprenticeships and the new Hult Doctorate in Business Administration.

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As Hult did in 2014, EF is testing new ways to serve its clients by expanding offerings to include what Ashridge faculty and research can offer. EF offers webinars with Ashridge faculty experts for their existing language and culture clients on the soft skills topics that are Ashridge hallmarks, such as emotional intelligence, inclusive leadership, resilience, speaking truth to power and sustainability. This has led to newly won custom executive education projects for EF language clients such as AtlasCopco, Medtronic and Solvay.

The people of Ashridge, Hult and EF actively borrow from each other's cultural values and organisational best practices. Hult and EF senior leaders are proud of the effect that they have had on Ashridge and vice versa:

Hodges says the Ashridge culture has come a long way since 2014. Hult picked up Ashridge's governance and made it part of Hult as the new umbrella entity. Before Ashridge, Hult felt like a start-up. Adding Ashridge gave Hult more formality without becoming too formal. The Ashridge culture has come a lot closer to Hult over the last six years. Hult may be entrepreneurial, but Ashridge built Apprenticeships from scratch. That's an example of Ashridge building from nothing a small business which is growing quickly.

Bengtsson agrees and notes the positive effect across the ecosystem: "*The humanistic approach to learning exists in EF and Hult too. Ashridge has always been outspoken about it. Ashridge has helped EF and Hult on that journey as well.*"

Bengtsson, who was instrumental in helping Ashridge unlock its entrepreneurial potential by launching the innovative Ashridge UK Apprenticeships, says that Ashridge has learned to experiment in an iterative, faster way. Both Hult and EF have learned about the relentless quality focus that always existed at Ashridge. Ashridge has learned about commercial acumen. Sales is not an ugly word. Sales is positive interaction with clients.

We achieve success through formal initiatives (financial analysis, client relationship management) and informally through the creativity, resilience and courage of the people who have come together into the Hult family ecosystem. As the smallest of the three entities, Ashridge reined in its ego to be adaptable, influencing its partners through the soft power of its research and teaching and using its loyal alumni and prestigious status as a UK educational trust to support its partners.

We cite these measures of success since 2014:

- Return to top 25 executive education performance in the FT rankings: from 2018 to 2020, Custom rose from 25<sup>th</sup> to 22<sup>nd</sup> to 18<sup>th</sup>. Open rose from 30<sup>th</sup> to 22<sup>nd</sup> to 16<sup>th</sup>. The FT suspended rankings in 2021 due to the pandemic.
- Strong client retention and positive Net Promoter Scores (NPS) of 70% which is generally considered an excellent result for client satisfaction – see chart below.
- Steady faculty publications and awards for research which fuel Hult's triple accreditation.
- In 2021 Ashridge earned its own degree-award granting powers from the UK Office for Students.

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- Executive education industry awards such as the EFMD Excellence in Practice Award: Gold in 2016 (with Swarovski); Gold in 2017 (with Diabetes UK and Novo Nordisk); Silver in 2021 (with the International Committee of the Red Cross).
- The success of Ashridge’s entry in the UK Apprenticeships programme, with student numbers increasing from 100 students in 2019 to 800+ students in 2021.

EF suffered steep revenue losses in executive education in 2020, but as of this writing, sales of new and retained clients are rebounding. The focus on online delivery and customer satisfaction produced the highest NPS scores in our history. We are steadily returning to pre-pandemic levels of custom clients as shown in Table 1.

**Table 1.** Client profile 2019-2021

	2019	2020	2021
NPS score - Open	78.3%	70.4%	84.2%
NPS score - Custom	60.9%	66.1%	71.5%
Number of Open participants	665	284	249
Number of Custom organisational clients	110	86	190

### **Next steps: 2021 and beyond**



**Figure 4.** Weathering the storms of global education: The Hult Ashridge campus in winter

Hult, EF and Ashridge share a global, practical, socially driven perspective on education as the driving force of their combined vision and strategy. Under the umbrella of Hult and EF, Ashridge is part of a complementary language, leadership and learning ecosystem. Ashridge’s compassionate humanity, Hult’s positive disruption and EF’s entrepreneurial flair are a powerful combination for an educational institution built to flourish in the 21<sup>st</sup> century.

The Ashridge Trust is still focused on educational excellence for working professionals but is no longer responsible for the House or sales and marketing. *“Whether it’s executive education or the Ashridge degree business that is*

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*significantly different from Hult's", says Hodges, "Ashridge's focus has not changed a bit. Ashridge still fits into Hult's vision to be the world's most relevant business school."*

Bengtsson is bullish about the future of executive education at Ashridge: *"We've made Ashridge a more commercial culture while keeping the ethos of great client service, innovation and the humanistic approach to executive education. Great client feedback has been proof of that."*

None of the three entities could have achieved this result separately. In the words of the African proverb, *"If you want to go fast, go alone. If you want to go far, go together."*

With the support it receives and gives to its partners, Ashridge leverages its historic strengths as a small yet highly regarded research-led centre of excellence to influence Hult and EF to thrive as a uniquely effective educational ecosystem.

What do Hult, EF and Ashridge need to do next?

Hult President Hodges is focused on the financial and reputational health of Hult with continued commitment to degree and teaching innovations to serve students and employers. EF President Bengtsson is focused on growth for custom executive education by using EF corporate clients to expand the old Ashridge client base. Ashridge Dean Dommett is working with faculty to concentrate on the quality of teaching and research for its own qualifications and all the intellectual work the Trust supports across Hult and EF.

This is who Ashridge is today. Time will tell if the financial and psychological security of the union with Hult and EF will outwit the next global crisis and increasingly fierce competition from traditional business schools and non-traditional commercial players. Whatever happens next, it is clear that Ashridge, Hult and EF are much greater together than the sum of their eclectically evolved parts.



**Figure 5:** Hult Prize students on the Ashridge campus

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The quotes from Dr Stephen Hodges and Bjorn Bengtsson, Presidents respectively of Hult International Business School and EF Corporate Solutions, are extracted from the transcripts of interviews conducted with each of them individually by Dr Dina Dommert in July 2021.

Dr Hodges's remarks at the Chicago Global Faculty Summit in 2014 are recalled from verbatim notes made at the time by Roger Delves, an attendee at the Summit.

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## **Author Biographies**



**Dr Dina Dommert** is the Ashridge Dean of Hult International Business School, with prior roles at Oxford, London Business School, the LSE, Duke Corporate Education, Columbia and New York University Business Schools, Connecticut College, Marconi and the Museum of Television & Radio. She earned a Yale PhD and Boston College BA.



Educated at St Catherine's College, Oxford, where he read English, **Roger Delves** is Associate Dean and Professor of Practice at Ashridge Executive Education, Hult International Business School. His interests are helping others to understand the roles of authenticity and emotional intelligence in leadership and in team engagement.

# 6

## Clearing the Cultural Hurdles in a New University

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### **The need for a change in direction**

Until 2007, there had never been a university in Suffolk, but there had been a university in the neighbouring counties of Norfolk and Essex. Before the university, Suffolk College, as it was called at its creation in 1957, was a second-chance institution, giving local people the opportunity to study and acquire vocational qualifications, national and higher national certificates, and Bachelor of Arts degrees, often after failing to reach good grades at school.

In the period leading up to the creation of the new university, there was some encouragement for HE institutions to grow, through the government's Widening Participation Program, which proposed an expansion of the HE sector through increased funding. In addition, the government was promoting its Lifelong Learning Program further increasing the incentive for Suffolk College to expand.

The formation of a new university from a Further Education College (FEC) was a unique event that was expected to be the first of a steady stream of FEC conversions<sup>1</sup>, but they did not take place. It has also been suggested that the creation of the new university was a response to local business environmental imperatives, that perceived a demand for a more educated workforce, as well as satisfying the need for government to improve the low take-up of Higher Education in the area.

The new university represented a break from the hybrid model of Higher and Further Education delivery and adopted a new business model radically different from its previous one, by its collaboration with other educational partners in the region, and by its need to generate a financial surplus.

The new university was initially named 'University Campus Suffolk' (UCS), but only by agreement with partner universities, who would not allow it to be called The University of Suffolk. UCS received funding from government through the Higher Education Funding Council for England, which was channelled through two joint venture partners: The University of East Anglia, and University of Essex, who retained financial and strategic control. This control was significant, in that, to achieve a partnership with the two universities, UCS had first to "transfer its

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<sup>1</sup> Bolton, Warwickshire, Stratford-upon-Avon, Grimsby, Wigan, Sparsholt, York.



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HEFCE contract to the two universities on an equal basis” (UCS, 2007: page 6). Funding to UCS occurred only after the two universities had “top sliced<sup>2</sup>” HEFCE money and passed the remainder to UCS only when contractual terms have been satisfied. This implied a powerful controlling position for the partner universities and affected the early behaviour of UCS.

### **The university’s plans and progress**

In 2007, the new university (UCS) formed a strategic partnership with the University of East Anglia, and Essex University, and was a wholly owned subsidiary company limited by guarantee. The new management board consisted of eleven directors; six of whom represented UCS interests, two represented the interests of the community and a single director who represented the interests of the Learning Network<sup>3</sup>. The Chief Executive Officer (CEO) of UCS and the Principal of Suffolk College were ex officio directors by right of office.

The new university was now answerable to its five new stakeholder financing partners<sup>4</sup>. This meant that for the first time this educational institution had fiscal growth targets which had been agreed with its stakeholders, and which had to be delivered in tandem with its educational aspirations to provide value to its sponsors and stakeholders.

The formation of UCS took place against a background of criticism that Higher Education had been poorly catered for in Suffolk over the past 60 years, as evidenced by the county’s Higher Education participation rate of only 24% compared to a national average of 44% (UCS, 2007), and the fact that Suffolk had never had a University to serve its Higher Education needs. The business case for the proposed new University was dependent, in part, on an increase in take-up of higher education more in line with the national average, as well as other business drivers, to make it viable.

The transformation of the old institution, along with the management and teaching culture needed to sustain it was, according to senior management documentation, likely to be considerable. The target of 50% of young people going into higher education by 2010 was set in September 1999 in a conference speech by Tony Blair, two years after coming into office. The transformation of Suffolk College to a Higher Education Institution had been the first attempt of its kind to help satisfy the government’s target.

The way that this contemporary university was going to operate appeared to be quite different from its predecessor. It had to respond to new and increasing pressures from industry and government agencies that were changing the way academic labour was managed, especially since the introduction of student fees in the 1997 Dearing report gave more power to instruments of government.

At the beginning of 2009, the University announced its first strategic statement on its web site. It had a 2013 target for an operational surplus that was expected to grow 9-fold from 2009, and it also had a target for growth in student numbers of

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<sup>2</sup> The term “top slicing” refers to a process whereby money is taken without taking account of costs and expenses of the final recipient.

<sup>3</sup> Great Yarmouth, Lowestoft, Otley, West Suffolk, and Ipswich Colleges

<sup>4</sup> HEFCE, EEDA, Suffolk County Council, Ipswich Borough Council and the UCS board

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around 71% by the same year and these were achieved. It is notable that many of the success criteria for organisational growth stated in the strategic plans relied on growth in the *external* environment; growth in the local population, growth in overseas student recruitment, growth in the take up of Higher Education locally, and growth and revitalisation of the local economy, but not in increases to staff or resources.

The website of 2009 stated:

*Achieving our ambitions over a five-year period we will need to grow our income by 5% on average annually, creating a 5% surplus on our continuing operations. This will be deployed as 1% contingency, 1% sustainability (long-term maintenance), 3% strategic investment. To achieve this we will need to grow our direct student numbers by 1,100 and move staff costs [down] as a proportion of income to the 1994 Group average (currently 58% as against our 62%) (Suffolk, 2009).*

The expected revenue arising from the increase in undergraduate student numbers would account for 66% of the total increase in income, with the balance coming from post-graduate students, research, and enterprise. External growth factors would largely drive income, and this was expected to lead to growth in internal resources and capabilities, but only if the expected income materialised. The university cites growth in student numbers as the chief way of helping to achieve its long term aims of profit and credibility.

UCS announced four KPI's or *efficiency targets* based upon comparative institution benchmarking, and these had to be met as part of the delivery of strategic targets.

1. Cost variance, for support and operational costs should be no more than 5%.
2. The ratio of central costs to total costs should be controlled.
3. Projects had to be completed to specification, to time and to budget.
4. Processes arising from projects were to be e-enabled, implying much greater use of IT systems.

One of the key changes in support of efficiency was the introduction of a Virtual Learning Environment (VLE), which according to testimony, caused much consternation amongst teaching staff, with many lecturers feeling threatened or fearful. These fears appeared to be driven by concerns about how the VLE might be used covertly to monitor the performance of staff and the quality of their teaching. These concerns were identified by Bentham (Bentham and Božovič, 1995), in his study of the panopticon effect in prisons, where inmates felt they were being observed (from a covert observatory), even when they were not.

In 2010, the results of a 5-year study of the transformation from FEC to university, was published (Barnes, 2010), and two phenomena were identified as instrumental in the cultural journey that had begun with the appointment of a new provost in that year, and the loss of the CEO in the September of 2009. These were Process Coupling, and New Managerialism.

## **Process coupling**

Process coupling between, lecturers, managers and students refers to the way that educational processes benefit everyone in the organisation. But the (2010) doctoral study suggested that there was an unequal coupling between these three groups that was difficult to balance.

Lecturers traditionally have a responsibility for the academic content being presented to students, and for the process of measuring the student's ability to understand and apply it. Managers, on the other hand, are focussed on the process of achieving timely and efficient use of resources and keeping the operation within budget. The third element of the coupling model, students, would typically be trying to obtain a good education, and secure a good job.

At the time the new university was formed, a CEO was appointed, and most of the existing lecturers, administrators, and managers were transferred to the new University. The results of a long-term study show that the original, negative, management style and structure was entrenched, evidenced by the presence of loose process coupling between managers and lecturers, and a lack of commitment to the much-needed move to a research-led, revenue generating institution, capable of sustainable growth.

It was initially thought that the loose process coupling between managers and lecturers, and the close process coupling between lecturers and students provided an explanation as to why lecturers could sidestep management's financial objectives in favour of their own educational ones. But was *cultural inertia* also responsible for the continued gap between managers and lecturers? Without a process change aimed towards a fully functioning team, focussed on income generation and academic development, closing the gap was always going to be difficult.

Process coupling, as a concept, "highlights the potentiality that organizations are held together by shared beliefs, norms and institutionalized expectations" (Meyer, 2002). In a study of the University (Barnes, 2010), there was some evidence that loose process-coupling existed between lecturers and managers, because lecturers did not rely upon their relationship with managers to gain status or recognition with their peers. Managers in the institution had little power to reward (salary and promotion), and little ability to punish staff (sanctions and penalties) and provided few opportunities for better performance (training and development), so management effectiveness (hence loose process-coupling), was weak.

By contrast, there was found to be a close relationship (and hence close process-coupling) between the lecturer and the student, since the lecturer's ability and skills was frequently judged by student success, rather than by their research and publishing success. This is also evident by the lecturer's ability to reward a student's good performance (high grade), apply sanctions for inappropriate academic behaviour (refer, defer, etc), and provide opportunities for better performance (Tutorials, events, etc).

### **New managerialism in action**

Early definitions of New Managerialism include notions of (i) the erasure of bureaucratic rule-following procedures, (ii) monitoring employees performance, (iii) emphasising the primacy of management, (iv) the attainment of financial and other targets, and (v) the public auditing of quality of service delivery (Deem & Brehony, 2005). New Managerialism has come about, it is said, because “Education is no longer defined as a service or a right; it is regarded as an expensive investment that must deliver ‘returns’ to capital” (Lynch et al., 2012).

When the new university was studied, as part of a doctoral thesis (Barnes, 2010), it was found that New Managerialism alone would not explain its behaviour. Many of the actions proposed by this new management culture did not have the effect of reducing academic freedom, nor did lecturers succumb to the primacy of management, and the expected increase in demand on lecturers to be more market-focused did not materialise. After the initial effects of the New Managerialism ideology forced upon the institution in 2007 the new university began reverting to more traditional structures. By 2010, the CEO was replaced by a provost, and five lecturers had left either through redundancy or dissatisfaction, leaving the Business School with no line manager, and no Head of School. KPI’s had effectively, but not actually disappeared.

New Managerialism, at its worst discounts lecturer’s needs, hopes, and desires in preference to income and growth. Even as New Managerialism was being applied to the new university some academics suggested that a third wave of the model would emerge that involved team-working, empowerment of employees, and strategic scanning of the educational horizon. This could perhaps have addressed many of the disadvantages detailed in the study of the university’s early life, namely the lack of trust between managers and lecturers, and lack of engagement by lecturers with the university’s strategic plans.

It could be argued that the lack of trust and process issues were responsible for the lack of research. Essentially, there had been no time, nor incentive to research, as all teaching staff had their timetable filled with teaching commitments – it was regarded locally and by staff as “a teaching institution”.

If other educational institutions are an example, then the path to engaging in other commercial activities is based on a future with less time teaching, more time being allocated for research, and more business engagement.

### **Independence for the university**

In 2016, the university changed its name from UCS to The University of Suffolk (UoS) with full degree-awarding powers, and control over its strategy and its financial objectives. It was not until the following year that Helen Pankhurst was appointed Chancellor, that a new Deputy Vice Chancellor was appointed, a new Business School manager was named, and plans were made to improve the viability of the Business School.

A greater proportion of income, that did not rely on teaching was needed, and to some extent this was achieved by setting up partnerships with International Business Schools, using the Intellectual Property of the university to provide both content and marking moderation to ensure teaching standards. In this way, income

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is derived from leveraging existing Intellectual Property, and less time is taken in teaching students face-to-face, or through on-line tutoring.

New management brought operational changes and affected the coupling-process between students and managers, and between the lecturers and their managers.

An example is that the Business School manager had a teaching commitment, making them ‘participant observers’ in the teaching process, and more sympathetic to lecturers’ pressures and aware of obstacles to good teaching. Lecturers and managers have therefore become more closely coupled than they were.

Another example is students being given direct access to managers without the knowledge of the lecturer, making the student experience more visible to managers, and therefore more closely coupled. This brings its own problems, but it does achieve a closer student/manager relationship.

In addition, lecturers now have a transparent view of their own and their colleagues’ teaching commitments using a Workload Allocation Management System (WAMS). This has led to fewer disputes between management and lecturers, and with a more realistic allocation of work, time to research is more visible and realistic.

There is some evidence that this has produced closer process-coupling at the institution today and has led to better relationships between students, lecturers, and management, evidenced by the following outcomes:

Satisfied graduates go on to succeed either in their career or further study. During the 2018/2019, academic year, the Graduate Outcomes’ activity data report showed that 93.1% of SBS graduates progressed into either further study or full-time employment, compared to 89.6% nationally.

During the 2019/2020 academic year students at Suffolk Business School (SBS), returned an overall satisfaction score of 83% compared to a National Average of 82%. They also returned a score of 79% for academic support, matching the national average, and for assessment and feedback National Student Survey (NSS) they scored 79% against a national average of 73%.

The question remains; is it because of closer process-coupling that performance has improved, or is it a result of breaking extant cultural inertia? The old institution was based upon delivery to a specific geographical area with specific needs and was tied to a long-held corporate governance model that shunned profit. Latterly the continuity has been broken because there are few senior managers currently on the management board that were around in 2007.

At the time of the 2010 doctoral study the student population was 3500, whilst the current student population (in 2021) is nearly ten thousand.

This growth can be seen, in large part, to be because of partnerships with teaching institutions around the world, for example Unicaf<sup>5</sup>. Unicaf supports online

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<sup>5</sup> Unicaf is a global delivery partner of the University of Suffolk, which recruits, admits, enrolls, and supports learners approved for distance online delivery. The partnership brings together the resources and capabilities of both organisations to offer innovative learning programmes which are delivered fully online to a wide range of professionals.

learners to achieve university awards approved for distance, online delivery, and upon successful completion, graduates receive a University of Suffolk award.

Like most universities today, a VLE is used to deliver material to a larger number of students. Although time is needed using authoring resources to prepare teaching materials, it does lend itself to economies of scale, and when applied to large numbers realises time savings for the lecturers.

In 2020, COVID struck, and this encouraged the university, to adopt *block and blend teaching*<sup>6</sup>, and other virtual teaching methods meaning that a lecturer is committed for less teaching time in a semester than would be the case for a traditional 12 week ‘term’ of teaching and giving more time for research and business engagement. Additionally, a new Pro Vice Chancellor was appointed who was directly responsible for the Business School.

Although the number of staff (FTE) in the Business School in 2021 is now similar (at 22) to that in 2010, the number of undergraduate and postgraduate students has greatly increased, meaning that the operation has become more efficient.

The latest (2021) publication of the senior management team shows a Vice Chancellor and Pro-Vice Chancellor, but also a Chief Operating Officer (COO), a role which has traditionally been associated with a commercial (for profit) organisation, and which deals with the day-to-day running of the organisation. The title of HR director has been replaced with a ‘Director of People and Organisational Development.’

Although few of the old organisational titles exist now the University, like many others, is still engaged with the problem of how to capitalize on education to allow it to grow, whilst enabling it to sustain the organisation both financially and intellectually. It is perhaps here that we see the forces of New Managerialism in action.

In the past the university has relied to some extent on lecturers to help with the process of both student and business recruitment, but a different approach has been developed. The University now delegates responsibility for business income to dedicated Business Development Managers (BDM), and this leaves academics to concentrate on their core competencies of teaching and learning. The BDM will establish, develop, and manage collaborative projects and relationships between academic teams and business/industrial partners and other external stakeholders to achieve key performance indicators and to drive up income. Perhaps a disadvantage of this approach is the risk of a growing gap between academics and the BDMs, and care will be needed to make sure that academic courses reach those students best able to gain from them.

Strengthening the University’s engagement with local businesses by sharing resources, expertise and networks, i.e. Open Innovation, (Chesbrough et al., 2006),

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<sup>6</sup> A curriculum block is delivered to students focusing on individual or complementary aspects of the curriculum rather than exploring disconnected aspects at the same time. The online learning environment is blended with instructionally designed learning materials and activities and affords students the flexibility to take control of their learning.

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is also likely to be a growing source of income, and an Innovation Centre has been developed to help facilitate this.

### **Evaluating the present**

A Business School exists in a dynamic environment, constantly reacting to changes, as each year the nature and the quality of the student intake will vary, and there may be adjustments to staff resources, as they either join, leave, get promoted, or learn new skills. In this shifting environment it is difficult to judge exactly which changes have accounted for which improvements, or which changes account for declines in performance. Some changes may take several years to understand their full effect, and for the University of Suffolk, one long term aspiration is to change from a teaching institution to one of research-led teaching. An evaluation of actions being taken now to address this ambition, can only speculate on how efficacious they are in the short and medium term.

During the transition to a research-led institution, staff members will increasingly see themselves as ‘academics’, with a focussed view about their subject, and a desire to pursue and deepen their knowledge in their specialist area, so in the interim, actions taken now are likely to affect staff in their roles both as a lecturer but also as an academic.

Part of the way that this transition may occur is through the Workload Allocation Model (WAM), which allows the lecturer to understand their commitments for the year, and to better manage their workload, because it is mainly aimed at managing teaching and departmental duties. This allows academics to plan their research activities around the W.A.M, and the scope to do this is evident from the proposed teaching timetable for 2021/22 for the UoS Business School, and will likely address the future REF agenda, as well as allowing research-led teaching, in the longer term. There are few institutions in the UK that build research activity into their WAM, and it will be interesting to see if this occurs at UoS, as this will be true evidence of a research-led Business school.

Similarly, block teaching which uses a 5-week subject cycle, allows the lecturer to interact with fewer students during a day and have more quality time with them, but also allows for a longer planning period for the academic to research, design and develop the curriculum, and some lecturers have started planning their research activities to address this. This has been aided by the appointment of manager in the Business School dedicated to initiating and supporting research activity.

By blending online material with face-to-face delivery, students are encouraged to do more preparation prior to seminars, resulting in deeper learning, according to theory. This has been particularly appropriate during the COVID, when face-to-face teaching was difficult, and when students needed the flexibility to deal with employment, family, and financial pressures, and allowing them to manage the pace at which they learn. This has been an important contribution to students during the pandemic.

Another approach to freeing up research time is by leveraging the Intellectual Property (I.P.) bound up in Lecturers’ resources, but without the time and effort needed to deliver the material. This has been achieved through partnership working, so that existing teaching resources are delivered to online students by a

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Higher Education partner, who may be nationally or internationally based, and the results assessed by that partner. A proportion of the scripts are then moderated by the host (in this case UoS), to ensure that quality standards are maintained, leading to an income for the university that is more efficient than traditional delivery. This efficiency can be translated into the support of research or more resources to help the school, and this has evidently taken place with some academics having no teaching load.

The model evidently works, and within the past few months another two UK-based partners have been recruited, with more in the pipeline. It is known that this method of operation is also used by other universities, including those that compete with UoS.

The teaching of students by managers is a process that has yielded visible results at the university because the Business School manager is always aware of issues that impact on the teaching process. It also results in managers being closer to students and their issues, so that there is closer process coupling between both managers and students, and managers and lectures. This closer coupling is likely to lead to the whole Business School being more aligned with the aspirations of management, in the medium and long term, and to contribute to higher performance.

The computerisation of many aspects of the teaching process, afforded by the Virtual Learning Environment, has led to greater efficiency, and the fears that lecturers voiced in the early days of its introduction, have not been realised. Computerisation of the Business School has continued, at pace to both make processes more efficient, but also to make things clear and easily referenceable. An example of this is the use of online appraisements (ACTUS), which allows a very clear view from both a managers and lecturer's perspective, of what is required and how it aligns with departmental objectives, and thus contributes to the achievement of corporate aspirations.

There is also evidence of closer ties with local businesses, local authorities, and charities, as academics offer their expertise in a range of 'consultancy' interventions and build a profile of sound competency and knowledge. This would not have been possibly under a teaching-centred strategy and the direction of travel is clearly toward a research-led Business School.

## **The future**

The answer to how The University of Suffolk intends to progress must be prefaced by the notion that the university's intentions can only be inferred from strategy statements, and by the organisational structure, and its managerial culture. Using these as a guide it is possible to judge the *most likely* future for the university, which may change after the shock that the March 2020 COVID pandemic and subsequent lockdown inflicted upon studying and students, many of whom have had to adapt quickly to the restrictions and limitations imposed. What follows is a possible future for the university, given its aspirations to enter the arena of the Research Excellence Framework (REF), and to derive more income from this and from entrepreneurial activities including those in its Innovation Centre (IWIC).



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Many universities in the UK focus on the recruitment of international students, which has grown from around 200,000 in the year 2000, to nearly half a million in 2021. UoS will surely join this movement and will strive to increase its international intake, although in the aftermath of Covid-19, the numbers of international students may not grow according to past trends for the foreseeable future, unless through partnership working (LSE, unicas, etc).

The concept of New Managerialism has also matured, and has reshaped many aspects of academic work, particularly around ideals of corporate efficiency, a strong but fair managerial culture, realistic competitive goals, entrepreneurialism and profit-making (Winter, 2017). Evidence so far, suggests that UoS is moving towards these ideals.

In addition to this, the rise in the use of social media, and electronic communications in general, imposes greater workloads on academics who now serve a mass global market of around 3.5 million students. Growth is therefore seen to remain part of the aspirations of UoS, with increases in the use and sophistication of technology to achieve it, through its own VLE and the use of other international teaching institutions' VLE.

It is clear from the introduction of a Work Allocation Model (WAM) that efforts are continuing to be made to understand how much time needs to be allocated for academic tasks, allowing space to research and to write. This, in turn, could and should allow academics to further pursue their own scholarship interests and derive greater satisfaction in an increasingly difficult and expanding business environment. However, the use of the WAM will have to reflect the nature of the changes needed to satisfy the demands of an increasingly distributed student base, who are time-poor, likely to be in paid employment, or parenting, and need flexibility in the delivery of learning materials. Blended learning is more demanding than residential instruction, and Work Allocation Model allowances will need to reflect this.

Whilst managers continue to carry a teaching workload, process-coupling between managers and students and lecturers and managers, is likely to improve, and will help to link the process of setting targets and achieving them more realistically.

As a university rising in success and prominence the future will involve decisions that change the new-managerialist perspective from one that was historically controlled by the targeted demands of other (partner) universities, to one that is informed by research-led teaching and management. Many academics see their purpose as research-driven above all other considerations, and whilst a focus on teaching performance may be acceptable to the early-stage academic with concerns about the continuity of their job contract, it may be less acceptable to those who are intent on getting good research publications.

In the brave new world of “publish or perish”, multiple demands on academics ‘will require different skill sets that run the risk of diluting the specialised research skills needed for serious academics to research and publish in top journals’ (Vermeulen, 2007). Scholarship is an economic *and* a social activity, and if this is not recognised there is a risk of a formulaic approach to research.

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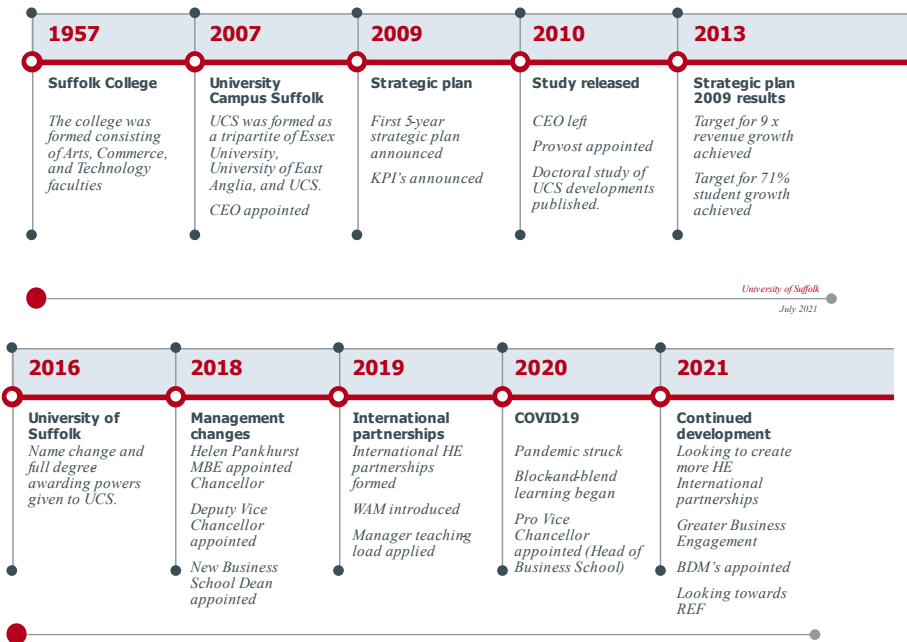
Success involves all stakeholders collectively working together so that the values of lecturers, managers, students, and administrative staff can be discussed and considered alongside the KPI's and financial demands of running a university. The challenges that accompany our collective emergence from the Covid-19 pandemic will be met by this university, I am sure, with enthusiasm and positivity, and pursuant of its rise from a Further Education College to a high-performing university.

But the university must use its agility to outpace other universities with which it competes. Speed of movement is the key, as is the case in any start-up organisation, because it takes time for any institution to change culture, as the University of Suffolk has found during its long progress towards a model that is sustainable and profitable.

### Appendix 1

#### Timeline for the University of Suffolk

*Developments affecting the Business School*



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### **Author Biography**



**Dr Steve Barnes** joined Suffolk College as a lecturer in 2003, after many years working as a business analyst and consultant. He obtained a doctorate (2010) using ethnographic research techniques to study organisational change at their Business School and contributed to the book "Ethnographic research and analysis" in 2018 [Palgrave].

# Ten years of advancing across disciplines

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A reflection on the development of Chalmers University of Technology

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## Introduction

Since 2010, Chalmers University of Technology has been working with challenge driven and multi-disciplinary Areas of Advance (AoAs) as a matrix dimension operating across departments. This chapter is a description of, and reflection on, the set-up, mechanisms and outcomes of this way of organising academic activity.

The story begins in the next section with a preamble in which professor Karin Markides, as the new president of Chalmers, identified a need to make the university better able to address broad societal and industrial challenges by fostering multi-disciplinary research collaborations together with industrial and societal partners.

In the third section, the set-up of the original eight AoAs is described together with the key elements of the AoA concept: organising and leadership, developing and maintaining research communities across departments, hosting of competence centres, research infrastructures and strategic partnerships, and recruitments of assistant professors. Over the years, the AoAs have been subject to evaluations (both internal and external) and development. As a result, some AoAs have reformed by extending their scope and one has been dropped. These developments are described in the fourth section.

In the fifth section, some of the outcomes of the AoAs are described at the university level together with a few highlights at the AoA level. The outcomes focus on network development, ‘spin-offs’ such as large research programmes, competence centres and research infrastructures, and on the development of Chalmers’ ranking position together with some performance measures. In the sixth section, some of the key managerial challenges are reflected upon. These include communication of the AoA concept, renewal of the AoAs and the differences among the AoAs in terms of scope and resources. In the seventh section, some organising aspects of the AoAs are discussed in view of other organising principles that academic activity is subjected to in the Swedish context. The last section contains a brief epilogue describing the current situation – in spring 2021.

## **Preamble**

Professor Karin Markides was appointed rector and president of Chalmers in August 2006. During her first six months as rector and president, Karin went on a ‘tour’ of Chalmers visiting every department, division, competence centre and research infrastructure. Based on her impressions she then ‘bundled’ the centres, infrastructures and other identified key resources under three themes that were to be developed across Chalmers’ 16 departments as ‘Chalmers’ Initiatives’. Beginning in 2007, the three initiatives; Bio and Materials, Energy and Systems, and Industry and Communication, were assigned to three new vice rectors. Describing the initiatives as ‘Chalmers’ road to the future’, a vision statement presented in 2008 also stated that the initiatives should evolve into 5-10 so called Areas of Advance (AoAs).

In 2006 there was also a new government elected in Sweden. The research policy discourse in the following period was unusually active for a country like Sweden, and the Ministry of Education and Research took measures to advance Sweden as a research nation by several means. One particular such measure was to direct special funding for 24 so called Strategic Research Areas (SRAs) that were introduced in the Research and Innovation Bill 2008. In total, the bill suggested an increase in research funding by SEK 5 billion from 2009 to 2012.

As a background, previous research policy had resulted in gradually reducing the basic research funding to universities<sup>1</sup> in favour of allocating research funding through external funding agencies from which faculty apply for project funding covering the most part of their own salaries as well as salaries for PhD students and other staff. As a consequence, the Swedish universities did not have much room for strategizing since the external funding agencies controlled the most part of the funding. The newly appointed Minister of Higher Education and Research argued that the Swedish universities, as a consequence, had turned into ‘research hotels’ meaning that researchers were doing their externally funded research independently rather than being involved in any meaningful research contexts at their universities. The universities had been reduced to affiliations.

Among the Swedish universities, Chalmers had been the most successful university in achieving external project funding (in relation to its size in terms of faculty and turnover) and grown as a consequence. As a result, the basic funding for research was less than 20% of the turnover in 2008. Since the basic funding was, and still is, needed to finance a substantial share of the costs for research infrastructures, as well as to co-fund certain external funding, there was very little room for strategic action.

With this background, and the initiatives as Chalmers’ way out of the research hotel logic, Chalmers was well prepared to respond to the SRA calls that followed from the research and innovation bill. By mobilising groups of researchers working intensely with applications in eight of the 24 areas that were considered relevant, Chalmers managed to receive funding in five SRAs; Energy, Transport, Nano Science and Technology, Material Science and Production. These areas were then

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<sup>1</sup> In contrast to many other countries, there are two separate streams of public funding to Swedish universities, one for research and one for education.

mould into the emerging AoA concept together with three additional AoAs that were considered of strategic importance for Chalmers at the time; ICT, Life science and Built environment.

The SRA funding was ramped up over three years starting in 2010 and has thereafter amounted to about SEK 200 million per year in total for the five SRAs. Currently, the SRA funding represents about 7% of the total research funding at Chalmers, and about 5% of the turnover. The three additional AoAs were initially funded by SEK 3 million each per year which was increased to SEK 5 million in 2017.

### **The Area of Advance concept**

There was a huge interest in the AoAs when they were launched in January 2010. However, while the granted SRA applications were rather specific in terms of their research plans, the overall AoA concept was initially less specific. After a lot of discussions during the first year, the following description was presented in the annual report 2010:

*”Chalmers’ Areas of Advance take on challenges that are key to tackle the transformation into a sustainable society. The areas have been selected based on Chalmers’ ability to take responsibility for excellent research, higher education and innovation. The Areas of Advance are based on strong multi-disciplinary scientific research and innovation and new joint platforms enhance the societal impact.*

- *The Areas of Advance coordinate, gather and communicate Chalmers’ strengths*
- *The overarching goal of the Areas of Advance is excellent research*
- *The Areas of Advance integrate research, education and innovation to achieve desired societal effects*
- *The Areas of Advance enable encounters across borders*
- *The Areas of Advance are platforms for attracting additional resources”*

Guidelines for the AoA were developed early on and have since been updated on a few occasions. In the last version, approved in 2020, the overall aims of the AoAs are described as follows:

- The AoAs contribute to renewal of Chalmers’ research in an interplay between top-down and bottom-up initiatives.
- The AoAs contribute to combine excellence and relevance in such a way that Chalmers can make unique contributions to societal challenges.
- The AoAs contribute to mobility and gender equality in the faculty.
- The AoAs contribute to internationalisation.
- The AoAs develop platforms for collaboration between academy, industry and society.
- The AoAs interact systematically with relevant external funding agencies and contribute to increase Chalmers’ resources.

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- The AoAs stimulate broad engagement and participation in large collaborative efforts.
- The AoAs contribute to relating Chalmers to external actors and to the profiling of Chalmers.

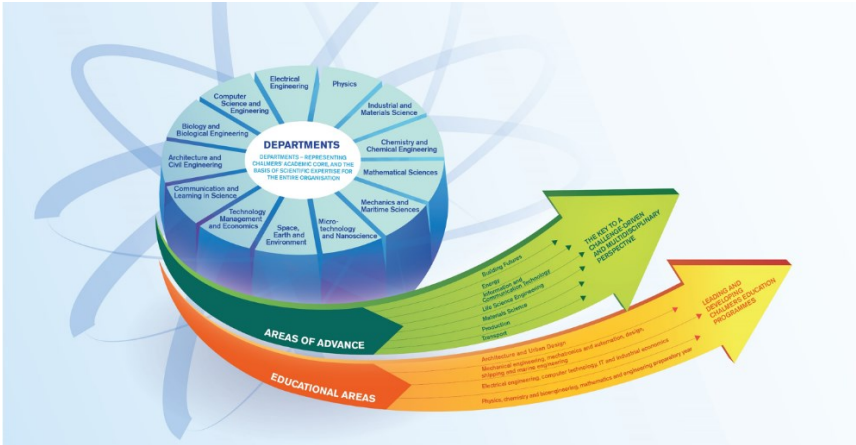
Hence, some changes and additions have been made over time. Comparing the initial and the current list of bullet points there is now less emphasis on excellence as the ultimate goal, and more focus on the dynamics and how this is stimulated e.g., the interplay between top-down and bottom-up initiatives to foster renewal. Furthermore, the inclusion of gender equality and internationalisation reflects Chalmers' overall ambition to integrate these important aspects in all its operations.

The guidelines also describe the missions, the mechanisms applied to achieve the missions as well as the leadership principles and the annual planning cycle. Below the organising and leadership principles are described. Next, some of the key mechanisms are described: hosting of competence centres, infrastructures and partnerships, and then the recruitments of young researchers that became a vital part of the AoA concept.

### **Organising and leadership**

For a long time, the line organisation had been the core managerial dimension despite having education organised separately from the departments since 2005. When the AoAs were launched, Karin Markides decided to take a step back (or up) from leading the line organisation, including frequent meetings with the heads of department, in order to acknowledge all three leadership dimensions, i.e., the line organisation, the educational organisation and the AoAs. Therefore, vice rectors were appointed not only for education, that was already in place, but also for leading the line organisation and the AoAs respectively. Strategy meetings held twice a year with leaders in all three managerial dimensions were introduced as a means to jointly address strategic matters. One of the illustrations of the matrix organisation is shown in Figure 1.

The new vice rector for the AoAs was to appoint directors and vice directors for each AoA. These, in turn, were to set up sub-structures consisting of 3-6 'research profiles', each managed by a profile leader. The profiles were not only more specific than the themes of the AoAs but were also aiming at describing in what specific areas that each AoA aimed to advance within the broader area. These profiles should also, over time, develop into new areas i.e., they should contribute to renewal. To further strengthen renewal, a third level of organising, so called 'active fields', was also explored initially. However, the active fields did not work well conceptually in all AoAs and were therefore cancelled after a couple of years. Still, many other ways of stimulating collaboration around new topics have been practised by the AoAs over time, either at the level of existing profiles, at the AoA level or jointly by two or more AoAs.



**Figure 1.** An illustration of Chalmers’ matrix organisation (Source: Chalmers’ Annual Report 2017).

A meeting format called ‘initiative seminars’ was introduced before the launch of the AoAs as part of Chalmers’ Initiatives. These seminars were based on engaging themes aiming at gathering faculty across departments, invited speakers from esteemed universities along with industrial and societal partners. When the AoAs had been launched it was decided that each AoA should arrange initiative seminars on current topics on an annual basis. In addition to these seminars, a lot of other meeting formats have been tried out and developed. Some of them are exclusive for Chalmers faculty aiming at developing broad research communities, while others, such as lunch seminars, typically include external guests and partners. As an example of an internal format, the Materials AoA started to build its research community by ‘speed dating’ sessions in which researchers got to meet and discuss new research ideas based on combinations of their research interests. Thereafter, the best ideas were awarded seed grants to enable development of their ideas in a first stage.

Meetings aiming at maintaining and developing the internal research communities were, and still are, also important to enable an interplay between bottom-up ideas and top-down initiatives within the AoAs. There are numerous examples of new ideas starting in both ‘ends’ – some have taken off and developed into formal projects or large externally funded research programmes, others have not.

### **Hosting of competence centres, research infrastructures and partnerships**

Already from the start, the hosting function of the AoAs was emphasised and based on the idea that vital resources should be shared across departments and thus not be subject to ‘lock-in’ effects. Therefore, competence centres and research infrastructures were assigned host AoAs to ensure broad access and engagement, together with host departments taking care of administrative functions. Some of the already existing centres and infrastructures were easy to fit into this idea while others were more difficult. Among the centres that worked well were those that



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built on challenge driven and multi-disciplinary approaches and that did not really fit within any of the departments. For instance, SAFER, a competence centre focusing on vehicle and traffic safety were spanning nine departments together with more than 30 external partners including companies, public authorities as well as other universities. This particular centre was aligned with one of three profiles within the Transport AoA and its director managed to combine the role with that of a profile leader. The most problematic centres were typically more aligned with individual research groups or divisions at a department, with no particular interest in developing broader involvement.

Policies and guidelines for competence centres and research infrastructures were also developed when the AoAs were starting up and have been updated on a few occasions since. In essence, these documents emphasise the importance of openness and collaboration as key virtues and as features to be facilitated and stimulated by the AoAs. They also point at the importance of embedding the centres and infrastructures in broader contexts of other resources.

Development of formal industrial partnerships at the university level began around the same time as the AoAs were launched. The first partnership was formed with an energy company wanting to invest<sup>2</sup> in a strategic relationship with Chalmers in exchange for development of a master's programme that could ensure its long-term competence needs. The term Chalmers Open Innovation Network, COINs, was coined as an ambition to develop relationships with key industrial partners with a broad actual or potential engagement in Chalmers. The goal was to develop 16 such partnerships (two for each AoA). For these partnerships the AoAs took on the hosting function, while the joint projects that were essential parts of the substance of these relationships continued to be organised at the departments to which the faculty belong. The number of partnerships grew over time, but apart from the first COINs-partner no other companies were interested in investing at the same level<sup>3</sup>. Instead, the focus was set on jointly applying for external funding, something that was going on long before the COINs concept was set in motion but that now became more organised and visible at the management level.

In addition to collaborative projects, many other joint strategic issues have been addressed in the partnerships. For instance, discussions and preparations for larger investments such as the development and use of Asta Zero<sup>4</sup>, a test bed for active traffic safety, and the Swedish Electric Transport Laboratory (SEEL), a laboratory focusing on joint research on electromobility<sup>5</sup>. Both these large infrastructures are owned by Chalmers together with RISE (Research Institutes of Sweden) with the automotive companies as customers. The AoAs' main role has become to stimulate and coordinate joint research and education activities taking place at these and other infrastructures. Other matters of joint interest in the partnerships have been adjunct positions (going in both directions), cap stone projects and other special

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<sup>2</sup> SEK 10 million per year for 10 years.

<sup>3</sup> This is a general pattern in Sweden wherein companies expect taxes to provide for public funding to support research at universities.

<sup>4</sup> Asta Zero: <https://www.astazero.com>

<sup>5</sup> SEEL: <https://www.chalmers.se/en/news/pages/sweden-invests-1-billion-sek-in-testbed-for-electromobility.aspx>

student activities, life-long learning activities including joint efforts to develop new forms of educations. The latter includes a so-called micro-master's programme in Emerging Automotive Technologies consisting of a set of MOOCs. Several partnership activities have in this way also stimulated collaboration between the educational organisation and the AoAs.

The managerial set up of the partnerships was, and still is, that high-level meetings including Chalmers rector and the CEO or CTO of the companies, together with AoA representatives and various other staff from the companies and Chalmers, are held twice a year to discuss current matters, to follow up on collaborative efforts and to discuss joint future interests. In most partnerships several AoAs are engaged although the host-AoA takes care of coordinating the meeting preparations.

### **Recruitments of assistant professors**

Starting in 2010 it was decided that the AoAs should make joint bi-annual campaigns to recruit assistant professors<sup>6</sup>. The campaigns should be global, and the assistant professors should be provided with packages including salaries for themselves and a doctoral student for four years. The intention was both to attract excellent young researchers to Chalmers, with a prior tradition of recruiting its own PhDs, and also to promote Chalmers through the AoAs on the international academic arena.

The broad scope of the calls entailed a new and challenging way of recruiting. The external evaluating panels had to handle a wide set of disciplines and, which became subject to frequent conflicts, the departments at which the assistant professors were to be employed were not decided beforehand.

Four recruitment campaigns have been run so far. The last two calls, in 2016 and 2018, received more than 1100 qualified applications in each round. External evaluation panels have evaluated and ranked twenty applicants per AoA, and four finalists have been interviewed for each position. In addition to assistant professors also a large number of postdocs have been recruited by support from the AoAs. These initiatives have also stimulated postdoc recruitments made by other means as it has become recognised as a good way to approach mobility, gender equality and internationalisation. Around 2010, there were just a few young researchers in this category at Chalmers while today the number exceeds 250.

### **Development of the AoAs over time**

The Ministry of Education and Research requested the funding agencies, acting as mediators to the different SRAs, to collaborate in making annual follow ups of all the SRA environments during the first five years<sup>7</sup>. Together the funding agencies developed a questionnaire asking for numerous quantitative and qualitative data. At Chalmers, the extensive data collection that followed was partly handled by

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<sup>6</sup> Ten positions have been included in each campaign: One for each AoA and two positions in Basic science. In some rounds additional recruitments have been made to take advantage of the strong applications in view of special needs.

<sup>7</sup> For Chalmers, three funding agencies were involved: The Swedish Energy Agency (Energy), Vinnova (Transport, Materials and Production) and The Swedish Research Council (Nano).

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internal surveys asking for data at the individual faculty level. Other data was possible to gather through e.g., the university's library that started a routine wherein all publications could be tagged by one or several AoAs. In addition to quantitative data on collaborations, publications, additional funding, etc., also qualitative descriptions were required concerning e.g., organising, collaboration with industry, outreach activities, policy implications as well as developments or deviations with regard to the SRA applications. No feedback was provided by the funding agencies or the ministry during these five years, but the data was used in 2014-2015 when all SRAs were evaluated on request by the ministry. For this evaluation, panels of internationally recognised researchers were appointed for each SRA, and a general management panel was appointed to evaluate the SRA environments at the university level. Two of Chalmers' SRAs, Energy and Nano, were considered to have reached excellence, as well as the university management. The panel stated:

*“The SRA/AoA concept has strengthened Chalmers’ outcomes not only in research but also in education and societal impact. It has helped the university to develop new strategies for collaboration with industry and clearly increased its opportunities to recruit excellent researchers from outside Sweden”.*

The first internal evaluation was made just about two years after the start of the AoAs. Since there were not a lot of results to assess at this early stage, the external panel instead contributed to discussions on the organisational set up and other aspects of the AoA concept. One important outcome of these discussions was an agreement that the AoAs should not focus on branding themselves. Instead, the aim should be to make Chalmers – as *the* brand - known for its strong research in these areas.

After the external evaluation of the SRAs in 2015, the extensive internal follow-ups were cancelled and replaced by other, less time consuming, ways of following the contents and status of the AoAs. One such effort was the development of [research.chalmers.se](https://research.chalmers.se)<sup>8</sup> wherein projects, publications and collaborations can be identified for each AoA. However, the same sorting mechanism can be used to identify projects, publications and collaborations at the departments since all data are based on individuals.

In 2016, following a review of the departments resulting in a reduction from 17 to 13, an internal review was made to assess the AoAs. After a series of internal and external interviews, the internal assessment group suggested that; (1) four AoAs should be kept as they were (Energy, Transport, Materials and ICT), (2) Nano should become an ‘excellence initiative’ owing to its focus on excellence rather than societal relevance and collaboration with industry, and (3) that three AoAs (Production, Life Science and Built environment) should be reconsidered since these were too heavily aligned with three departments. The latter resulted in broadening the Production AoA, and a complete ‘make over’ of Life Science<sup>9</sup> into Health Engineering. The Health Engineering AoA now engages researchers from

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<sup>8</sup> <https://research.chalmers.se>

<sup>9</sup> A new department, Biology and Biological Engineering, started in 2015.

almost all departments and is developing in close collaboration with the Sahlgrenska hospital and the medical faculty at University of Gothenburg. Built environment was dropped as an AoA since it was almost exclusively relating to one of the departments resulting from the reorganisation, Architecture and Construction Engineering. However, efforts made in the renewal period (based on the theme Liveable Cities) resulted in e.g., development and external funding of a new competence centre on Digital Twin Cities, now engaging researchers from several departments together with 30 partners and hosted by the ICT AoA. Moreover, preparations for hosting the conference Beyond 2020<sup>10</sup> focusing on sustainable built environment continued, later with support from the Energy AoA in transforming the conference into an online event when it took place in November 2020.

Since 2015, the AoAs have integrated the Sustainable Development Goals (SDG) in their challenge driven agendas. The SDGs have contributed to elaborate on challenges at the system level and to discussions regarding trade-offs among the SDGs. The integration has also facilitated adjustments to increasing demands by some of the external funding agencies on explicitly relating research applications to the SDGs.

## **Outcomes**

Given the way in which the AoAs are integrated in Chalmers' organisation it is not easy to distinguish what has happened as a result of the AoAs and what might have happened without them. Below some more or less measurable outcomes will be described and commented focusing on developments of internal and external networks, examples of large programmes and other 'spin offs' as well as Chalmers' ranking position and some key performance measures.

### **Internal and external networks**

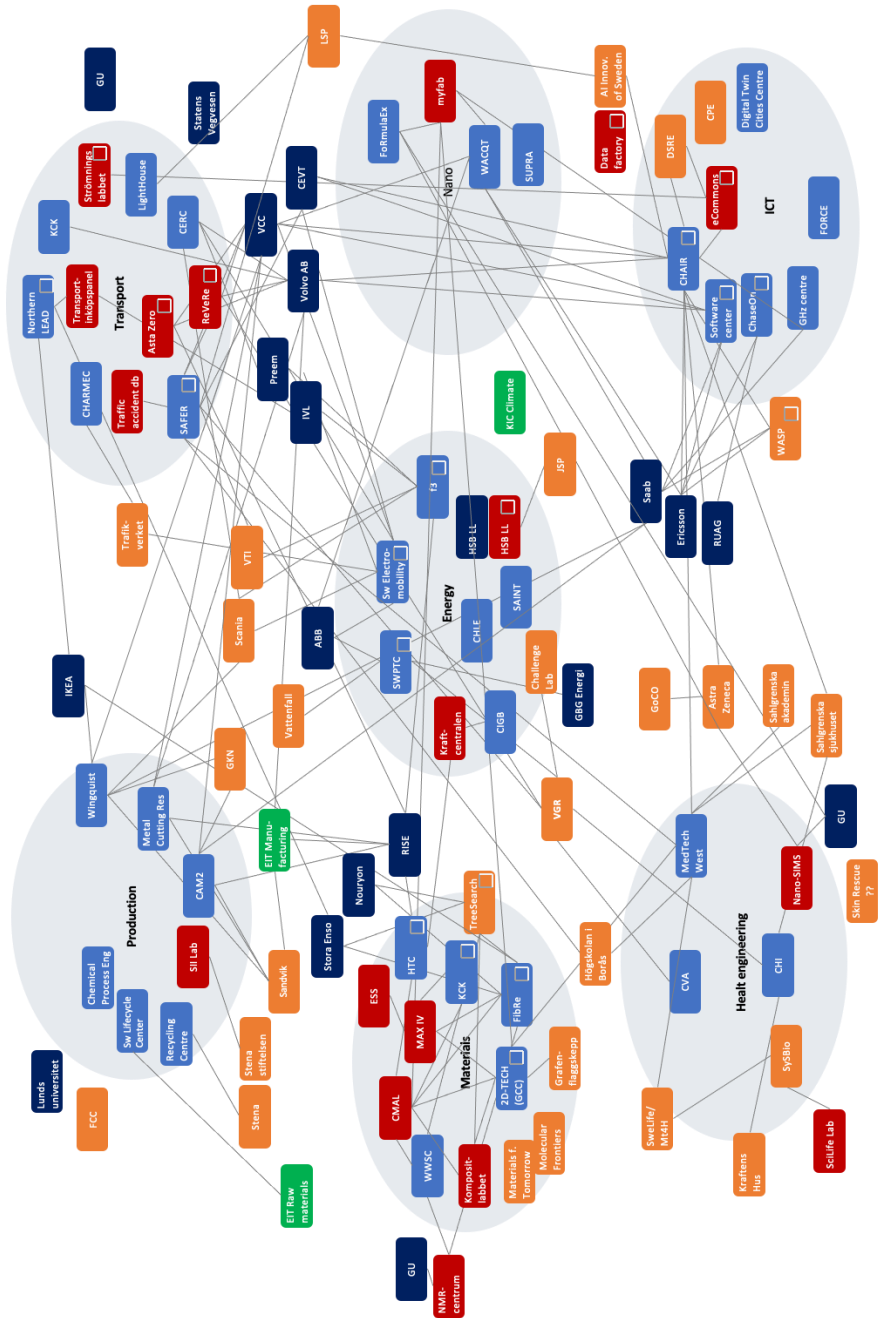
In an employee survey 2019, all faculty were asked if their research was related to one or several AoAs. More than 80% responded that it was. Data about the connections between the departments and the AoAs also confirmed broad involvement across disciplines and that internal collaborations across disciplines had developed over time.

The development of relationships and networks both within and across Chalmers' boundary can be considered one of the most important outcomes of the AoAs. Figure 2 illustrates some of the key resources; competence centres, research infrastructures, partnerships with industry, and some other internal and external resources that Chalmers has access to. The connections between these resources are illustrated by thin lines in Figure 2. The content and functions of these relationships vary extensively but are arguably essential to the continuous development of Chalmers' resource constellation. Hence, while the AoAs continuously contribute to develop new resources, they also put a lot of effort in developing the connections between them. However, the value of these connections for the university is very difficult to assess and evaluate.

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<sup>10</sup> <https://beyond2020.se>

Figure 2 also illustrates that the collaboration between the AoAs is extensive.



**Figure 2.** The network of key resources hosted and connected by the AoAs 2020. The dark blue boxes illustrate formal partnerships, blue: competence centres, red: research infrastructures, orange: relationships with other key partners, and green: KICs.

The opportunities inherent in combining resources and doing things jointly have increasingly been explored and exploited by the AoAs. For instance, some AoAs share or link some of their profiles, and the AoAs are frequently collaborating in arranging initiative seminars and other gatherings based on new combinations of themes. Consequently, an emerging notion is that the combination rather than the sum of AoAs and their profiles creates uniqueness to the university. For instance, Chalmers AI research centre<sup>11</sup>, initiated and hosted by the ICT AoA, is developing in collaboration with the Health Engineering and Transport AoAs since these application areas display great potentials, and since partners in these areas want to collaborate with Chalmers in these combined areas. As another example, the Energy and Materials AoAs together with the Nano Excellence Initiative collaborate in developing Chalmers' research on solar energy.

The AoAs also represent Chalmers in external networks and platforms, e.g. in the EU, that would be difficult or unproductive to engage in by other means. In addition, partnerships with other universities have been formed beyond individual project collaboration. Especially, the Materials AoA has put a lot of effort in building partnerships with UC Santa Barbara, ETH and Stanford including student exchange and annual workshops.

Apart from resulting in joint projects and publications, internal relationships and networks have also had other effects, not least that researchers learn from each other and that their priorities become influenced by awareness and knowledge of challenges at the system level. That is, even in cases where there are no concrete or measurable collaboration taking place, and thus no apparent multi-disciplinary outcomes, the multiple disciplines and perspectives have influenced individual choices and research directions. There were abundant examples of such effects in the internal surveys carried out among the faculty during the first five years.

### **Developing 'spin offs'**

One of the initially described functions of the AoAs was that they should be platforms for collaborations that can attract additional resources. There are many examples of developments resulting in 'spin offs' such as large projects and research programmes, competence centres and research infrastructures. Among the most notable, the Nano AoA managed to engage leading graphene researchers in developing one of the first European Future and Emerging Technologies Flagships, the Graphene Flagship<sup>12</sup>. Another example originating in the Nano AoA (later Excellence Initiative) is the Wallenberg Centre for Quantum Technology (WACQT)<sup>13</sup>, a 12-year SEK 1 billion research programme that aims to take Swedish research and industry to the forefront of quantum technology.

There are many other examples of new competence centres that have been developed and supported by the AoAs, and that later have received substantial external funding. In the Energy area, the Swedish Wind Power Technology Centre and the Swedish Knowledge Centre for Renewable Fuels have been formed together with many partners. In the ICT area, the Software Centre was initiated in

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<sup>11</sup> Chalmers AI Research Centre (CHAIR): <https://www.chalmers.se/en/centres/chair/Pages/default.aspx>

<sup>12</sup> <https://graphene-flagship.eu>

<sup>13</sup> <https://www.chalmers.se/en/centres/wacqt/Pages/default.aspx>

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collaboration with a number of industrial partners early on, and later, Chalmers AI Research Centre (CHAIR) was established. The Built environment AoA engaged in developing Mistra Urban Futures, a 10-year programme formed in 2010 (in parallel with the SRA applications) together with academic and public partners in Sweden and abroad. Based on its Traffic safety profile, the Transport AoA together with its automotive industry partners, Tongji University and other Chinese partners developed a joint research centre called China-Sweden Research Centre for Traffic Safety (CTS). The Production AoA started a Centre for Additive Manufacturing (CAM2) funded by Vinnova<sup>14</sup>, that later received additional EU funding boosting the area. These are just a few examples, all involving broad sets of partners.

Several important research infrastructures of different kinds have also been developed by or with support from the AoAs. Chalmers Materials Analysis Laboratory<sup>15</sup> was developed by the Materials AoA and has been instrumental in the development of new collaborations. Asta Zero, mentioned above, was later supplemented by Chalmers Resource for Vehicle Research (ReVeRe)<sup>16</sup> – a vehicle lab open for faculty and students. The lab received its vehicles from industrial partners and additional funding from the region (Region Västra Götaland). Moreover, HSB Living Lab, a research and demonstration arena which also functions as homes for student and guest researchers, was developed by the Built environment AoA together with HSB (a cooperative housing organisation). In addition, Chalmers' involvement in some large national and international research infrastructures is coordinated by the AoAs. For instance, the Materials AoA manages the involvement in MaxIV<sup>17</sup> and ESS<sup>18</sup>, and the Health Engineering AoA hosts Chalmers' involvement in SciLifeLab<sup>19</sup>.

Mobilising researchers and external partners to jointly work on applications for large calls have increasingly become an important task for the AoAs. For instance, Vinnovas' programme for Challenge Driven Innovation has resulted in several projects such as 'The energy system of the city' and 'GoSmart', the latter focusing on development and testing of a 'mobility as a service' solution. Calls for funding of competence centres by funding agencies such as Vinnova, the Swedish Foundation for Strategic Research and the Swedish Energy Agency, have also been coordinated by the AoAs. In the last Vinnova round, Chalmers received funding for three out of eight new competence centres and is involved in a fourth one hosted by Uppsala University.

Moreover, the AoAs coordinate Chalmers' involvement in national research programmes. For instance, the ICT Area of Advance coordinates Chalmers' involvement in the Wallenberg AI, Autonomous Systems and Software Program

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<sup>14</sup> Vinnova is a Swedish government agency administrating state funding for research and development. The agency's mission is to promote development of efficient and innovative Swedish systems within the areas of technology, transportation, communication and labour. Vinnova is also one of the most important research funding agencies from Chalmers' perspective.

<sup>15</sup> <http://www.chalmers.se/en/researchinfrastructure/cmali/pages/default.aspx>

<sup>16</sup> <https://www.chalmers.se/en/researchinfrastructure/revere/Pages/default.aspx>

<sup>17</sup> <https://www.maxiv.lu.se>

<sup>18</sup> <https://europespallationsource.se>

<sup>19</sup> <https://www.scilifelab.se>

(WASP)<sup>20</sup>. WASP is a national initiative for strategically motivated basic research, education and faculty recruitment and includes five partner universities in Sweden. In a similar vein, but in a different context, the Built Environment AoA supported Chalmers involvement in a Norwegian programme aiming at developing the E39 Coastal Highway Route between Kristiansand and Trondheim into a sustainable and potentially ferry-free road<sup>21</sup>.

Involvement in EU projects have also been subject to various activities by the AoAs. In total, Chalmers has been involved in around 250 projects in Horizon 2020 which puts Chalmers as the 5<sup>th</sup> most active among the Swedish universities, and as the Swedish university receiving the most EU funding in relation to its size. The AoAs have also taken on a coordinating and/or hosting role in relation to the Knowledge and Innovation Communities (KICs) within the European Institute of Innovation and Technology (EIT) that Chalmers has been involved in. For instance, Chalmers involvement in EIT Manufacturing is managed by the Production AoA.

The spin offs described above have over time contributed to expanding the networks of connected resources. For instance, the Materials AoA's focus on wood as raw material has contributed to connect Chalmers involvement in the Wallenberg Wood Science Centre and Treeseearch (an open national research environment for the future bioeconomy) with research infrastructures; MAX IV together with ForMAX (a dedicated beamline tailor made for research in wood-based materials), and partnerships with forestry companies. Also, initiatives taken by a particular AoA have later become connected to other AoAs such as the graphene research initiated by the Nano AoA that later also engaged the Materials AoA and the Built environment AoA. The latter by using graphene in building materials reducing the need for concrete. In addition, an initiative on Sports and technology taken by the Materials AoA has spread to other AoAs such as the Health engineering and the ICT AoAs.

### **Ranking position and performance measures**

In a strategy meeting in 2012, all heads of departments, AoA directors and educational area leaders gathered to discuss Chalmers' stance on global university rankings. To summarise the conclusions of that meeting there was a generally positive attitude towards engaging more in understanding the university's positions in different rankings and to discuss how to improve in areas of perceived importance. A group was formed to continuously follow up on the ranking results and to jointly analyse them. Later, in 2018, a consultant was engaged to support the analysis of the different rankings. It was concluded that the QS ranking best reflected Chalmers' standing as it does not discriminate to the same extent as other large rankings based on the size of the university<sup>22</sup> and that it focuses on areas that Chalmers wants to improve in; academic and employer reputation, academic impact (citations) and internationalisation (students and faculty).

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<sup>20</sup> <https://wasp-sweden.org>

<sup>21</sup> <https://www.vegvesen.no/en/roads/Roads+and+bridges/Road+projects/e39coastalhighwayroute>

<sup>22</sup> However, the size of the universities plays a role in their visibility and reach and thus impact on their reputation scores.



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From 2012 to 2021 Chalmers' rank in the QS ranking improved from 223 to 121. It is difficult to tell what has influenced the academic and employer reputation over the years. Generally, however, Chalmers reputation has been strongest within Sweden which is reflected in an annual survey of the reputation of the Swedish universities and university colleges<sup>23</sup>, as well as in the national votes on academic reputation measured by QS.

With regard to academic impact, bibliometric analyses are made for Chalmers as a whole. Overall, the field weighted citation index (FWCI) has improved over time (see Table 1).

**Table 1. Development of the FWCI (Source: SciVal)**

Period	Journal articles	All publications
2009-2012	1,15	1,08
2010-2013	1,2	1,11
2011-2014	1,24	1,14
2012-2015	1,29	1,17
2013-2016	1,29	1,21
2014-2017	1,3	1,22
2015-2018	1,38	1,26
2016-2019	1,42	1,49

In addition to what is measured in QS, industry collaboration is considered of particular importance. There has been an increase in the share of co-publications with industry from 13% 2010-2013 to 17% 2015-2018. In the Leiden ranking focusing on industry collaboration this has strengthened Chalmers global rank from 11<sup>th</sup> to 4<sup>th</sup>.

### **Key managerial challenges**

#### **Communicating the AoA concept**

Communicating “what the AoAs are” has been a challenge – not least within Chalmers. To some extent, this has been an issue with regard to the internal distribution of the funding. That is; who has, and who has not received SRA funding? Another reason may be that the AoAs aim to fulfil several functions and that their emphasis has varied among the AoAs and over time. However, external partners have clearly appreciated to get ‘one way in’ to find what is relevant for them at Chalmers. Many researchers, but not all, have appreciated to be part of communities that are not confined to their divisions or departments. Some faculty have described that their perception of Chalmers has ‘grown’ together with their internal and external networks as a result of their engagements in the AoAs. One of the recruited assistant professors described the feeling as; “The AoA community is my happy place...”.

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<sup>23</sup> SIFO Kantar: Chalmers ranked number one every year since 2012.

Another issue associated with the multiple aims of the AoAs is that of combining excellence and relevance. Among Karin Markides' key principles was that Chalmers should not maintain a division between excellence and societal relevance, nor a distinction between basic science and applied research, but instead focus on combining them in productive ways to address societal challenges. However, relevance aspects together with a focus on certain application areas have received more attention than excellence-focused basic research – at least if considering most of the activities stimulated by the AoAs<sup>24</sup>. Still, the recruitments of assistant professors have clearly enhanced Chalmers as a whole when it comes to various excellence measures, and it can be argued that neither the broad scopes of the recruitments nor the communities welcoming the young researchers would have been possible without drawing on the 'joining' relevance aspects of the AoAs. Also, researchers in a gamut of disciplines with multiple possible application areas have been able and motivated to get into areas such as energy and transport wherein a lot of complementary knowledge have advanced the collective research outcomes. The latter has also contributed to disseminating research results in more comprehensive ways and to wider audiences.

### **Developing the content – renewal**

Already in 2009, the current first vice president Stefan Bengtsson - since 2015 Chalmers rector and president - warned that renewal would become a challenge for the AoAs<sup>25</sup>. Considering the applications that were the basis for the substantial SRA funding, this was, and still is, indeed a relevant risk. Not only were these applications more or less responding to rather specific research needs at the time, but they were also put together by groups of researchers that were considered to represent 'the right' combination of competences for these specific research needs. In addition, the calls required specification of 10 PIs for each application. Hence, there was a tension between the project-like set ups of the SRAs and Chalmers' AoA concept that was based on continuous development and broad inclusion and thus openness with regard to all researchers that were able and willing to contribute. Still, after 10 years, some of this tension remains even if the content and the way the challenges are framed and interpreted have developed a lot over time.

### **Differences among the AoAs**

The AoAs are different in many ways with regard to their scopes and funding conditions. Since they are operating with very different levels of funding, as a result from the SRA funding scheme described earlier, the extent to which they can provide e.g., seed and postdoc funding varies a lot. Hence, despite following the same guidelines including goals and missions their possibilities to stimulate various activities differ extensively. For the ICT AoA, this has to some extent been mitigated by having access to other kinds of extensive funding, for instance through the WASP programme and the CHAIR centre, although these streams of funding are subject to other conditions than the SRA funding. In addition,

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<sup>24</sup> The scientific performance may have been stimulated by publication strategy discussions that have been organized both within AoAs as well as within departments.

<sup>25</sup> Chalmers' Annual Report 2009.

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increasing collaboration between the AoAs has to some extent mitigated the uneven funding distribution. For instance, the Transport AoA has used some of its SRA funding together with the ICT AoA to support recruitments of postdocs in areas such as autonomous driving. Another example is the Energy AoA supporting various activities in the Build environment area, and the Materials AoA addressing health applications in collaboration with the Life Science AoA, and later, the Health Engineering AoA.

Apart from differences in funding conditions, the AoAs also differ in terms of how many departments, researchers and partners they involve as well as their emphasis on what mechanisms they rely on the most. Some of the AoAs, especially Energy, Transport and Health Engineering, attract faculty from almost all departments while the rest focus on fewer.

The differences among the AoAs have also related to the societal and industrial challenges they focus on, and how those are reflected in their external activities. For instance, the Energy AoA has engaged a lot in policy debates both regarding specific issues such as the sustainability of different kinds of fuels and carbon capture and storage (CCS), as well as regarding the transformation of the energy system as a whole. Similarly, the Transport and Production AoAs have engaged in policy debates on sustainable transformation of the transport system and of manufacturing systems respectively.

When it comes to outreach activities, the Energy AoA has, for instance, developed e-books to be used in schools and other activities. The Materials AoA has engaged in outreach activities with particular focus on inviting school children to inspire further studies in natural science. The Materials AoA has also developed Sports and technology as a broad theme with ramifications both regarding outreach activities and education. As one of the results of this initiative, Chalmers together with the University of Gothenburg became approved as a National sports university in 2015. The ICT AoA has initiated both DigiLab<sup>26</sup>, to make children interested in programming, and Camp Vera<sup>27</sup>, to increase the number of female students in ICT related educational programmes.

### **Some reflections on organising**

Drawing broadly on the three principal governance modes; hierarchies, markets and networks (see e.g. Powell, 1990), academic activity is subject to all. In general, the Swedish research system is mostly governed by market principles wherein a wide range of public funding agencies and private research foundations provide funding to what they perceive as the most promising and relevant research projects. Typically, peer reviews ensure the quality of these processes of funding allocation.

Projects as a, or *the*, way of organising research activity is interesting and seldom subject to debate. Considering that projects are, by definition, limited in time and scope, this approach relies on the fact that projects are (or should be) independent of their contexts. Consequently, the strong emphasis on having diverse research project applications competing for funding as the dominating logic of resource allocation makes it difficult to invest in a systematic way in a context

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<sup>26</sup> DigiLab on Youtube: <https://www.youtube.com/watch?v=C1NNntfHFAk> (in Swedish)

<sup>27</sup> <https://www.chalmers.se/sv/utbildning/mot-chalmers/camp-vera/Sidor/default.aspx> (In Swedish)

characterised by collaborative networks. Contrasting the notion of projects as independent, Engwall (2003) describes how and why projects need to be considered as embedded in time as well as in their organisational contexts. In view of this problem, the AoAs function as a 'glue' by linking or embedding otherwise separate projects. By offering network context(s), inspiration to, and formation of, new project ideas is facilitated. Also, the impact and dissemination of project outcomes can be enhanced in these loosely organised settings. Another problem with market-based project funding as the main resource allocation principle is that this requires deductive research approaches permitting little room for experimentation and flexibility. In view of this problem, the AoAs contribute by providing leeway to experimentation and to new constellations of researchers through seed funding of new, and often riskier, ideas.

The critical role of network management in the innovation policy mix has been highlighted in a recent paper by Söderholm et al. (2019). The authors argue that actor networks, including how different actors collaborate, must be increasingly addressed. Furthermore, they identify a number of negative consequences of ignoring network management strategies as instruments in the innovation policy mix including inefficient actor role-taking, the emergence of small, ineffective and competing actor networks in similar technological fields, and a shortage of interpretative knowledge. Lately, some of Chalmers' most important funding agencies such as Vinnova and the Swedish Energy Agency have put more emphasis on broad collaborative research programmes fostering networks of actors (sometimes referred to as clusters or eco systems) e.g., through so called Strategic Innovation Programmes<sup>28</sup>. These programmes, however, most often put little focus on university-based research in favour of involving industrial and societal actors. That is, for academic researchers to engage in these programmes, other sources of funding must be available. Some of the AoAs have taken on this role when other funding has been lacking and the programmes have been considered of importance for the AoA.

Generally, academic networks are formed and developed by researchers throughout their careers as a result from shared interests. Most academics would probably argue that these networks are the most important when it comes to their research performance. While such international academic networks are predominantly oriented towards intra-disciplinary collaboration, the AoAs' focus is set on stimulating inter-disciplinary collaboration and development as well as on facilitating external networking. The effects of these efforts are not easy to capture for several reasons. First, networks are open-ended systems extending the boundaries of research groups, departments, universities and countries. Second, the relations between causes and effects are difficult to capture as many different factors influence the outcomes, and the time lag between various efforts and their effects vary. Third, not only formal and measurable relationships such as the ones resulting in co-authorship and joint projects play a role in these networks, but also the many 'weak ties' that are enabled (Granovetter, 1973 and 1983). By bridging clusters of stronger ties, or relationships, the weaker ties contribute by providing

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<sup>28</sup> <https://www.vinnova.se/en/m/strategic-innovation-programmes/>

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access to a much greater variety of actors and resources. These features thus create a richer and more dynamic research context.

Over the years, the network form of organising has emerged as the key feature of the AoAs. By facilitating relationships and networks within, as well as across, the university's boundary, the values of various resources, including the AoAs themselves, have increased. Continued value creation arguably depends on how well the AoAs manage to build further on these relationships while simultaneously focusing on renewal. This, in turn, relies on the interplay with the other organising dimensions that individual researchers are subject to; the line organisation and the educational organisation as well as on the external research funding market. How to create the right balance between these governance principles is not easy to tell neither at the national level nor at the level of the university. However, while proponents of a stronger academic hierarchy tend to criticise network governance for fostering complexity, it can be argued that such governance is a necessary means to cope with an increasingly complex environment.

### **Epilogue**

In Sweden, the low share of basic research funding in combination with abundant external research funding, often requiring co-funding from the universities, continues to be a problem for university management<sup>29</sup>. The more successful the researchers, the more difficult it is for the universities to cope with the costs resulting from their success. The combination of increasing external funding opportunities and successful researchers has resulted in continuous growth of the universities - making the poor balance an even larger problem. After a long period of growth, Chalmers has since 2017 tried to tackle the challenge by limiting the size of the faculty. This, in turn, has entailed university-wide discussions regarding priorities. To what extent, and how, the AoAs will be involved in prioritising is currently unclear. Strengthening the AoAs profiling role, however, risks increasing the level of conflict with the line organisation and may also compromise the current SRA scheme and thus continued SRA funding.

Collaboration involving academic, industrial and societal actors has become more emphasised by the government over time. Consequently, new forms of collaborative research carried out in broad constellations with challenge driven agendas and a focus on innovation such as the Strategic Innovation Programmes have emerged. At the EU level, the framework programme Horizon Europe, and in particular its second pillar with a focus on Global Challenges and European Industrial Competitiveness (Mazzucato, 2018), fit well with the networking and supporting roles of the AoAs. In contrast to the situation in 2010, there are now many collaborative platforms available with different focus including their emphasis on either academic research (e.g. university-based research centres) or industry research (e.g. science parks). How to select what platforms to use for different activities, and how to connect them, has become a challenge. Hence, the need for network governance at all levels of the system seems to be increasing.

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<sup>29</sup> The last research bill (2020) suggests further increases of the share of research funding allocated through the funding agencies.

Current Swedish research policy is causing uncertainty in a more specific way in view of the AoAs. The last two research bills, presented in 2016 and 2020, have only briefly mentioned the SRAs. In 2016, it was stated that the SRAs should be evaluated (again) in 5 years. In 2020, nothing specifically was mentioned about such an evaluation but instead the ministry presented an ambition to launch a new funding scheme focusing on so called research profiles. The idea is similar to the Finnish PROFI funding<sup>30</sup>, but with much less funding involved.

How much funding that is needed to stimulate and coordinate academic research to cope with a context that is increasingly featured by challenges spanning disciplinary and organisational boundaries is not easy to tell. However, it can be argued that it is the mix of, and the links between, funding components rather than the total amount of research funding that is the most vital aspect since this mix sets the terms for the dynamics, or lack thereof, in and of the system. Currently, these system aspects of research funding and governance are seldom discussed, and thus the market-based competition between projects continues to dominate the state of play.

Chalmers Areas of Advance: <https://www.chalmers.se/en/areas-of-advance/Pages/About.aspx>

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<sup>30</sup> The Finnish university profiling: <https://www.aka.fi/en/research-funding/programmes-and-other-funding-schemes/university-profiling/>

## **Author Biography**



**Anna Dubois** is professor of Industrial Marketing and Purchasing at the department of Technology Management and Economics, Chalmers University of Technology. Her research interests reside in inter-organisational collaboration and qualitative research methods. Her articles have appeared in *Journal of Business Research*, *Industrial Marketing Management*, *Journal of Purchasing and Supply Management*, and others.

# 8

## The University-Industry Relationship in Brazil

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From applied research to ready-to-use solution, spin-off business and knowledge royalties

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### Introduction

There is a well-recognized gap in the policies to promote scientific and technological development in Brazil: the lack of mechanisms that allow and assist the process of establishing new technology businesses, especially those coming from scientific undertakings, which, in principle, generate specialized knowledge and, therefore, an opportunity for sustained competitive differential. This is corroborated by the indices of scientific production that the country presents in contrast to those related to innovation, that is, the transformation of scientific results into competitive advantage.

The R&D Programme of the National Agency for Electrical Energy (ANEEL – *Agência Nacional de Energia Elétrica*) in Brazil attempts to build a bridge upon the abyss between academia and the industry sector, by emphasizing not only the final product itself, derived from scientific contributions, but also its commercialization within agents and suppliers. The funding comes from consumers when they pay their invoices to power utility companies, which in turn must establish partnerships in order to carry out R&D projects. This represents a real opportunity to establish and consolidate a fruitful line of knowledge production and its application to real world problems, especially in a country characterized by the dichotomy of behaviour between academia and industry, which in most cases are not used to cooperating with each other. Usually, the industry demands off-the-shelf solutions for their immediate problems and academia expects to interact, research and develop solutions, which are not necessarily ready in the short term. The solution for those divergent interests is long term planning. Brazilian success cases have always been based on long-term planning (Garcia, Rapini and Cario, 2018).

The case study presented here is based on the results obtained in R&D projects developed during the past few years, within a partnership between an energy utility company, a research institute with experience in the development of R&D projects focused on energy (Lactec) and a public university (UFPR - Universidade Federal



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do Paraná), which consolidated a methodology for training critical activities based on virtual reality technology, gamification techniques and learning theories. The complexity of the method is well characterized by the union of an area of computer science, virtual reality, which seeks to synthesize and simulate the real world in a realistic way, the area of gamification, which seeks to explore the use of game mechanics in applications that are not games, and the area of psychology, with studies on how the human mind learns and the models that seek to adequately represent learning. The final product is not a straightforward virtual environment, but rather a solution focused on training of critical activities in the context of live line power systems maintenance (performed without turning off the power and therefore a very dangerous activity).

The three actors involved in this endeavour, namely, the university, the research institution, and the company, have had a strong relationship since the 1950s, when the company was founded. When speaking about the origin of the company, some people say that it was born in the university. In fact, the engineers who started and led the company for a long time were nearly all lecturers and researchers at the university. After the company was able to run on its own, its relationship with the university continued to grow. A few special departments were created within the company whose headquarters were inside the university campus. These departments used to interact a lot with researchers from the university. The limits between the two bodies were somewhat fuzzy. Some people were employees of the company, working within those in-campus departments, and simultaneously part-time lecturers at the university.

When the new regulation of the power sector, from the 1990s, required that the company got rid of its functional units which didn't directly contribute to its core business, those departments located inside the university campus gave origin to the research institution which is, in this work, the third partner. Thus, the partnership established over all these years is quite solid, providing the opportunity to develop very robust technological research projects.

The endeavour reported in this work is one of many projects developed within the natural partnership that exists between the three actors. However, it attempts to surpass the limits of what is considered research by bringing its results to society, creating a new business aimed at exploring a sustained innovative product, based on specialized knowledge and research works developed over many years.

During the development of the first projects, researchers, and professionals from the three partner institutions were able to establish a creative working environment, which included diverse interaction mechanisms, diminishing the cognitive differences, and promoting knowledge interchange. Monthly workshops lasting three to four hours, outside the office, allowed for effectively investing exclusive time to the projects. The result of such interaction mechanisms can be clearly seen in the empathy and cohesion by the whole team and research groups focused on the specific themes addressed in the project. In the end, all participants of the projects were able to testify about the significant learning they had.

The current phase of this endeavour is the development of a ready-to-use product, from the prototype developed in the previous phase, which will eventually lead to the production line and, consequently, the results will be put into practice.

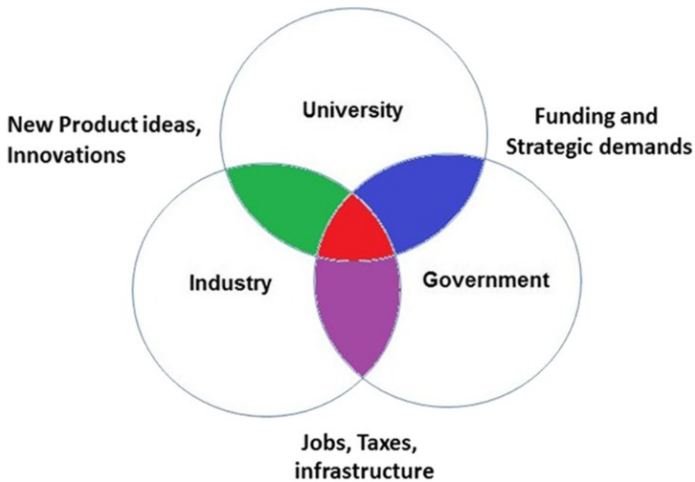
Based on the state of the art of the scientific literature and experiments performed during the development of the R&D projects, a second and equally important step is the creation of a technology-based “spin-off business”. That enables to explore solutions within the energy sector, making use of the specialized knowledge framework to develop new related solutions. In addition, it generates royalties from knowledge and technological evolution that provide benefits to Brazilian society.

### **The R&D programme**

The Brazilian scientific production accounted, in the year 2000, for 1.2% of the world total. In 2018, this Brazilian production increased to 2.6% of the world total (IPEA, 2020). Despite this rise in the scientific production, the innovation indices are quite timid. This is in part due to economic risks directly related to innovation, aggravated by political, macroeconomic and social uncertainties (Cornell University, 2020). According to the 2020 issue of a report entitled “Global Innovation Index”, Brazil occupies the 62<sup>nd</sup> place among 131 countries which take part in the annual ranking. Broadly speaking, the weak connection between scientific production and innovation in the country is explained by the intrinsic characteristic of its national innovation system (NSI), which has several incipient connections and articulations. The country has had scientific and technological policy throughout the years after the second World War and built its scientific institutions but, still, the connections inside the NSI are fragile (Albuquerque, 1996; Suzigan & Albuquerque, 2008).

One of the alleged villains of this story is the lack of interaction between different actors. In circumstances such as this, the state has a special role, which is, to establish suitable mechanisms to promote the creation of a strong background in which all parts of the chain are assigned an important task, without which the others cannot reach the goals. The scientific knowledge must be created and acquired, then it must penetrate the other spheres of the society and put in practice by innovation aware industrial partners. This is a kind of public policy based on the so-called Triple Helix approach. Etzkowitz (2008) emphasizes that each one, government, industry and university are helix blades that, by means of public policy management and incentives, can and should interact in the production of knowledge, technologies and solutions. Over time, this interaction is strengthened, since agents strengthen their personal relationships and increase self-dependence on shared knowledge. In other words, the helix rotates in such a way that each of them becomes indistinguishable, creating hybrid institutions and policies (Figure 1).

Incentive policies in the country are sometimes applied within a specific field by its regulation body. Such is the case of the power system, whose regulation body, ANEEL, established an R&D programme which determined that all agents should direct a percentage of their revenue to projects mostly in partnership with academia. One of its requisites is that any initiative should produce, at least at some point, a scientific contribution. This programme is responsible for most scientific contributions in the electric power sector in the country and more recently to the generation of innovative results.



**Figure 1.** Triple Helix Scheme [Source: *Etzkowitz, 2008*].

This is an instrument of public policy that universities and, in general, the scientific community must be not only attentive to but also willing to nimbly adapt their structures so that they can seize the opportunity which lies before them, in terms of funding, research productivity, value creation and producing benefits to society. The more agile the institution, the greater the share of opportunities it will take advantage of.

The R&D programme is very rigorous, which makes the process of writing and getting it approved very complex. In order to get an R&D project approved in the programme, quite a lot of prior research must be done, showing that the proposal has innovation potential.

Once the project group has been formed in partnership, the leading researchers and professionals, which represent the three actors, are assigned the responsibility of conceiving the details of the project, making sure that it will produce significant scientific results and products that can be put in practice. This leadership are also responsible for writing the documents which must be submitted to the evaluation body within the company. Practically speaking, the project group begins to act independently, relying on auxiliary instances that deal with formal and contractual aspects.

The strategy of the project group was to develop an experimental virtual reality system which could theoretically be applied to live line maintenance training, in an R&D project which lasted about four years: two years to write it and get it approved by the agency and two years to implement the system, based on further research and practical work.

After this experimental phase was concluded, another project had to be written, and that included all the formal aspects described before. Although the research group already existed, it needed to be redefined, so that new researchers could be included with the necessary knowledge to address the new envisaged challenges. The project of this second phase was more robust, involving new areas of knowledge, namely, gamification, education and learning theories. It lasted about

seven years: three years to write it, get it approved and deal with all the formal aspects, and four years to implement the new system. The result of the second project was what we call here “proof of concept”, a prototype virtual environment where all proposed functionalities were validated.

After the conclusion of the second project, the group wrote another project, in a more advanced phase of the innovation chain. Again, it must be emphasized here that all formal aspects had to be addressed anew as well as the group had to be redefined to include researchers in the new areas of knowledge covered by the project. The proposal was to conclude the development of the virtual environment with the modelling of all activities of the training process. In addition, the project aimed at creating a spin-off business so that the innovative product could be commercially explored in the electric power sector. The project was written in about a year, but the formalities took a little longer, perhaps another year. The proposal was to develop the two aspects of the project in four years.

In summary, the endeavour can be subdivided into three phases:

- Phase 1: development of an experimental virtual environment – four years in all;
- Phase 2: development of the “proof of concept” – seven years in all;
- Phase 3: development of the final product and creation of a spin-off business – five years in all.

### **Objective: Building value by seizing opportunities**

The background of this endeavour was the long-standing partnership that existed among the three participant institutions. The partnership has a history of research collaboration, but it hardly shows the ability to generate practical results, such as to create new innovative business. This means that the focus has always been research, without the urge to generate innovation by going all the way to the commercialization of new products.

Since the beginning, it is apparent that all lasting initiatives relied on the determination of people, who attempted to “open the way”, with the support of the top management of the university. This was also the case of the endeavour described here, whose main objective, in terms of entrepreneurship strategy, was to begin a process, among the institutions that make up the partnership, of breaking the barriers that hold back scientific innovation in the country. The endeavour was generally treated as an experiment, relying mainly on the intrinsic motivation and capabilities of the group of researchers involved and the resources provided by the incentive programme. In this respect, it can thus be said that it was a bottom-up approach, based on the freedom to create and develop solutions, coupled with the compromise of meeting all requirements of the incentive programme.

The greatest challenge in this kind of undertaking is the blend between academic and industrial work and expectations. Finding a way to bring both worlds together may break the barriers for scientific innovations that bring true value to society, and this may initiate a virtuous circle and create new opportunities for the university, fostering its scientific production, reputation and excellence.

### **Virtual reality and gamification applied to critical activities**

One of the areas within the ANEEL programme encourages the development of new safety techniques in critical areas, such as live line maintenance of power networks. At the time when the research line described here began, probably nobody in the electric power sector considered virtual reality as a useful technology in the professional context. In fact, it was not practically useful at the time. It was mainly seen as an entertainment source. Exploring the technology for future applications in critical activities was thus an innovative proposal. However, as we well know, along with innovativeness comes the risk.

The beginning of the endeavour was linked with an internal programme within the company which gave incentive for professionals to seek knowledge and qualification, which included postgraduate programmes. Taking advantage of the collaboration history between the company and the local university (UFPR), a specific partnership was established within this initiative, through which a specialization course was held within the company. Moreover, there was an effort by the computer science department to open posts in the master's programme for students who were interested in pursuing knowledge in fields of interest by the company and who met the requirements. The leader was an R&D-focused professional at the company and a part-time lecturer at a postgraduate programme run by the computer science department at UFPR, and this fact made things easier. There was another postgraduate programme at UFPR involved in the initiative, with focus in numerical methods in engineering. With the links between the university and the company established, the emphasis shifted to identifying possible applications for the knowledge and technology available. For this purpose, a group inside the company was formed with common interests and similar knowledge. The idea was to find out within the company a potential virtual reality application to be developed within the R&D programme. In this sense, the initiative was not driven by what the company needed, but rather by a knowledge-based opportunity.

After a few presentations informally scheduled in different areas of the company, showing the technological potential, there was finally convergence towards the development of a virtual live line maintenance training environment. The meetings were based on interactions, whereby the virtual reality group presented the potential of the technology, and the targeted areas presented their problems and potential applications. At that moment, the link between the company and the university was already there, but the involvement of a research institute with expertise in R&D projects was essential to overcome some difficulties, including formalities, project management issues and a better sense of deliverables. This role was naturally played by the research institute that originated from the old partnership between the company and the university. The collaboration established was consistent to the triple helix model (Figure 1), but with an additional role played by the research institute. This role could be described as an interface between academia and industry, with emphasis in the integration of human resources, research project management and agility in formal aspects.

In terms of human resources, the group was composed, therefore, of researchers working full time at the university, one researcher working part time at the university and at the same time as an R&D professional at the company, undergraduate and postgraduate students, researchers belonging to the research institute and professionals of the company, as well as other assistants belonging to the three partner institutions. This way, there were experts covering complementary aspects of contributions to the R&D projects:

1. Full-time researchers, responsible for supervising postgraduate students and for conducting scientific activities (which is essential for the success of an R&D project due to the requirements of the programme),
2. Researchers accustomed to developing projects with deliverables, belonging to the research institute,
3. Postgraduate students, who were responsible for concentrating on specific scientific problems, and
4. Professionals working at the company, who were experts in the application.

When Phase 1 started, there was rarely any other research group attempting to apply virtual reality to any context of the electric power sector. Developing something useful using virtual reality was therefore a huge challenge per se. The development frameworks were not fully established at the time, and that meant huge efforts in order to achieve significant results in terms of a functional and operational computer program. At the end of Phase 1, the equipment and the computer system generated in the project were not used in practice.

In Phase 2, the rigour of the R&D programme within which the project was proposed ended up providing an opportunity to make the project more robust, seeking theoretical foundation, the scientific contributions that could characterize it as R&D and, above all, interdisciplinarity, in search for innovation based on the combination of different disciplines contributing to each other. The disciplines that came to mind were, in addition to virtual reality technology, gamification and learning theories.

This interdisciplinary approach allowed the development of a proposal which stood out from other initiatives in the electric power sector at the time. By that time, virtual reality technology had evolved and was beginning to draw attention from researchers and professionals of the power system sector. Virtual reality platforms and game development frameworks were already pretty well established. Thus, in general, all this framework and background allowed for the development of virtual reality applications which had no theoretical background on the subjects they were supposed to contribute to. For this reason, the second project (Phase 2) of this endeavour, with the interdisciplinary approach, was a few steps ahead of other proposals in the sector. It was not merely the straightforward application of virtual reality frameworks and game engines to some context, but rather the integration of the technology available with methods and techniques from other areas of knowledge, producing an effective training tool.

## **Drivers**

The key drivers of the enterprise described here were the opportunities provided by incentive programmes (in this particular case, the ANEEL R&D programme) and the intrinsic motivation of groups of researchers, composed by researchers from different areas of the university, the research institute and the company. All activities which rely on funding by the programme must be rigorously accounted for, and products must meet the specification proposed in the project, unless research results show something else. Nonetheless, results must justify the absence of a practical product, if the project fails to provide one in the end. This is something university researchers are not quite used to. Most research incentive programmes do not require elaborate results other than a complete report of the project, that is, “paperwork”. By the way, this is another reason for having the research institute as partner, since it is used to meeting those requirements.

This challenge had to be confronted with the intrinsic motivation of the researchers involved. The process looks like making a comparison between the opportunities that lay ahead with the difficulties imposed by the rules. The role of the management was to open the doors to this process. It is noteworthy mentioning that, once the scope and regulation aspects of the R&D programme as well as the relation between opportunities and requirements have been understood by all, but especially by the researchers, appropriate commitment was obtained. Despite the main goal of researchers to produce scientific results, they began to view the whole process of producing not only scientific results but also innovative products as a means to open more opportunities and to achieve better results.

## **The beginning of practical work**

At the time of the first proposal (Phase 1), the evaluation process of the R&D programme was done beforehand, that is, projects were submitted to the agency and then evaluated. The approved projects were allowed to be developed. Since the virtual reality technology was still incipient, especially in terms of development frameworks, there were mainly research studies on possible applications in fields outside entertainment. In the ex-ante evaluation, the referee did not visualize the potential of the proposal and rejected it on the basis that it was not an R&D project but rather an engineering project.

The partnership between the three institutions was already established, but, at the beginning, with fewer people. In fact, the scope of the proposal, at that time, was less comprehensive than the subsequent projects, in which the solution was finally derived. The first proposal was characterized by experimentation with a still incipient technology and, therefore, the risk of not achieving practical results was high.

The disappointing result discouraged the group in such a way that the next attempt was made only two years later. This time, with a slightly more mature proposal, the project was approved by the referees.

## **Phase 1: When technology is still incipient**

The first project (Phase 1) provided the opportunity to generate a doctoral thesis within the numerical methods in engineering programme, supervised by the coordinator (who was a part-time researcher at the university and an employer at

the company), entitled “Convergence of games and virtual reality for training of live line maintenance of power networks” (free translation) (Buriol, 2012). The investigations allowed for a better understanding of the interaction between the two subjects and the potential of application in training of critical activities. However, the practical results generated in the project, as mentioned before, were less than desired. This was largely due to the fact that there were no mature development frameworks at the time. The doctoral student had to develop several tools, and this took a lot of effort, to the point of compromising the presentation layers and the interface of the application, generating a very rudimentary prototype, despite its conceptual robustness.

Since most of the academic work was performed by the doctorate student and another scholarship holder, the main laboratory was located at the university. Researchers of the research institute also worked in their own laboratory, performing the digital modelling of electric components and developing programs based on the investigations carried out in the main laboratory. Therefore, one could say that Phase 1 was more university centred. Meetings and workshops took place, most of the times, at the university.

There was also a technology choice that proved to be wrong. After a few tests during the equipment acquisition phase, the decision on the type of display was the cave approach, where the virtual reality participant would stand in a room surrounded by displays, rather than a solution based on head mounted displays (HMD). The tests carried out led to the wrong conclusion that HMDs were uncomfortable and the resolution was too low, affecting the immersion sensation. In addition, there were not enough resources available to acquire a full cave. The cost had not been foreseen during the elaboration of the project. The decision was then to develop a solution based on two displays only.

The group failed to realize that an HMD-based solution would be the right choice in the mid to long term. This was corrected in due course.

### **If there’s no resistance, there’s no innovation**

The lack of practical results in Phase 1 generated resistance on the part of the top management of the company, in such a way that the line of work was discontinued. This highlights the difference in the objectives of academia and industry, in particular the conflicts inherent to the respective institutional mindsets. The difficulty of the industry in this context is to foresee the competitive differential it can get by investing in R&D and to perceive that results generated can be different from those envisaged at the beginning, due to the uncertainty nature of such activities. On the other hand, in academia, a failure in research is an incentive to either go ahead to a new phase or to change assumptions.

The challenge of attracting the management body of a company to an innovative initiative based on R&D is huge, mainly because of the social capital aspect. The company expects either an immediate or a short-term result for its problems. The challenge becomes even greater when the proposal is not based on the solution of an existing daily problem, but rather the exploration of a new technology aiming at acquiring a sustained competitive advantage, as it was the case of virtual reality applied to training of critical activities.



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The other problem is the lack of comprehension of the R&D development process or, so to speak, the nature of this kind of activity. Companies work according to a strict structure. Sometimes, an R&D project such as the one reported here, with an interdisciplinary nature, requires the involvement of people from different organization units. Normally, there is no room for attempting a compromise on this aspect. Resistance is commonplace when a distinct work structure is proposed. In most cases, it is useless to try to convince the top management of a particular organization unit or directory that the proposed work structure would render more significant results. The R&D team must then make its way within the restrictions intrinsically imposed by the organization structure.

Thus, the key factor for the success of Phase 2 and, therefore, of the entire endeavour was the basis laid out by the “failed” predecessor project. Despite being considered failed by the first company’s management, the first project (Phase 1) provided the basis for the next one, the necessary knowledge, the consciousness of the importance of creativeness in the development of a virtual environment for training purposes. The metaphor in this regard could be: *At instant zero, the movement already had a non-zero velocity*. This was a significant advantage as far as the development of an innovative and ready-to-use technology-based solution was concerned.

The strategy of the group was then to propose the continuation project to another company of the same economic group. This strategy meant a slight change on the subject, from live line maintenance in power distribution networks to live line maintenance in power transmission networks.

Meanwhile, the evaluation process within the R&D programme had changed. The evaluation was carried out after the actual development of the project (ex-post evaluation), so the company had to decide upon whether to accept or not a proposal before the regulatory agency determined the merit of the project in terms of R&D, which meant taking all the risk of the investment. Due to this new evaluation method, the company established another elaboration process for R&D projects. The proposals were then evaluated by an internal committee composed of professionals with experience in the academic area, holding at least a master’s degree. The necessary rigour of the process meant a longer time to get a project approved by the R&D management of the company.

In order to get the second project (Phase 2) approved by the company, the team had to officially change its structure, because the manager (the person responsible for approving the project within the company) demanded that the leader within the company’s team (the actual project manager) be a person whose activities were directly related to the application rather than a person who had knowledge on the subject. A flexible leadership was then informally created in order to accommodate the demands of the company and still prevent the work structure of getting compromised. An informal role was then created, entitled “general coordinator”, which would be responsible for the development of the project within the company, whereas the project manager would deal with the formalities and take responsibilities before the company and before the agency. It is worth mentioning that these arrangements were made in order to meet the requirements made by the

company's management based on the flexibility that academia has in terms of work structure.

For all purposes, as far as the management of the company was concerned, the responsibility for the project lay on its "official manager" (employee of the company designated as a representative before the regulatory agency in all matters concerning the project), and not the holder of the newly created role "general coordinator". This was the mechanism used by the team to establish an adapted work structure which would satisfy the company's management and still be effective in its purposes.

On the side of the research institute and the university involved in the project, the requirement was autonomy for the group to make its own decision as to what work structure would be more suitable for the development. This was guaranteed by the fact that the company's requirements were satisfied and, most of all, by not having compromised the funding of the project.

### **Circumventing organization differences**

There is a key strategic factor for the success of this undertaking, namely, the participation of a third partner, a research institute, which is a private body with the special purpose of providing services of public interest. The institution functions in close relationship with the university, and its premises lie inside one of the university's campi. Since it is private, it has the agility to act, deals well with contracts and also has a more focused management of human resources. The university, on the other hand, provides autonomy to its researchers, and that means less power to direct work or gather researchers from different departments in order to propose a specific R&D project.

In other words, universities tend to focus on the personal level of research work. They are considered a good university only if their lecturers and researchers perform well on the personal level. On the other hand, a research institute has its focus solely on developing projects, whereas a university has many other roles before society.

The task of managing the academic part of the project is naturally assigned to the research institution, because of its inherent flexibility. The focus of the university is the scientific aspect. Its researchers are constantly in alignment with what is expected in the academic realm and know how to produce publications whose academic value will serve to show to regulators that the project has academic merit and therefore can be regarded as R&D. It is important to recall here that this is a requisite to approve the investment of the company in the project. The company is very interested in this aspect. If the project is not approved by the regulation body, because of lack of scientific merit, the investment will not be considered, and the company will have to invest again. Thus, the research institution is responsible for assuring that the project will satisfy the regulation body.

This Triple Helix scheme with three parts proved to be satisfactory, and each individual project has been approved as the whole endeavour progresses in the innovation chain, eventually reaching the phase of product commercialization. Results obtained with this scheme also show that the integration of the three parts

works well and the objectives have been fully achieved. This means that the institutional differences have been dealt with appropriately.

### **Phase 2: The interaction approach**

Having in mind the difficulties inherent in knowledge transfer or, in this context, university-industry relation, this work takes into consideration the classification described by Wit-de Vries et al. (2018), namely, cognitive differences, institutional differences and social capital.

The development process established for the second project (Phase 2) was based on monthly workshops with the purpose of getting every participant closely involved with the work, to level up the knowledge between participants, despite the interdisciplinary nature, thus reducing cognitive differences. The workshops had the participation of everyone involved in the project, from company professionals to researchers from both the research institution and the university, in addition to undergraduate and postgraduate students. Often, there was also the participation of external audiences, including managers and administrative assistants. The systematic interaction was fundamental for the success of the project.

Contrary to common sense, the workshops did not rely only on the contributions of researchers. The professionals of the company played an important role, explaining in detail all the complexity involved in the training process of critical activities. They were also involved in the ideation process, where possible solutions were envisioned. An outside watcher could easily say that the group broke barriers by showing that all types of knowledge were important to generate an innovative solution.

Workshops were carried out outside the company's premises. This aspect proved to be fundamental in order to guarantee exclusive attention on the part of the professionals. They did not have to answer phones, to listen to people looking for them, to even obeying the manager's urgent demands. This was also true of researchers from the institution and from the university, since they did not have to give attention to their students and to their corresponding department managers. Another important aspect was that workshops began with a free individual or group chat (which was referred to within the group as the "warm-up session"), where people would be able to interact more closely to someone engaged in a specific activity of their interest.

Such informal sessions also proved to be fundamental for people to feel engaged, taking part and feel that they could make significant contributions. Activities of a particular workshop were defined by first making a call for contributions or presentations. This means that, in a few occasions, people did not feel there was a need for a workshop, but still the programme was maintained in order to meet the interaction principle. The second approach was to ask particular people to present their work to report on the development stage. The main characteristic was that all activities were voluntary. There was also plenty of consciousness about creative chaos. Many ideas for specific aspects of the envisaged solution were generated in this context.

It is practically impossible to measure the intangible exchange of knowledge which effectively contributed to the development of the innovative solution.

However, the conclusion drawn by the entire group was that the method of interaction was crucial for the results obtained. In particular, researchers from academia reported that the project would never reach such results if the interaction had not happened. They also reported that they actually learned a lot during the projects.

### **Circumventing mentality differences**

When talking about subjective issues, such as mentality differences, the challenge is to take all the knowledge presented in the scientific literature and handle it in such a way as to produce satisfactory results. This is especially true of an innovation-driven endeavour, such as the one presented here. This section attempts to report to the readers impressions on how the knowledge available on the issue can be translated into practical actions.

As described earlier, the strategies to overcome cognitive and institutional differences were based on the organization abstraction level focused on projects, according to the classification proposed by Alexander et al. (2020). This means that an efficient way to develop R&D projects in partnership with industry, aiming at producing innovation and ready-to-use products, is to give autonomy to the project team to establish their own method of working, as long as the integration between all participants is created and preserved during the lifetime of the project, and even beyond, since the innovation chain continues until the new product developed is inserted in the market. In addition to this autonomy, there must be consciousness and responsibility towards the requirements of the company and, especially in this case, of the regulation body.

Therefore, in order to be able to give autonomy, it is necessary to introduce to the team the concepts, methods and practices of team integration, so that cognitive differences cease to be a threat to the success of the project. These practices are not the ones commonly found in the so-called project management literature. Very little of this kind of literature is applicable to R&D projects, because they must be based on creative chaos above all, then scientific research in order to make sure the necessary knowledge is up to date, then experimentation, so that new ways of doing things can be found, and then organization methods to implement the ideas based on experiments that produced good results.

If this work scheme is adopted by the whole team and if the aim of producing something useful to society is also internalized by all participants of the endeavour, all significant cognitive differences get in the way to being resolved. The difficult part in this is to convince industry participants that development should begin, in general, with creative chaos. Of course, there will be, at some point, a formally written project as well as planning of all stages of development, but it is well known that innovative solutions are devised using creativeness-prone methods. Creative chaos is definitely not the way a company works. The way to seduce industry participants to this work scheme is to introduce to everybody what is expected along the duration of the project, explaining to each participant the logics of the scheme. Industry participants will feel more comfortable if they can visualize concrete results at each stage of the development.

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One of the greatest challenges is thus to accommodate mentality differences by evidencing the benefits which could be achieved with the compromise of accepting a new work model. The group must find its own way to achieving results, and this need must be faced as a challenge which will be greatly rewarded in case of success. The group must be given autonomy to find its own way of functioning. This has been achieved, in the endeavour reported here, on the project level, but on the institutional level it remains a constant challenge. Managers come and go, but the operational mentality remains. The group must therefore keep a constant strategic approach to convincing managers about the advantages brought by the project and the sustainable advantage it will provide to the company and to the research institutions if the work continues to be carried out.

The experience reported here shows that the most powerful drive in an innovative project aiming at achieving a practical, ready-to-use product is the motivation of the project group. In addition to finding its own way of producing the best results possible in terms of development and work structure, the group must also keep in mind that they have the challenge of convincing unbelieving minds that reside in the people who lead companies and institutions, as far as creative chaos, experimentation and unstructured methods of working are concerned, which are essential to innovation.

One of the most important actions of the research group was the willingness to not only make demonstrations of what was being developed, but also the strategy adopted of acquiring feedback from all potential users. It is important to keep in mind here that the term “research group” refers to the whole project group, which included people from the company. This aspect may have a preponderant role in the process, tackling the concept of “user co-creation” (Pieters and Jansen, 2017) by having the active participation of professionals of the company in the project and by making demonstrations and acquiring feedback from potential users.

The nature of the project, namely, the fact that it dealt with promising technology with great appeal, especially due to the gaming industry, certainly helped in this context. People enjoyed having virtual experiences in the professional environment. The lesson here is that the research group must find its way to gain appeal and convince potential users first. If this happens, the company will certainly back the products generated during the project and hopefully the advance of the work to a next phase, with the aim of enhancing the innovative product and providing sustained competitive advantage to the company.

### **Proof of concept**

The scientific-based solution was developed in the second project (Phase 2) of the endeavour and described in a paper published in 2020 (de Geus et al., 2020). The main contributions were related to the use of gamification techniques to enhance the learning process and the use of computer techniques to model an automatic feedback mechanism. These two themes were the subject of one doctorate study each. These contributions, again, are the results of the interaction between researchers (postgraduate students and their supervisors) and professionals of the application area in the company. In the workshops, researchers presented the theories and professionals of the application area presented what happens in practice, together with all the technical knowledge. This is especially important

when dealing with critical activities. Rigorous rules in the activities are there for safety reasons, since the lives of human beings are at risk. The ideas were derived during the workshops, in the discussions that followed the presentations. This emphasizes the unity of the group in the development of a project where everybody was aware of their roles and that all roles were essential for the results.

Gamification techniques were explored in several ways, with emphasis on methods of keeping the user motivated to “play” and learn, giving feedback and balancing challenge with difficulty level. Concepts like the “magic circle”, introduced by Huizinga (1949), considered the pioneer of studies on play activity, and “Player experience of need satisfaction” (PENS), introduced by Scott Rigby (2011), were also explored. The magic circle concept states that the environment of a game can be seen as a self-contained microcosm in which some rules are added or removed from the player's context, so that errors may have little or no consequence outside the magic circle. That is to say, for example, that a spatial limitation in the real world, such as the distance the player can walk, does not mean a limitation in the virtual world. The player sort of automatically adapts to the new rules inserted in a virtual world. The PENS theory, in turn, can be used to make virtual experiences more engaging by mapping three aspects that the player feels the need to have: competence, autonomy and relationship.

The conceived virtual environment includes five experience modalities, which range from the most basic one, namely, showing to the user how the activities should be performed, to the most advanced experience, based on a game-style simulation with reward mechanisms.

The automatic feedback mechanism was based on the visualization of error patterns, whose objectives were to highlight the mistakes made by the trainees as well as to show to them strategies, known to be correct, to deal with the proposed activity in the training process. Knowledge was modelled according to techniques reported in the literature on human reliability and also expert elicitation, that is, the use of tools such as task analysis and knowledge extraction from expert users when interacting with the system. The model used clustering techniques to map error patterns in order to identify prototypes of performance classes and their visualization in the form of distinct groups. This makes up what is referred to as the “trainee’s model”.

The aim of the trainee’s model is, in this particular case, to provide a means of evaluating the learning process within the virtual learning environment. The model consists of state variables which represent the interaction the user makes with the environment. The state of knowledge of a trainee corresponds to the likelihood of certain types of errors occurring during the execution of a task. In other words, the model is based on the probability of violation or negligence towards implicit semantic rules and attempts to measure learning and the efficiency of the virtual environment by considering two factors, namely, the ability of the trainee to respond to the requests of the system and the evolution of this ability.

As far as the scientific literature is concerned, the developed solution is innovative in the light of the approaches described above. It is even more so when the Brazilian electrical sector is considered. Most of the applications developed within this context are only virtual-tour-style tools. A few other applications

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attempt to address training in a more serious way but fail to provide a tool centred on the actual learning. As we all know, it is impossible to determine whether a specific learning tool is effective if there is no means to measure knowledge and its evolution. This is the main reason why the solution of the line of projects described here is based on a few multidisciplinary parameters, with a special focus on learning evaluation. Figure 2 illustrates a virtual scene of the training platform.



**Figure 2:** Illustration of the virtual environment

### **Phase 3: Advancing into the fog**

Once the solution has been developed, the challenge becomes to bring the solution to society. The first step is to further develop the prototype such that it becomes a deliverable product. The second step is to create a means to commercially exploit it, launching a spin-off company. It must be emphasized here that the product involves continuously evolving technology in a very dynamic context. It would be no use to just put the final product into the market. It would easily and rapidly become obsolete, as far as technology is concerned. Therefore, the product should be treated as a mix between a concrete product and a service. A spin-off company would allegedly account for the challenge of commercializing the product and still further developing it, so that the innovation momentum can persist.

This is precisely where the main gap resides, namely the incipient connection within the National System of Innovation mentioned before. Public incentive is normally available for the creation of new products but fails to aid in the process of consolidating it by means of commercialization. Thus, without a well-designed policy aiming at encouraging both the invention and innovation process, the difficulty for gaining sustained differentials in the technology realm will persist.

Notwithstanding this scenario, the project team made efforts to, in addition to developing the project, act before the senior management to mitigate risks related to the legal framework. The strategy to face this challenge was to not only write the third project, but also to plan how it should be implemented, anticipating at least some of the known difficulties, such as the legal ones.

Regarding the most challenging step, namely, the creation of a new business to explore the new solution, the writing of the project paved two possible paths: a) the creation of a completely new private controlled company, with the participation of the institutions, and b) the public call for the participation of a private third party, to which the product would be licensed for commercialization subject to royalties.

The second option was conceived to guarantee the success of the project, in case the first option turns out to be too difficult and the legal barriers show to be unsurpassable. For this purpose, there is an ongoing senior postdoctoral project in the postgraduate programme in public policy, undertaken by the former coordinator of the endeavour, who has left the company and joined the current project as a consultant of the research institution. It is worth mentioning that the qualification of the post-doctoral researcher in public policy is essentially technological. The research work focused on the policy aspects of the R&D programme in terms of its potential to provide a means to create a new business from innovative scientific results obtained in R&D projects. This illustrates the flexibility of the work structure that academia provides, combined with the focus on the practical results of the project.

### **Lessons**

Looking back at the nearly twenty year-endeavour (which was based on the long-lasting relationship between the partners), it is possible to derive some conclusions. First of all, results of a particular project must be validated, as well as their potential to generate benefits to the company in terms of knowledge royalties or the creation of a new business. In the case reported in this work, the results obtained were verified within the work of two doctorate students as well as by tests in the company with the professionals of the area of interest, who will potentially use the virtual environment.

Another important factor for the success of the endeavour was the long-lasting collaboration between the three institutions involved (the utility company, the research institution, and the university). The history of the bond between the three bodies clearly shows that the most important thing in building collaboration is the flexibility in work structure, as well as autonomy for researchers and professionals to create new solutions. The role of the top management is to first understand the attitude of entrepreneurs, and then to give support to research groups, providing the necessary arrangements and dealing nimbly with bureaucracy.

Incentive programmes (public policy) are very important for the success of endeavours such as the one described in this work because they provide the financial means to invest as well as the rigour to evaluate results, which tends to ensure that the projects strive to obtain the desired goals. Incentive programmes typically include expenses with participation in conferences and symposia, which are extremely attractive to researchers, as they tend to value such opportunities.

Motivation to develop something new is essential, and that comes from the group of researchers. This aspect has a bottom-up nature. But the top management stance of both academia and industry must be such that autonomy is fully granted to the group, such that they are able to pursue their objectives. An additional role for the top management is to make sure the activities are on due course. This may be achieved by periodic accounts on the evolution of the activities.

There must be an open mind, from all instances of participants, as to provide flexibility to pursue not only possible legal ways to implement the arrangement to commercially explore the new product but also the ones that maximize the benefits for all players. The reality in this context is that all instances seek their own benefit



as institutions. A new stance is needed in this regard, otherwise innovation will be consistently relegated to a secondary position.

Individual mentalities may change. The endeavour reported here clearly shows that. An interview with a professional of the company, directly involved with the subject, namely, training of live line maintenance of power transmission networks, was carried out after Phase 2 (when practical results began to be shown). He said he was against the project in the beginning, but he humbly changed his mind. He perceived that the team was looking to the future, exploring a new technology for the application of an important activity in the company and that, once succeeded, the result would be valuable. In cases such as this, the team (the whole group composed by researchers from academia and professionals of the company) must show flexibility and willingness to pursue alternative ways.

Having taken quite a long time to be developed, the endeavour reported here opened a door to the participants, showing that research can be carried out and further developed until the benefits to society are consolidated. Since then, the number of formal contracts and projects carried out in partnership grew significantly. This is the primary metrics used to evidence the growth of U-E partnership. However, metrics to measure the performance of such activities are still incipient, but they should contemplate the number of intellectual properties achieved, the number of new businesses generated, the number of students involved, the number of scientific publications directly related to the activities, the number of partners and finally the economic performance of the new businesses.

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**Dr Klaus de Geus** holds a BSc in Electrical Engineering and an MSc and PhD in Computer Science. He is now a senior postdoc in public policy at the Federal University of Paraná, Brazil. Throughout his career, he has always been involved in joint ventures between university and industry, dealing with scientific publishing, R&D project coordination and R&D programme evaluation.



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# The Glendon Tournament: Re-imagining the Student Experience

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## Introduction

The global pandemic is said to have accelerated many pre-existing trends whether across society more generally, or the university sector more specifically. Pre-pandemic, universities were already under a great deal of pressure to adapt to a changing environment. Many institutions were financially vulnerable. Technology and the data and algorithm revolution were beginning to affect universities much like it had disrupted other economic sectors. The pandemic has exacerbated these trends and others. Canadian universities have not been spared the effects of the pandemic which is estimated to have cost them up to \$3.4 billion CAD in 2020 alone (Fragasso-Marquis 2020). Laurentian University in Sudbury, Ontario, sought creditor protection under the Companies Creditors Arrangement Act after years of accumulating deficits – the first time in Canadian history that a public university resorted to such a strategy. For some institutions, especially smaller and more vulnerable ones, the challenges were and remain enormous and, in fact, pose an existential threat. Liberal arts institutions, most notably, face serious enrolment challenges; programs in the arts and humanities are particularly under stress. As well, the model for liberal arts institutions is usually dependent on community, the proximity of faculty members to students, and the provision of high-quality in-person services. In an online universe where students are free to attend any university of their choice, they tend to be attracted to larger and/or more prestigious institutions that have more resources. Differentiation, in this environment, becomes a challenge for smaller and/or less well-known universities. This chapter presents a gamification-based initiative from York University's Glendon campus – a smaller liberal arts institution in mid-town Toronto – for community building during the pandemic representing a significant shift in its approach to student co-curricular programming.

York University is Canada's third largest university with a student population of 55,000. York's main campus – the Keele campus – is in the North-western part of Toronto. Glendon campus is the original campus of the University located in a large 35 hectares urban park near the heart of the city. Glendon is a bilingual

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(French-English) liberal arts Faculty that was opened in 1966 by the Canadian Prime Minister of the time Lester B. Pearson. Glendon is home to 2,500 students that are enrolled in programs in the social sciences, arts, humanities and in select science and professional-type degrees. Glendon has a limited number of graduate programs. Glendon's approach to bilingualism is one of its distinctive features with all students required to take courses in both English and French to graduate. In recent years, Glendon has faced many of the same challenges as other similar liberal arts institutions: recruitment, enrolment, and retention; budgetary constraints; and the need for modernized and updated curriculum across programs. At Glendon, the pandemic crystalized these pressures further.

Resulting from provincial emergency measures as well as the University's approach to the management of the pandemic, Glendon campus closed in March 2020 and all operations from teaching and learning to academic advising to co-curricular activities moved online. York and Glendon successfully completed the Winter term; campuses would remain closed, however, throughout the summer and for the entirety of the 2020-2021 academic year. At Glendon, very few courses were approved for face-to-face instruction. Residences were closed – students were offered rooms at the Keele campus – as were food services. Glendon became an online institution, at least for a year, and the campus was empty. How is the student experience to be preserved when the campus is, for all intent and purposes, closed? How are students to become full members of the community without access or the opportunity to develop an attachment to campus? For new students, their sole visit to campus was often a campus recruitment tour prior to the pandemic. Returning students, for their part, were no longer campus-bound and could take courses elsewhere due to their availability online. How do you create a community when there is no physical connection among its members, and no pre-existing apparatus in its support? In response to this challenge, Glendon decided in Summer 2020 to gamify its co-curricular student programming and to create the Glendon tournament as a way for students to connect with the campus, and with each other. This chapter presents the Glendon tournament, its early success and plans for its expansion as the campus resumes normal operations.

The Glendon tournament was a pilot project co-developed in-house by staff and students and designed as an online year-long friendly competition. Students were randomly assigned to one of four teams, each led by a captain (an upper-year student). Game selection throughout the year was driven by students' suggestions and were meant to provide a range of options to players. Some games were online, while others required students to record and document off-line activities. Teams were awarded points based on their level of participation. The team with the most points was awarded the Glendon Cup. Various other prizes were handed out, and participating students were entered into a draw for a bursary. The pilot exceeded expectations. Participation varied at different times of the year, and some games were of greater interest to students than others. The tournament offers, though, a prescient example of the use of gamification to strengthen the student experience, to build community and to improve retention.

The chapter is divided into three parts. First, the development, planning and rationale of the Glendon tournament are explained. Second, the project's early results are presented. Third, the initiative is reviewed and analysed, including

lessons learned, possible model adaptation by another university and plans for future editions. The Glendon tournament is not a panacea for all Glendon's challenges. The faculty is moving forward on other initiatives for budget and curriculum reform. The tournament, however, represented a fun and creative way to build and strengthen the community.

As co-authors, we have written this chapter because the Glendon tournament represents a successful story of adaptation and flexibility from which we believe others can learn. The tournament was developed in response to the crisis provoked by the pandemic, but the shift it represents is more significant considering the deeper trends affecting the sector and the need for an institution like Glendon to think anew the student experience to demarcate itself from its competitors. Ian Roberge served as Interim Principal at the time; Glendon's Principal is the equivalent of a Faculty Dean with increased responsibility for the management of campus. Éric Mézin is the Executive Director of Student Services, responsible for the Division of Students including recruitment and retention, academic advising, and student life including co-curricular programming. In telling this story, we use, as appropriate, "we" or selectively refer to ourselves by name since we are actors in this story and were instrumental in the development of the initiative. We also do so for ease of storytelling and clarity.

### **Planning and development of the Glendon tournament**

Through March and April 2020, Canadian universities were in full crisis management mode resulting from the various shutdowns due to Covid-19. The priority was to complete the Winter term which only had a few weeks left plus examinations, and to figure out a way to proceed to the Spring term. Moving into Spring, and as it became evident that the pandemic would create disruptions for a prolonged period, universities started to turn their attention to planning for the Fall. Final decisions regarding the Fall needed to be made as early as possible to provide certainty for all community members, faculty members, students, and staff. By May, York and Glendon had established that much of the Fall term would be online with only a handful of face-to-face instruction. As it turned out, the Glendon campus would remain almost entirely closed for the 2020-2021 academic year. The prolonged closure of campus coupled with the need to move all academic programming and non-academic services online raised grave concern about the student experience and how best to meet students' diverse needs remotely. The idea for the Glendon tournament emerged as a response to worries about the student experience.

#### **Early planning**

The idea of gamification to enhance the student experience first emerged in a management meeting in May 2020; the management meeting brings together all of Glendon's senior administrative leaders. This particular meeting was structured as a brainstorming exercise to identify priorities in planning for the Fall. Éric first came up with the idea, which had not been previously discussed. Ian found the idea compelling, though it needs to be noted that support across the room was prudent if only because of the size of such a project while there was already so much work to

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do to be ready for the Fall term. Éric was given the mandate to more fully define the project. He did so and by early June the decision had been taken to proceed.

Sources of inspiration for the Glendon tournament ranged from academic articles (ex. Lister 2015), talks from subject matter experts as well as interviews with colleagues from one of Toronto's school boards. The gamification trend is now well-established, and its potential generally recognized. "In education, gamification is based on systems of rules, experiences, narratives and cultural roles to build an environment similar to the universe of games and conducive to the development of certain skills. Therefore, it can be understood as a tool with potential for motivation and student engagement, as well as active learning" (Fonseca Pereira dos Santos & Cruz 2019: 131). An example of gamification to foster student engagement and a sense of community that struck Éric as particularly relevant came from the Toronto-based francophone Catholic schoolboard, *Conseil scolaire MonAvenir*. Fostering a strong sense of identity among its students is particularly critical for a community defined by living in a linguistic minority context, strong religious values, and large geographical distances between schools of the same board. To achieve this objective, for the past seventeen years, the schoolboard held a weekend in May where hundreds of students from its thirteen high schools came together for a celebration and to compete in various games. In March 2020, however, the early evolution of the pandemic made it obvious that there would be no in-person gathering. With only three to four weeks to pivot, the schoolboard under the guidance of Joanne Johnson, *Directrice de la construction identitaire*, designed and implemented a virtual version of the event, relying on the creativity and ingenuity of a small team, with no other resources than those provided by the Web. The board's experience, the successes as well as the lessons learned, helped inform the elaboration of the Glendon tournament.

Beyond the background research, there were three key components to the early planning of this project. Glendon's senior leadership strongly supported the project after it gave its approval. As Interim Principal, Ian made it clear that this project was a priority and that it needed to be ready to launch in the Fall. Ian partially transferred a staff member from the Principal's Office, who due to her role was not as occupied in the Summer, to Éric's team to work almost full-time on the initiative. Without the work of this individual, the tournament would not have launched in September.

Second, Éric consulted extensively both formally and informally with students, faculty members and staff through most of June. The concept of gamification was explained and tested through two focus groups each comprising up to ten students. Results of focus groups showed that students understood the principle of gamification and that they were interested and intrigued. Results demonstrated that their primary interest, though, was in connecting with each other. Competing and winning was, in fact, judged to be of lesser importance. They were interested in playing to engage with other students; we created a word cloud from the consultation and the one word that jumped out was "engaging". As one student put it, "Overall, I think that finding a way to connect students during this time is such a great concept. Especially for incoming first years." Students did raise some concerns, especially around inclusivity. We responded to this concern by

facilitating participation and by limiting barriers to entry, and by ensuring a welcoming environment for all.

Third, Éric created a project committee that included many of our student leaders including the President and the Secretary of the Student Union. From the onset, this project was co-developed with and by students. They would not only be consulted but would also work on and participate in the development and planning of the tournament.

We should note that there was also resistance by select staff members. The resistance was twofold. First, Éric's division had gone through a strategic planning exercise just a few months before the pandemic and the gamification project was obviously not a part of it. How did the tournament fit within the overall strategy? This was a fair question, though, in the middle of a crisis it was important to be creative and flexible. The strategic plan remained, but adjustments could be made to reflect a very different reality. The tournament could be thought of as something that would become a pillar of the overall effort to further enhance the student experience, a core priority of the strategic plan. The second concern raised was that this could not be done right, and on time, and that it required the diversion of too many resources away from other priorities. This was, again, a legitimate concern. The final product had to have a professional feel and be of a high-quality. At the same time, this was a pilot, and the tournament would grow and evolve along the way. Also, by freeing up a staff member from outside the team, and working cooperatively with students, there were just enough resources to advance this project without impeding on some of the other activities of the division. By the end of June, the project was well under way, but there was barely more than two months to launch, and the timeline was extremely tight.

### **Tournament development**

The Glendon tournament was developed in July and August when many important decisions were made that would ensure the project's success.

York and Glendon use Moodle as their learning management tool. It was determined that the tournament would be embedded into Moodle. This was an application that all students had access to, and with which they all had a great deal of familiarity. Moodle offered ease of access since all students would have to use it for their courses; they would all automatically be exposed to the tournament. At the same time, because Moodle is open-sourced, Glendon could structure the landing page and the site in any way needed. Of course, Moodle is also free, so no cost was to be incurred. The use of Moodle contained some drawbacks. Most importantly, Moodle sites are not always visually appealing, and the navigation is not optimal. We believed that the opportunity to build the platform specifically to meet the needs of the tournament far outweighed any of the drawbacks.

The second set of decisions that needed to be made regarded the tournament itself. How would the tournament be structured? How many teams? How were members to be selected? What were the Teams to be named? What were the games? How would points be counted? How would winners be decided? What were the prizes? Students became invaluable in determining the parameters of the tournament. There would be four teams each with a captain, volunteer senior



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students that would also serve as tournament champions for other students. Students would automatically be assigned to their teams. Since Glendon is in a large urban park, teams were named after plants found on campus: Rosa, Betula, Acer, Picea. Though the names of teams were pre-determined, we decided that one of the first games would give students the chance to design their own logo so that they could truly own their teams. Games would be up for about two weeks before new games would be introduced. The tournament was designed to grow in scope and sophistication over time. The first set of games would be selected based on their “fun appeal” to students (i.e., Mario Kart; virtual treasure hunt; soccer keep-up; basketball; cut-the rope; Tik Tok dance; etc.). Progressively, new games would entail opportunities to demonstrate skills from the curriculum and give faculty an opportunity to be involved in the design and evaluation of new games (i.e., poetry; music; dance; spoken words; etc.). Eventually, at a more mature level, games would be based on some of the Glendon values (i.e., environment; social justice issues; etc.). We wanted a diversity of games to attract students with different interests. This would be a friendly competition and participation would be valued above winning and losing. The tournament Cup – the ultimate prize – would be given to the team with the most points, understanding that participation was as important as game scoring in earning team points. There would be smaller prizes such as gift cards for students who won tournament games. Finally, active participants would be entered into a draw for one of four academic bursaries, one per team. While not all decisions made were prescient, there was enough flexibility within the plan to allow for adjustments and to make changes along the way.

Beyond planning was the execution. The work needed to get done, and fast. The Moodle site needed to be mounted. We produced in-house a virtual tour of campus; we had promotional material, but we wanted something specific to the tournament that would get new students, especially, to learn about the campus and that could be integrated into a game. The final product allowed students to “walk” in the hallways and if they knocked on staff doors, they would see pictures of staff members, which services they provided and how to get in contact. We wanted our frontline workers to be visible to our students, even though they worked from home. As Glendon prides itself on its personalized experience, it was important for students who contacted campus offices to know who they were writing or speaking to, and to be aware of services offered. It is worth noting as well that as a bilingual institution, the tournament needed to be fully bilingual and that all material, whether the site or any promotional material needed to be in English and French. The games themselves were not necessarily bilingual since in many cases pre-existing games online for which a French version was not available were used, but we made substantive efforts for the tournament to reflect our linguistic duality.

Scrambling up to the last minute, the captains were confirmed and the first few sessions and games organized. Finally, in September as the term got underway, the tournament was ready to go.

### **The launch**

The academic year in Canada starts in the first week of September. The tournament launched on September 16 after the flurry of activities that characterize a new academic year, including orientation week (which this past year was virtual), and

once students had settled in. The intent in waiting to launch was to avoid drowning the tournament in the sea of all that was new for students this past year due to the pandemic and the move to widespread online learning, and to have time to generate as much publicity as was possible for the competition.

Approaching the launch, Glendon's communications team developed a marketing plan for the tournament. The primary objective of the plan was to raise awareness with students and across the whole of the community to encourage participation. The plan relied heavily on Glendon's institutional social media channels where the tournament was hyped throughout the whole of the year, and not just pre-launch. We also developed a tournament logo to provide instant visibility. The plan relied heavily on students for them to become the primary distributor of information for the tournament. Glendon's communications team is small, and they had very limited resources at their disposal to develop a campaign. We needed to create excitement, to get students to pick up on the tournament and for them to relay the information to their friends. Captains would play a key role in generating new content. We also wanted to inform faculty members about the project and get them to encourage their students to participate. The tournament was profiled on YFile – the University's daily newsletter that is distributed to all faculty members and staff across both campuses. Éric also presented the project at the meeting of chairs of academic department for them to, in turn, inform their faculty colleagues of the initiative. Via Instagram and our other social media accounts, we sought to create a buzz culminating with the launch.

The tournament was finally under way, and the anxiety was at its highest. Would students participate? From a financial perspective, we had made minimal investments since the work had been done in-house with mostly pre-existing resources. Nonetheless, we had poured in time and effort throughout the summer when such things in the middle of the pandemic were at a premium. We needed this to succeed.

### **Game on**

The Glendon tournament was a product of necessity and adaptation in a period of unprecedented crisis. As such, we did not approach its design and implementation emphasizing targets, as we normally would have for a project of this kind. Rather, we focused on broader strategic objectives such as access, inclusion, connection, engagement in the short term, and student retention in the longer term. We would measure various indicators throughout the year, but what we were most interested in was the extent to which students would buy into the initiative.

We felt it important, nonetheless, to set some basic expectations regarding participation. From where we stood, the tournament was a novel idea, and we did not know of another institution that we could contact that could provide a reference point. At the same time, we thought it difficult to predict student behaviour during the pandemic, and in an environment that was entirely online. Student surveys at York are conducted by the Office of Institutional Planning and Analysis (OIPA); they indicated that for ad hoc surveys, depending on a host of factors, participation rate ranged anywhere from 3% to 20%. Glendon Student Affairs, for its part, counts the number of participants to the activities it organizes, however, these are usually one-time events where participation varies and which we felt did not

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provide a solid basis on which to estimate involvement for what would be a continuing year-long series of activities. We, thus, determined that it was better to come up with our own base measure for success.

We elaborated two simple targets to broadly gauge the reach of the tournament. First, we wanted to calculate the engagement ratio: the number of students that would accept the rules – which was mandatory to be able to play – out of the total number of potential participants. Tournament rules needed to be approved to ensure a safe and inclusive competition. Though the initiative sought to reach all Glendon students, it was particularly important to engage first year students to get them to connect to Glendon. Therefore, first year students were automatically enrolled. Glendon's first year cohort in September 2020 had 280 students. With the participation of upper-year students who were encouraged to enrol, we ended up with 356 potential participants. Upper-year students had to manually enrol in Moodle to be assigned to a team, after which in a second step they had to agree to the tournament rules to be able to play. We established a target of 20% per term. Put differently, we expected that about 70 students per term out of 356 would accept the rules of the tournament and make themselves eligible to play.

The second target is the participation ratio. The ratio is a simple calculation of the expected number of total submissions for all games out of the total number of participants who accepted the rules. The participation ratio as a measure was not perfect. We knew that some students would participate in more than one game, others would participate in a single event, while some would accept the rules but not participate at all. Admittedly, a few students could participate actively bringing up the total number of submissions skewing the results and, in practice, hide low levels of engagement. Nonetheless, the ratio would provide a snapshot regarding overall tournament activity. The target for the participation ratio was set at 25% (18 total submissions for all participants across all games) per term. We expected, therefore, that the equivalent of one in four students accepting the rules would make at least one submission for one of the games during the term. We settled on a slightly higher number for the participation ratio than the engagement ratio on the assumption that if a student accepted the rules, they were likely sufficiently interested to participate in at least one game.

Three further rapid clarifications are required before proceeding to results. First, we would measure participation for each session and game, but no target was established for each knowing that numbers could vary widely due to interest in specific activities and the time of year (lower participation as end of term and end of year examinations neared was expected). Second, the targets were soft. Again, it is important to remember that this was a pilot project and that we were testing the idea. Finally, the engagement and participation ratios provided basic numbers to reference success, but it was not sufficient. We would also collect testimonials to showcase impact.

The tournament, thus, was launched with a total of 356 enrolled students, either automatically as first year student (79% of participants) or by choice for upper-year students (21% of participants).

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<b>Teams</b>	<b>Rosa</b>	<b>Betula</b>	<b>Acer</b>	<b>Picea</b>	<b>Total</b>
# Students registered	89	90	88	89	356

As noted above, students were invited to check a box to confirm that they had read and accepted the tournament rules giving a first glimpse of the number of students committed enough to confirm their intention to participate. The data demonstrates that the target for the engagement ratio was surpassed. There were 94 students that accepted the rules in the first term; 99 students accepted in the Winter term. The interest in the tournament, as such, remained constant both terms. Of interest, the data showed an almost perfect balance between French and English-speaking students.

<b>Student engagement rate</b>	<b>First semester</b>	<b>Second semester</b>
# Accepts	94	99
Accepts / Total enrolled (356)	26%	28%

The second measurement was the participation ratio. We organized a total of 8 sessions for a total of 32 games (typically 3 to 4 games per session). The table below shows an 84% participation ratio for the first semester and 47% for the next semester. Based on the limited data available, the difference between the two semesters can be partially explained by the momentum and curiosity generated with the initial launch, and a combination of student fatigue and year-end exams as the academic year progressed. Even so, the average ratio amounted to 65% for the year. We considered results to be satisfactory.

<b>Active players' engagement indicator</b>	<b>Semester 1</b>	<b>Semester 2</b>	<b>Total pilot</b>
# Sessions	5	3	8
# Games played	22	10	32
# Total Submissions	79	47	126
# Accepts the rules	94	99	193
Ratio accepts the rules/Total submissions	<b>84%</b>	<b>47%</b>	<b>65%</b>

At a minimum, these numbers demonstrate that students were interested in the initiative even though their attention was not fully captured or kept at all times.

Social media data, finally, provided an additional indicator of student engagement. Towards the end of the first semester, the four team captains created and ran their own Glendon tournament Instagram account – separate from the institutional accounts referenced earlier – to promote each new session, invite students to vote for the best submission and send reminders about submission deadlines. This was a new step towards a “by and for” students’ initiative; it was also another way to capture the degree of interest for the tournament. At the end of the year, Instagram analytics showed 22 posts for a total of 660 likes and 275 comments and 198 followers. Of note, there were slightly more followers than students who accepted the rules suggesting again a solid level of interest on which to build going forward. These numbers do not indicate that the tournament went

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viral, yet their monthly breakdown show that there was a constant level of attention being paid by students to the competition.

The testimonials demonstrate that the tournament had a very positive impact for students that engaged. We obtained permission from students to use their testimonials in this chapter. While much feedback came in April at the end of the year, we received positive comments throughout the tournament. As early as October, captains were receiving positive messages from team members. For instance, one student wrote to their captain, "... this tournament has been such a great opportunity to have fun while still feeling like you're accomplishing something. Thanks for all your (and the other coordinators) efforts and creativity!"

By the end of the year, we were receiving feedback such as the quote below. This student received gift cards from the bookstore for winning some of the games, referred to as "money" in the testimonial.

*I absolutely loved participating in the Glendon tournament this year and hope it continues throughout the following years at Glendon. It is a great way to involve and motivate students. The games were lots of fun, and I was lucky enough to win a few of them! That money really helped pay for my textbooks, which was amazing, especially during this difficult time with Covid. I also loved the variety of the games, for more artistic individuals in some cases and then video games for other people's interests. I do think the idea of having a variety of different types of gift cards would be good and invite more people to participate. Thank you!*

Another student wrote,

*Overall, I think it's a great project that will only improve as time goes by. I loved participating and really appreciated how this initiative helped me feel closer to the community. With that being said, I see minor details that could improve the project and students' experiences. I am keen to apply to the next session (possibly) as a Team Captain. ... In any case, I will definitely be enrolling to participate and encouraging others to do the same.*

This student provided a detailed list of possible adjustments to further improve the tournament.

The comment below is from one of the team captains,

*Being a Team Captain for the Glendon Tournament, this year has honestly been one of the highlights of this academic year. It has been a very tough year and having this Tournament as a way to engage with students and come together to have some fun in the midst of a very dark global situation has been extremely enlightening. Being a Team Captain has allowed me to open up to new experiences in a virtual environment, and to learn how to make the most out of a difficult situation. Watching the engagement of the students grow throughout the course of the year has been extremely rewarding and it has been especially refreshing to see the passion and dedication of the student community to actively showcase their skills and hobbies through the Tournament games. I look forward to the impact the Tournament will continue to have on the unity of the Glendon community in*

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*the future, because it is evident that it has added an element of fun and familiarity to the lives of current students.*

Another captain added, “*The Glendon Tournament was a passion project that progressively turned into a virtually innovative pilot project, and now it is what many hope to be an annual tradition at Glendon.*”

We also produced a video that captured many student testimonials; the video can be found on the Glendon website (<https://www.yorku.ca/glendon/>). The following testimonial is from the video,

*The pandemic has really wreaked havoc on my work-life balance, especially in the area of academics, and what the Glendon Tournament has done is, by engaging my competitive side, it forced me to hatch up some time to have fun, to engage with my peers and to contribute to the Glendon community and, honestly, without the Glendon Tournament, I feel that my mental health and well-being would not as fulfilled as they are today, so thank you Glendon Tournament for this really great virtual opportunity.*

Beyond simple numbers, the testimonials demonstrate that the Tournament was quite impactful for students that chose to participate.

### **Lessons learned**

As a pilot project, the Glendon tournament was successful. This section provides a preliminary analysis of the project. Based on the story of the initiative and results in the first year, we feel confident in drawing some key takeaways. We reached our objectives and received positive feedback on the project. Admittedly, we hoped for even greater participation. As such, we also consider in this section possible explanations for the tournament’s inability to reach more students. While the tournament will evolve to account for lessons learned and the re-opening of campus, we are confident that the model presents great opportunities for enhancing the ways in which universities develop and enhance their co-curricular programming.

The tournament was successful in enhancing the student experience in a difficult year. The student testimonials validate this claim. The project also generated some interesting outcomes. For instance, most players were female students, who demonstrated consistent greater engagement levels than their male counterparts as well as a greater willingness to showcase their skills to their fellow students. This is not entirely surprising since Glendon has more female students than male students, and since the four captains were female students. The most active player, though, was a male student, who was one of the early adopters. This student would regularly inquire on a Sunday night (the deadline for submissions) about the next set of games and never failed to compete in at least one of the games. He equally made many suggestions for games to be included in the tournament. In considering the results and some of what we know of the participants, and acknowledging it is impossible to generalize from a single year and a limited pool of students, we believe that the tournament created a safe and inclusive virtual environment that provided a special space to connect, socialize, play, and feel validated for students, some of whom may not otherwise, or are less

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likely to, do so in a real-life campus situation; this is a hypothesis that is worth testing going forward.

To what extent can the Glendon experience be generalized? Could other universities adopt gamification in the way done at Glendon? We highlight three key considerations in this regard. First, Glendon's senior leadership fully embraced and supported the project, even when some reluctance was expressed. We committed to the idea of gamification, which we knew had already successfully been used in academic programming and courses. We concluded that gamification was more than a fad, that it could be adapted to our needs and that it could be a useful way to get students to engage. We did not seek to reinvent our co-curricular programming. Rather, we sought to embed the tournament in all things Glendon. For example, students having completed an optional skills workshop offered by the Career Centre received additional points against their tournament overall score, which would bring them closer to the minimum total required to qualify for the draw of one of the four bursaries. The Cup award ceremony was included into another event – the Students Achievement Award Ceremony – which would help reach a wider audience and promote the next stage of the tournament. As we move forward, the tournament will need to be aligned further with the myriad of other activities that are proposed to the student body.

Second, we were able to make the most of very limited resources and successfully carry-on with implementation. The project depended on Éric, a staff member that spent during the summer month 75% of her time on this initiative, and about 40% of her time on it during the academic year, and a small project committee dominated by students. We had no new money for the technology, nor for large prizes. At the same time, Glendon had some advantages in pursuing this initiative. Most importantly, Glendon is small with a population of about 2,500 students. The number of students was manageable; participants could be split into four teams, and each team captain could reach and engage with students that were actively participating. The logistical challenge was real, but manageable. Going forward, the tournament will need to be a more polished product, but as there is a base from which to build, this is achievable.

Third, Glendon needed to pivot all its operations online because of the pandemic. The tournament was part of this shift. As part of York, Glendon is generally well-served from a technology standpoint. As an example, Glendon students have access to “SAVY” – an AI-based virtual assistant to assist them with all things York related. York employs one of the top Moodle programmers in Canada who supported Glendon's efforts, which allowed the platform to be built in-house. We could not have afforded to purchase a platform, or to out-source its development. We built and developed the tournament to meet our needs and in response to the new circumstances that were created by the pandemic. Universities interested in pursuing gamification in their co-curricular programming should do so considering their own circumstances to specifically address their needs within available resources. Gamification can work, but success is not guaranteed. In fact, we encountered various challenges of our own and will need to learn from our mistakes as we further develop the tournament.

Although we consider the tournament to have been successful, the statistics also demonstrate that we did not reach as many students as we could have. So, why did not more students participate? There are many possible explanations. First, it is important to remember that even in normal times only a minority of students participate in co-curricular activities. During this past year, we continued to offer remotely the full gamut of our programming. Student government and student clubs continued to run. For the tournament to succeed long-term, it will need to align further still with the rest of Glendon's student programming. For instance, club days or the campus career fair need to be integrated into the tournament in mutual support of each other. Second, with courses being online, students were already spending a great deal of time in front of a computer screen. There is sufficient anecdotal evidence that demonstrate that students experienced screen fatigue. Throughout the year, students across the university sector complained that their online courses often required more work than when the same courses were offered in person. We sought to plan for this challenge by making sure we had games that were offline such as a poetry or a photography competition. Returning to campus, the tournament will need to include more active games to encourage healthy living; we have already started talking to colleagues in our athletic facility to determine how sports and physical exercise can be better integrated into the tournament. Third, the pandemic took a toll on everyone, especially on students. While we wanted the tournament to be fun, to increase connection among peers and to alleviate the stress from stay-at-home orders and the isolation that came with them, students may simply have had enough not wanting to participate in more activities. Of course, through it all, students were at home which means that the tournament was competing with other available forms of entertainment including streaming services and video games. In retrospect, students needed to make the effort to connect via the tournament. We made participation easy, but students still had to want to engage.

### **Next steps**

With the return to campus and in consideration of the post-pandemic university, Glendon is committed to grow and develop the tournament further using a hybrid approach that involve both in person and online activities. There are three areas of priority in planning for forthcoming editions. First, there are many adjustments to be made to reflect the lessons learned and the feedback received. For instance, the Moodle site can be improved. More games can be developed in-house reflecting the Glendon identity. In person games are to be determined; they should provide greater opportunities for students to connect, above and beyond what is possible online and we expect that they can add to the excitement of participation. Second, the tournament ought to align not only with Glendon's co-curricular programming, but ideally also with some of its academic programming. For instance, the majority of Glendon students take French as a Second Language courses. These courses usually include both in-class and out of class activities such as movie nights. Many of these out of class activities can be integrated into the tournament. Third, the tournament can be extended to serve as a recruitment tool. At the time of writing, we have already started on this option by organizing a mini version of the tournament to assist in recruitment. In Ontario, students apply for university in



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early Winter – they apply to a centralized system and can select up to five programs across universities – and start receiving their acceptance letter as early as in February. High school students have until June 1<sup>st</sup> to accept their offer. The period from February to June is referred to as conversion season. Students are likely to receive multiple offers; recruitment moves from getting students to apply to getting them to accept their offer. We hope that expanding the tournament to applicants who have received an offer letter from Glendon will help them connect with campus early, meet and engage with other applicants, and get them excited about their offer and wanting to come to Glendon in the Fall.

The next step of the tournament is to grow it with the aim of fully embedding it so that it becomes a core distinguishing feature of the Glendon experience.

### **Conclusion**

This chapter has highlighted the use of gamification via the Glendon tournament to reinvigorate the student experience and to build and strengthen the community in the midst of the worst public health crisis of our generation. The tournament may have come about as a result of the pandemic, but its objective was always beyond just crisis mitigation. We took advantage of a window created by the pandemic to try something new; this slightly deviated from the campus' pre-existing strategy, yet the new circumstances provided the opportunity to take a chance and test an idea that would have been unlikely to gain traction before. We are not alone in thinking that gamification can play a significant role in the post-pandemic university. As Sutton & Jorge state, “We have a critical and significant choice to make in these post-COVID-19 times for the future of education through a new and powerful language — gaming” (2020, 2). Glendon as a liberal arts Faculty still faces many serious challenges. Plans are being developed and implemented to address these other issues. The tournament on its own, even as a cool idea, is neither sufficient, nor necessary for the Faculty to succeed. Strengthening the student experience, however, is key to recruitment and retention. As such, the tournament supports other mission critical objectives. In doing so, the tournament is not the answer, but has the potential to be an important part of the solution. We look forward to its growth and evolution in 2021-2022 and beyond.

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## **Author Biographies**



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**Éric Mézin** is the Executive Director of Student Services, Glendon campus, York University, Toronto, Canada. He has enjoyed a long-distinguished career in the Ontario Public Service working on issues of higher learning and student success; he also served as the Executive Director of the Council of Educators of Toronto.



# 10

## Increasing Student Retention at a Hispanic-Serving Institution

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### Introduction

#### The Rio Grande Valley of Texas

The Rio Grande Valley (RGV) comprises the four southernmost counties of the state of Texas. Located on the border with Mexico and adjacent to the Gulf of Mexico, in the last few decades, this region of approximately 4,316 square miles (6,946 square kilometers) has grown from a thinly-populated rural area known for citrus groves and cotton farming (Vigness and Odintz, n.d.) to a bustling metropolitan area with over 1.2 million inhabitants (Texas Demographic Center, 2020).

The population of the RGV is over 71% Hispanic/Latino, versus a percentage of 39% for the state of Texas overall. Historically, educational attainment in the RGV has lagged far behind other areas of Texas; by the second decade of the 21<sup>st</sup> Century, approximately two out of three RGV residents over the age of twenty-five was a high school graduate, versus a rate of three out of four for the state of Texas overall. Approximately one out of five RGV residents over the age of twenty-five held a bachelor's degree or above, versus a rate of approximately one out of three for the state of Texas overall (Texas Demographic Center, 2019).

#### Educational attainment in the RGV

The relatively low rates of educational attainment among Hispanics in the RGV became a source of concern for residents, policymakers, and Texas state political and economic leaders due to the rapidly growing Hispanic population in Texas – by the early 2020's, projections based on U. S. Census Bureau statistics indicated that Hispanics would outnumber whites among Texas residents (Ura and Jin, 2019). Yet, between 2000 and 2016, the enrollment of Hispanic/Latino students in undergraduate college programs in the United States increased by 134%, from 1.4 million to 3.2 million; in this same period, enrollment of students from other ethnic groups began to decline (de Bray, et. al., 2019, p. 126), thus establishing Hispanic/Latino students as a key demographic for the future of American higher

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education – future college classrooms in the United States increasingly would be populated by Hispanic/Latino students.

To begin to address the challenge of a relatively low rate of college completion among Hispanics in Texas during a time when Hispanic college enrollment was increasing nationally, local leaders in the RGV partnered with the Texas State Legislature to establish a new institution of higher education in the RGV – an emerging research institution that would bring new opportunities for education, scholarship, and economic development.

### **The University of Texas Rio Grande Valley**

UTRGV was established by the merger of two existing University of Texas regional campuses in 2013 (Kreighbaum, 2012) and commenced operations in Fall 2015. This new institution comprised one campus in Edinburg, Texas, previously known as the University of Texas Pan American, and another campus in Brownsville, Texas, previously known as the University of Texas at Brownsville. (UTRGV refers to these previously existing universities as its legacy institutions). In addition, funding was provided by the state of Texas for the development of a new medical school associated with UTRGV. This infusion of funding from the state allowed UTRGV to offer new educational programs and expand student services beyond those offered by the legacy institutions, which in turn attracted RGV-area students who might otherwise have attended college outside the region, or not attended a four-year college at all.

By 2019, UTRGV, with an enrollment of approximately 32,000 students, more than 90% of whom were Hispanic/Latino, was the second-largest postsecondary Hispanic-serving Institution (HSI) in the United States (de Brey, Snyder, Zhang & Dillow, 2021). HSIs are colleges or universities where Hispanic/Latino students comprise a minimum of 25% of the full-time equivalent student body; these institutions must be certified as HSIs by the U. S. Department of Education. Such certification can convey a number of advantages for institutions, including eligibility to compete for U. S. federal grant programs targeted at HSIs (Moody, 2020).

In its six years of existence, UTRGV has had myriad impacts on the RGV region, but in this case study, we focus on the opportunity presented by the creation of this new university to foster student success by developing a coordinated and holistic approach to retaining students and thus increasing the odds of their graduation from college.

### **The role of retention in college success**

Before describing UTRGV's retention programs, we will explain the importance of *college retention* and its relationship to college success. Hussar, et. al. (2020) define the concept as follows: "Retention rates measure the percentage of first-time undergraduate students who return to the same institution the following fall" (p. 166). An ample body of literature suggests that most students who leave college without a degree do so after their first year (cf. O'Keeffe, 2013, Upcraft, Gardner, and Barefoot, 2005, and Study Group on the Conditions of Excellence in American Higher Education, 1984). Thus, if students return to college for a second year, their overall probability of eventually graduating improves (cf. Boudreau & Kromrey,

1994, and Conner & Colton, 1999); for this reason, the importance of student retention to American colleges and universities has increased steadily since the 1980's (Hunter, 2006).

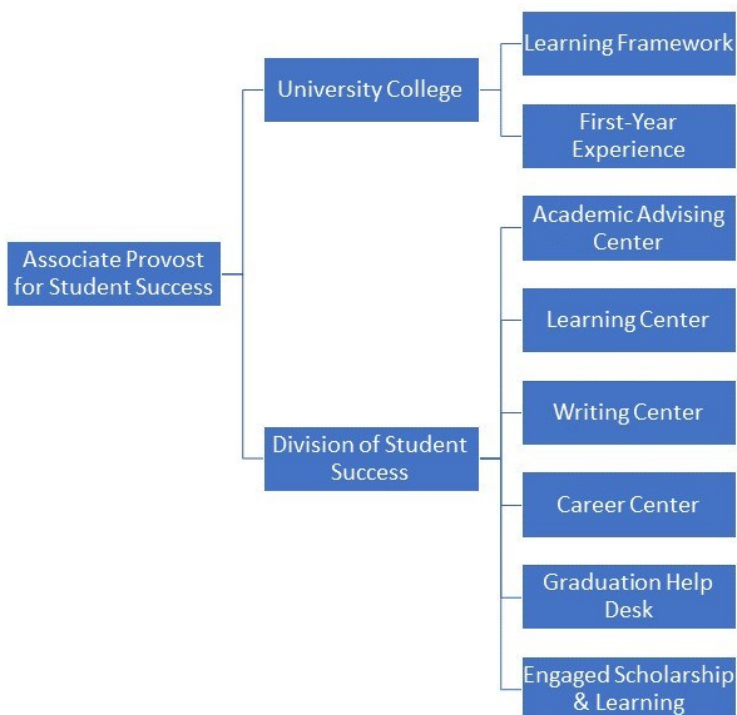
We have summarized above why retention matters. But how can it be improved? Here, too, there is an ample body of evidence stretching back to the 1970's, chief among which is the work of Tinto (1975, 1987, 1993), who argued that the key to student retention was the overall relationship between a student and their institution – the more integrated a student felt with their institution, the less likely they were to leave before graduation. Indeed, subsequent research has found that student involvement in and connection with their campus community correlated positively with retention (Hunter, 2006, p. 5). Examples of such 'involvement and connection' activities "vary from campus to campus because successful programs reflect institutional mission, student demographics, and campus culture" (Hunter, 2006, p. 6) but can include orientations, 'welcome weeks,' first-year seminars, and academic advising (Upcraft, Gardner, and Barefoot, 2005) – precisely the four core student success initiatives undertaken by UTRGV.

### **Leveraging existing programs to create a holistic first-year experience**

As part of the preparatory work prior to UTRGV's opening in Fall 2015, a committee comprising faculty and staff from the two legacy institutions, members of the RGV community, and other stakeholders developed a strategic plan that would guide UTRGV through the first five to ten years of its existence. This strategic plan was focused on five goals: student success, educational opportunities, health and medical education, impactful research, and community engagement. In this case study, we will discuss only the student success goal, which was defined in the strategic plan as follows: "[UTRGV will] support our students in achieving their academic goals in a timely manner and reaching their professional aspirations through excellent integrated learning experiences both in and out of the classroom."

UTRGV had an opportunity to leverage existing programs that previously existed at the legacy institutions while also working towards the goals of the new university's strategic plan. With regards to the student success goal, an organizational advantage came from the assemblage of all the pertinent programs within the portfolio of an Associate Provost for Student Success. This Associate Provost, reporting directly to the Provost (the chief academic officer of the university), oversees several departments, all of whom are involved to a greater or lesser degree in the four components of the UTRGV first-year experience, which we will describe in detail in Section 4. Here, we will briefly describe the six departments that comprise one academic college and one administrative division in order to contextualize each department within these administrative units (see *Figure 1*).

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**Figure 1:** Organization of the UTRGV division overseen by the Associate Provost for Student Success

*University College* is the academic home for UTRGV students without a declared major as well as the academic unit through which UTRGV’s first-year seminar courses, *UNIV 1301 Learning Framework* and *UNIV 1101 Self-Discovery for Academic and Career Success*, are offered. University College also has an office dedicated to developing and deploying a variety of first-year experience programs; further, this office coordinates with other departments also involved in first-year experience programs. We will discuss the role University College’s first-year seminars play in the first-year experience at UTRGV in more detail in Section 4.

The other departments we discuss are part of the Division of Student Success. First is the *Academic Advising Center*, UTRGV’s centralized academic advising department for all undergraduate students. Although some individual departments offer their own supplementary advising services, the Academic Advising Center is the ‘home base’ for most aspects of a student’s academic advising needs, such as understanding what courses are required for a given degree plan. We will describe in greater detail the role of the Academic Advising Center in Section 4.

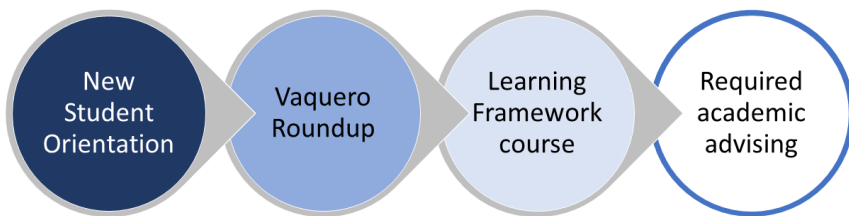
The remaining departments within this division of UTRGV all contribute to the mission of student success in various ways, but their role in the first-year experience is more indirect. Thus, we will only briefly describe them here in order to illustrate the general scope of the Division of Student Success. The *Learning Center*, which shares a director with the Academic Advising Center, offers tutoring

services for UTRGV students, both on an independent ‘walk in’ basis (i.e., assisting students with general questions about subjects such as English or mathematics) as well as in a more coordinated fashion by organizing group tutoring sessions for students enrolled in certain undergraduate courses known to be especially challenging for students, such as introductory chemistry and college algebra. The *Writing Center* focuses on helping students improve their writing skills; for example, Writing Center tutors review and offer feedback on students’ class essays and assigned research papers. The *Career Center* helps students prepare for their post-college careers by offering workshops on career development, critiquing resumes and developing interview skills, and connecting students with employers seeking interns and permanent hires. The *Graduation Help Desk* assists students nearing graduation who have questions or face challenges related to completing their degree programs. Finally, the *Office of Engaged Scholarship and Learning* supports student learning experiences beyond the classroom, including undergraduate research, experiential learning, and study abroad programs.

### **The first-year experience at UTRGV**

In this section, we will describe the four-part program developed by the Division of Student Success at UTRGV to support new students, which is referred to internally as the First-Year Experience (FYE) (see Figure 2).

Note that we use the term *first year student* rather than the term *freshman* because approximately 20% to 30% of UTRGV students enroll with prior college credit, typically earned during their high school years. Thus, some students may be in their first year at UTRGV but are not true freshmen because they have enough prior college credits to qualify as a sophomore (a student with thirty or more credits) or a junior (a student with sixty or more credits). These students usually comprise between 10% and 30% of an incoming class of new students.



**Figure 2:** Four major component programs of the First-Year Experience at UTRGV

#### **New student orientation**

UTRGV holds multiple orientation sessions for new incoming students during the period from April through August; students are allowed to register for an orientation that fits their own schedule, but are required to attend an orientation before matriculating into UTRGV in the Fall. (Students are not allowed to register for classes until they have attended an orientation session.) Each orientation



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session lasts for a full day, including breaks for lunch and social activities, and numbers from 100 to 400 students.

Although some orientation sessions are targeted at specific populations, such as students transferring from other colleges or universities, or students from outside the United States, all sessions share a common set of goals: to introduce new UTRGV students to campus traditions, to complete students' registration for their first semester's classes, and to make them aware of the student services and resources available to them, such as the Office of Financial Aid, and the various student organizations in which they can participate. Students also meet with academic advisors, who provide them with materials related to their degree plan. Further, concurrent events are held for parents so that both students and their parents are able to learn more about UTRGV and how to prepare for the challenges of college study.

### **Vaquero roundup**

Many institutions require new students to attend orientations before formally beginning their studies, but UTRGV supplements its new student orientations with a set of 'welcome week' activities called Vaquero Roundup. The vaquero (Spanish for 'cowboy') is the mascot of UTRGV, and in the parlance of the Western United States, a roundup is a gathering together of livestock for some purpose – usually to move a herd from one range to another. Thus, the UTRGV Vaquero Roundup seeks to gather new incoming students and help them complete the transition into the university.

Whereas the new student orientation sessions are held in the summer before a student's first Fall semester and focus on administrative matters such as class registration, Vaquero Roundups are held the week before the beginning of the Fall semester and emphasize integrating students into the UTRGV college or school in which they are pursuing their degree programs. Thus, after welcoming remarks from university leaders and icebreakers led by UTRGV staff and student volunteers, students are separated by college or school for a half-day of meet-and-greet events with their respective deans and faculty members, campus tours, and other such activities to develop students' sense of community with each other and with their new university. Vaquero Roundups can total 2000 students each but the ratio of staff and student volunteers to new students is kept low to facilitate opportunities for students to ask questions and seek guidance.

### **Learning framework course**

Recall that UTRGV's student population is approximately 90% Hispanic/Latino; furthermore, as of the 2018-2019 school year, statistics from the U. S. Department of Education indicate that approximately 90% of new students at UTRGV receive some form of financial aid. These students, then, face at least two major challenges as they matriculate into higher education – they are members of an ethnic group with historically low educational attainment (compared to white Americans) and come from a lower socio-economic status (SES), which also typically results in educational challenges.

In a landmark meta-analysis of over 2,500 student success programs at the post-secondary level, Pascarella and Terenzini (1991) found that "the weight of the

evidence suggests that a first-semester freshman seminar [is] positively linked with both freshman-year persistence and degree completion. This positive link persists even when academic aptitude and secondary school achievement are taken into account (pp. 419-420).” Much subsequent research has supported this finding (cf. Van der Zanden , 2018 and Hendel, 2007).

The benefits of first-year seminars described in the literature tend to come from studies conducted at institutions with relatively little ethnic diversity. However, researchers mindful that different populations of students might require different interventions have begun to focus on more diverse colleges and universities, especially Hispanic Serving Institutions. Given UTRGV’s status as an HSI, it is noteworthy that the growing body of evidence suggests minority and low-SES students especially can benefit from first-year seminars when those courses account for socio-cultural elements that are salient in students’ lives (Oxendine, 2020; Mendez et. al., 2020). UTRGV has incorporated this social-cultural salience into its first-year seminars, UNIV 1301 and UNIV 1101.

#### *UNIV 1301 – Learning Framework*

This course offers students a foundation in the psychology of learning and its application to their own university experience as well as to their chosen major and profession. Topics include cognition and motivation with the goal of developing students’ awareness of themselves as learners and future professionals. Pedagogy in this course emphasizes experiential learning and meta-cognition. Further, faculty who teach this course make explicit connections between course concepts and the services and resources available to students at UTRGV so that students can become self-sufficient in navigating the institution’s bureaucratic systems. For example, instead of merely discussing career planning in a general way within the context of students’ own degree plans, instructors help students understand how leveraging UTRGV’s Academic Advising Center and Career Center can offer further guidance as well as concrete benefits to their career development.

Because of the limited availability of instructors, UTRGV has developed criteria mandating which students should enroll in UNIV 1301 during their first semester of study; these criteria are predicated on the belief that students with less college experience should have priority. New students with more than twenty-four prior college credits are not required to take UNIV 1301 their first semester; these students are exempted from the course entirely as long as they earn least a 2.25/4.0 grade point average in that first semester and enroll in at least twelve credit hours their first semester.

Students are required to enroll in UNIV 1301 in the Fall semester of their first year at UTRGV if they are designated ‘not college ready’ and have fewer than twenty-four prior college credits, or if they are ‘college ready’ but have zero prior college credits and graduated high school in the bottom half of their class. ‘College readiness’ in this context refers to a student’s score on the Texas Success Initiative (TSI) Assessment, a standardized test mandated by the state of Texas for all students seeking to enroll in a state-supported college or university. The TSI measures students’ college readiness vis-à-vis the Texas College and Career Readiness Standards, which “*are designed to represent a full range of knowledge and skills that students need to succeed in entry-level college courses, as well as in*

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*a wide range of majors and careers (Texas Higher Education Coordinating Board, 2009, p. iii).”*

Students who do not enroll in UNIV 1301 in the Fall will be required to do so in the Spring if they are college ready and in the top half of their high school graduating class but have zero prior college credits, or if their grade point average after their first Fall semester at UTRV was less than 2.25/4.0 or if they dropped below full-time enrolment (twelve credit hours) in Fall.

### ***UNIV 1101 - Self-Discovery for Academic and Career Success***

UTRGV recognizes that students matriculating into UTRGV with a significant amount of prior college experience – for example, by taking college courses while full-time high school students – can be qualitatively different from new students who are truly ‘new’ to the college experience. Among other differences found by researchers, students who entered with prior college credit have displayed higher retention rates than students who entered with no previous credits (Eimers & Mullen, 2003) and prior college credit have shown positive correlations with both retention and graduation from college within five years (Delicath, 1999). Thus, new UTRGV students who are designated college ready by the TSI Assessment and have between one and twenty-three prior college credits enroll in UNIV 1101 in the Spring semester of their first year.

Like UNIV 1301, UNIV 1101’s pedagogy emphasizes experiential learning and meta-cognition, and, as with 1301, 1101 faculty help students make explicit connections between course concepts and the services and resources available to them at UTRGV. Unlike 1301’s emphasis on learning and meta-cognition, however, 1101 instead emphasizes the development of a career plan that incorporates both students’ academic and professional goals. Whereas 1301 seeks to help new college students become better learners who feel empowered to navigate the institution’s departments and regulations, 1101 is predicated on the notion that because they both are designated college ready by the TSI Assessment and have prior college credit, students in the 1101 course would benefit more from guidance in developing a career plan that integrates their college work with their professional goals.

### **Required academic advising**

The final major component of the first-year experience at UTRGV is the required academic advising that all students must complete - students must meet with an advisor twice during each of their first two semesters. Thereafter, students can generally decide for themselves whether or not to seek out an academic advisor.

At UTRGV, the Academic Advising Center (AAC) acts as a centralize resource for undergraduate students vis-à-vis their degree plans. Although some individual academic programs offer varying degrees of academic guidance for students majoring in their programs, many processes related to course registration, declaring or changing majors and/or minors, and graduation are overseen by the AAC.

Academic advisors play a significant role in the success of UTRGV students; for that reason, the university has invested significant resources in assembling a team of dozens of advisors located at each of the two main campuses. Advisors are

assigned caseloads of students in the range of 300 to 350 students each; these students typically are assigned to the same advisor for their entire tenure at UTRGV to maximize the opportunity for advisors to develop close counseling relationships with their assigned students over time.

Individual academic programs develop their own criteria for graduation, but the AAC compiles and disseminates these *degree plans*, which are essentially lists of course required to earn a given degree in a given major. Such lists can be of limited utility, however, if students don't understand the nuances that can affect their progress towards a degree. For example, some students might look at a set of required courses without understanding in what order the courses should be completed; this is often a source of confusion for students and can lead to academic difficulties when students miss prerequisite classes or otherwise take courses in a sequence that does not maximize their chances of success. Thus, the AAC has spent considerable time working with individual academic programs to develop road maps for each major (Figure 3).

The University of Texas Rio Grande Valley		Bachelor of Science (BS) Psychology				2020-2021	
Year	Course #	Course Title	Cr.	Prereq.	Prerequisite	Additional Notes	
FALL	3	Choose 1	Communication (Core)	C	010	For all 010 courses: Satisfactory scores on ENGL portion of ACT test or TSI reading/writing exams or ENGL 0301. For ENGL 1302, a grade of "C" or better in ENGL 1301.	See General Education Core for more details Options: ENGL 1301
	3	Choose 1	Mathematics (Core)	C	020	Satisfactory scores on Math portion of ACT test or TSI math exam or MATH 0314/0332/0342.	Math 1314 or higher
	3	PSYC 2301	General Psychology	C	080		
	3	Choose 1	American History (Core)		080		See General Education Core for more details. Options: HIST 1301 or HIST/MASC 2327
	4	Choose 1	Life and Physical Sciences (Core) UNIV 1301 Learning Framework 1101 Academic and Career Success 1001 Living and Working by Design		030/090		See General Education Core for course options.  As required, based on credit hours earned. TSI status, High School rank, major declaration.
<b>16 Semester Total Hours</b>							
SPRING	3	Choose 1	Communication (Core)	C	010	For all 010 courses: Satisfactory scores on ENGL portion of ACT test or TSI reading/writing exams or ENGL 0301. For ENGL 1302, a grade of "C" or better in ENGL 1301.	See General Education Core for more details Options: ENGL 1302 or ENGL 1305
	3	Choose 1	American History (Core)		080		See General Education Core for more details. Options: HIST 1302 or HIST/MASC 2328
	4	Choose 1	Life and Physical Sciences (Core)		030/090		See General Education Core for course options.
	3	Choose 1	Social and Behavioral Science Integrative/Experiential Learning Option (Core)		090		See degree plan for course options. See General Education Core for course options.
	<b>16 Semester Total Hours</b>						
FALL	3	Choose 1	Language, Philosophy & Culture (Core)		040		See General Education Core for course options.
	3	POLS 2305	U.S. Federal Govt & Politics		070		
	3	PSYC 2302	Basic Statistics for Psychologists			PSYC 2301 with a minimum grade of C and [MATH 1314 or MATH 1414 or MATH 1324 or MATH 1325 or MATH 1332 or MATH 1342 or MATH 1343 or MATH 2412 or MATH 2413] with minimum grade of C.	
	3	PSYC 33XX-43XX	Psychology Prescribed Elective			PSYC 2301; additional prerequisites may exist depending on the course selected.	See Degree Plan for course options.
	3	13XX-43XX	Free Elective				
<b>15 Semester Total Hours</b>							
SPRING	3	Choose 1	Creative Arts (Core)		050		See General Education Core for course options.
	3	POLS 2306	Texas Government & Politics		070		
	3	PSYC 33XX-43XX	Basic Psychology Course			PSYC 2301; additional prerequisites may exist depending on the course selected.	See Degree Plan for course options.
	3	PSYC 33XX-43XX	Psychology Prescribed Elective			PSYC 2301; additional prerequisites may exist depending on the course selected.	See Degree Plan for course options.
	1	Choose 1	Integrative/Experiential Learning Option (Core)		090		See General Education Core for course options.
<b>13 Semester Total Hours</b>							

Figure 3: Degree roadmap for UTRGV B. S. in Psychology produced by the Academic Advising Center

These road map documents incorporate not only the set of courses required to complete a certain degree, they also recommend the order in which the courses should be taken, how each course fits into a degree plan (Does it fulfil a mathematics requirement? A science requirement?), prerequisite courses (if any), and additional helpful information as necessary.

### Reflections and conclusions

We purposely entitle this section “reflections and conclusions” rather than “discussion” because, although the data we will present below suggest that UTRGV’s first-year experience is enjoying some success in fostering student

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retention, we recognize that increasing retention is a long-term undertaking that will stretch well beyond these first five years of UTRGV's existence. Thus, firm conclusions cannot yet be made, not only because of the short amount of time that has passed since UTRGV opened its doors, but also because enrollment has fluctuated during this period and we do not yet know if our student population has reached a 'steady state' conducive to incisive analysis. Yet, we can reflect on the data we have collected to date and discuss findings in a preliminary way.

The UTRGV strategic plan discussed in Section 2 included various metrics intended to measure progress towards goals; for the student success goal, the chief metrics were retention and graduation rates. Given that only a few years have passed since the inaugural class matriculated into the university in Fall 2015, insufficient time has passed for any determination to be made regarding the long-term impact of the first-year experience programs described above on graduation rates. (Note that all of these data are publicly available from UTRGV.)

**Table 1:** UTRGV retention rates by percentage and number of students versus national retention rates

<b>Year</b>	<b>No. of Freshmen</b>	<b>No. Enrolled 2nd Year</b>	<b>% Enrolled 2nd Year</b>	<b>% Enrolled 2nd Year (National Avg)</b>
2015-2016	4181	3280	78.45%	66.30%
2016-2017	3944	3076	77.99%	66.50%
2017-2018	4504	3397	75.42%	66.70%
2018-2019	4565	3453	75.64%	67.00%
2019-2020	4793	3814	79.57%	N/a
2020-2021	5338	N/a	N/a	N/a

We can, however, see some patterns emerging regarding retention. For the period from the 2015-2016 to 2018-2019 school years, the retention rate at UTRGV (shown in the column labeled *% enrolled 2<sup>nd</sup> Year* in *Table 1*) has remained stable between approximately 78.5% and 79.5%.

The National Student Clearinghouse, or NSC, is a non-profit and nongovernmental consortium of approximately 3600 higher education institutions comprising approximately 97% of college and university students in the United States (National Student Clearinghouse, 2021). According to data from the NSC Research Center (2020), the average retention rate for all first-time freshmen at postsecondary institutions who reported data was 66.3% in 2015-2016 and rose to 67% in 2018-2019 (the last year for which data were available). For a new university with a majority of students who both come from an ethnic group with historically low educational attainment as well as a low socio-economic status, the fact that UTRGV's retention rate has been approximately 12% higher than the national average, which includes colleges and universities whose students have fewer socio-economic and educational challenges, is a source of hope for the future. We also note that while the percentage of first-year students returning for a second year of study at UTRGV has been nearly unchanged, the size of incoming classes of first-year students has increased over time, from 4181 in 2015-2016 to

4793 in 2019-2020. Thus, while the percentages are similar, the absolute number of students returning for a second year of study, and potentially going on to complete their degrees, has increased due to the difference in class size.

Although UTRGV seeks to continue to increase retention rates by continuing to innovate in its first-year experience programs, it nonetheless reflects well on the effectiveness of existing programs that this young institution in a historically under-educated and economically challenged area of Texas has achieved a student retention rate above the national average. To continue this record or success, UTRGV leadership plans to continue to invest in the programs that comprise the First-Year Experience – new student orientations, Vaquero Roundups, the Learning Framework courses, and required first-year academic advising.

For instance, in the past two school years, the university has added more than a dozen academic advisors to the Academic Advising Center staff, allowing for the advisor-to-student-caseload ratio of approximately one to three hundred described above as well as providing more personnel to develop and deploy programs and activities for first-year students. Anecdotal evidence suggests students have found their academic advising interactions to be more efficient because of the increased availability of their advisors; over time, this may prompt students to seek assistance from academic advisors more readily.

Further, other new programs are also in development to specifically support faculty who teach first-year courses so that new students' classroom experience is as engaging and instructive as possible. In Summer 2021, for example, over seventy faculty members participated in a grant-funded program called CONEXION (Spanish for "connection"), a two-week workshop designed to foster inter-faculty conversations about the characteristics and needs of first-year students and provide faculty with opportunities to reflect on and learn more about how to design courses that ensure first-year student success by adopting strategies that scaffold students' growth and success. Preliminary feedback from faculty participants suggests that the workshop series has increased participants' meta-cognition regarding their teaching practices, which have the potential to lead to more impactful teaching practices over time.

In conclusion, we reiterate that our young university's retention programs offer glimpses of success, but the institution will continue to make every effort to continue supporting first-year students so that as many students as possible graduate and are able to pursue their career goals with both competence and confidence.

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## Author Biographies



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# A Case History of Excellence of the University of Eastern Finland

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## **External and internal drivers: globalisation and autonomy**

Universities and higher education systems in general, in all countries, faced contradictory external and internal pressures for change in the 1990s. There were local, national, and global level interests and pressures on the university, as illustrated in Figure 1. Governments have since integrated universities in national development programmes with political and financial ties. Universities are expected to support social and economic developments (Hölttä 1995; Ahponen et al., 2016; Karhapää, 2016; Pinheiro et al., 2016). In the case university at the management level, strategic changes were initiated due to the changes in the environment, which were noticed. As Porter (1990) stressed, a competitive strategy must grow out of a sophisticated understanding of the structure of the industry and how it is changing.

A novel competitive environment faced the university industry in Finland. Five competitive forces (Porter, 1990) could be identified as meeting the Finnish university industry. First, the universities met the competition embodied in the form of new entrants in the industry, such as global virtual universities. Second, the Finnish universities encountered the threat of substitute services in the form of the university of applied sciences, which were established in 1991 (issuing bachelor's degrees from 1991 onwards, and master's degrees from 2001 onwards). Third, there is the growing bargaining power of suppliers. This means the growing importance of stakeholders (business and local city) as partners and donors. Also, there are the pressures on the university to attract talented teachers and researchers. Fourth, the bargaining power of customers, while the international mobility of students has grown. Fifth, there is the rivalry among the existing universities, which brings the importance of the strategy to the front (Karhapää, 2016).

In 1999, the Rector of the University of Joensuu (later, being the Rector of the University of Eastern Finland during 2010-2014) described the competitive forces and the changes in the environment by using the discourse of competitiveness:

However, the surroundings for competition are in the process of changing rapidly. When previously, people only left to study their degrees abroad if they

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didn't receive a desired study place in Finland, nowadays, the universities really have to compete in the supranational arenas for talented students and researchers, as well as teachers. In addition, completely new agents are arriving in the field, for example, different global distance and virtual universities. The new situation also challenges Finnish universities to search for network-based forms of collaboration outside our country's borders (speech in 1999).

The Rector discussed how the competition environment of the university was different at the start of the new millennium. Therefore, the policy in the 21st century of the university had to be considered crucially from the novel perspective. There was a dichotomy (Fairclough, 2003) within the discourse concerning how to adapt and face the new millennium, yet still value the tradition and history of the university institution. The unique legacy of the university has, however, to be kept in mind. As the Rector noted: *“However, at the beginning of the millennium, our surroundings, in terms of competition, are totally different. Thus, we must reconsider our operational policy for the 21st century from new offsets without forgetting our own unique heritage”* (speech in 1999).

Due to globalisation, the universities were facing new borderless competition. This meant that international virtual teaching was available for everyone, students could choose universities from all over the world, and teachers were able to move for a better salary or improved working conditions. The external forces of change were noticed within the case university organisation at the beginning of the new millennium. The global competitive environment forced Finnish universities towards more dynamic and flexible management procedures, which were not possible with the static accounting office status of the state-bureaucracy (Karhapää, 2016).

The European Union has played a role in the process of university reform in Finland. The European Union aims to create a common research and teaching area in higher education in Europe. This is the way for Europe to develop as a competitive and knowledge intensive continent. The European Union emphasises the role of basic research in universities, whereas in Finland the emphasis is on innovation and applied research. The European commission has advised member countries to renew their universities in order to improve the competitiveness of the European continent. The Rector emphasised research as a basic factor in the university's competitiveness in 2004: *“The competitiveness of the universities is based on strong basic research which is free from short-term-benefits,”* (speech in 2004).

The economic demands for autonomy were already taking place within the Finnish university establishment in 2002 before the critical public discourse towards universities by the press and in the business world came to the forefront in 2005 in Finland. The impact of the environmental change was taken into account within the Finnish university institutions and, accordingly, a management change was proposed by the Council of Finnish University Rectors to the Ministry of Education in 2002 (Karhapää, 2016; Pinheiro et al., 2016).

There was a need for more flexible financing and human resource management systems. The Council of Finnish University Rectors made a suggestion in May 2002 to increase the economic autonomy of universities. The increase was more an

attempt to reform the Finnish university institutes than the marketisation and privatisation of the universities. Finnish universities, as static accounting offices under the national state-bureaucracy, were no longer able to totally manage and control their environment (Brunila, 2004; Aarrevaara & Pekkola, 2010; Kallio et al., 2016; Karhapää & Savolainen, 2020).

According to Kaukonen & Välimaa (2010), the aim of the Finnish higher educational policy (law) since the end of the 1980s was to increase the autonomy of universities, which means that the university's own decision making was emphasised and state-bureaucracy was reduced. This was implemented by renewing the management in universities by strengthening the role of the Rector, dean, and heads of departments in university organisations. The economic autonomy of universities has increased. On the other hand, Finnish universities have also been directed to serve the needs of Finnish society and the economy by creating innovations through research and education (Karhapää, 2016).

From 1995 to 2013, the Finnish higher education sector was subject to multiple reforms, as Kallio et al. (2016) note. The university funding scheme was renewed many times, due to which the basis of funding and the applied indicators were changed. The emphasis on the output of universities was highlighted in 2005 in a performance management model. University management had autonomy when it came to the means for securing the desired output. The focus was on the outcomes of the university and ex post monitoring (Kallio et al. 2016).

The measurement of the regional impact of the universities is one aspect of higher education policies which emphasises innovation. The regional impact of the universities is measured mainly on two bases. The measures include how many students are employed in the university region, and on the other hand, how many technological enterprises are started in the university area locally (Karhapää, 2016).

The case university has had an impact on the local area. Due to having a local university, there are employees in the area who are able to serve the need for more highly educated professionals (Niiniluoto, 2015; Karhapää, 2016). The Rector stressed in 2001 that this was one of the reasons why the regional policy of decentralising the governmental offices in the region had succeeded better in the 21st century than in the 1970s in Finland. Due to the University of Joensuu, there were now numerous highly educated professionals in the region (local) and this allowed the decentralisation of governmental offices (national) in the Joensuu area. This was manifested by the establishment of the Finnish Government Shared Services Centre for Finance and HR, which started its operations in Joensuu in 2010 (Karhapää, 2016).

The debate on the need for larger university units and the effectiveness of the universities was increasing in intensity in Finland at the beginning of 2000. Simultaneously, the vulnerability of the university organisation related to the demand for autonomy was highlighted. The university organisations needed to meet novel risks in the future. Universities might face a decrease in budget resources in relation to the achievement of their objectives. Economic autonomy also involves risk taking and pressures to improve management procedures (Karhapää, 2016).

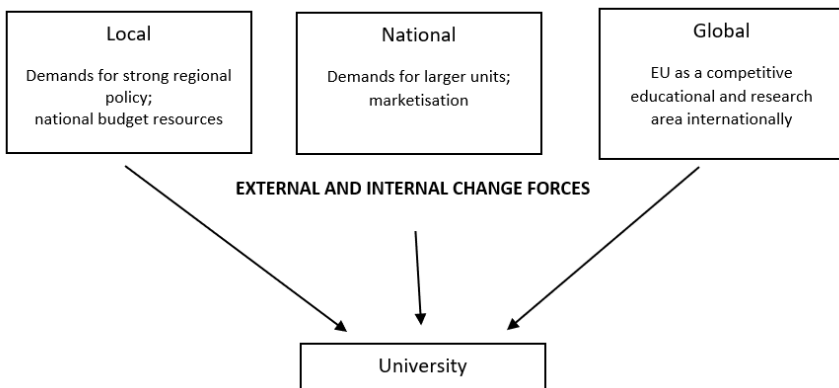
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Currently, universities are facing a diverse set of demands. On the one hand, universities are expected to produce new short-term knowledge which can be applied in beneficial innovations, whereas there is also some concern within the university community that the nature of science is not understood properly by society at large. The production of scientific knowledge is a longitudinal process, while there are expectations in the environment for universities to produce short-term innovations to benefit economic and business life (Karhapää, 2016).

The procedures concerning research are changing due to the university reform in Finland. Research is stressed as a core mission of the universities. International-level research is expected to be achieved in the universities and the universities are profiled on the basis of their research. There is some debate in Finland about dividing universities into research- and educational universities. In the case university, this has been interpreted as meaning the division of universities into two categories; international-level research universities and so-called regional universities. The competitive environment among the existing universities brings the importance of the strategy to the front (Porter, 1990). The strategy of aiming towards international-level research university is applied in the case university (Karhapää, 2016; Tirronen et al., 2016).

Globalisation and the change in the environment are challenging the university. The Ministry of Education started a programme of structural reorganisation of the Finnish universities in 2006. The aim of the programme was to create high-quality, strong, well-profiled, and internationally competitive universities. This was accomplished by cutting the overlapping activities of the universities and gathering the universities into larger units. The university reform was included in the programme of the government in 2007 (Tirronen et al., 2016; Puusa & Kekäle, 2015; Nevala 2009).

There are diverse demands placed at the local, national, and global levels on universities, as illuminated in Figure 1.



**Figure 1:** Main external and internal drivers for transformation (Karhapää, 2016).

Locally, the university is seen as a stable and well-resourced organisation which receives generous resources from the government budget as discussed later on in this study. At the national level, the larger units of the university organisation are

demanded in politics and by economic and business operators. Globally, the aim to develop as a competitive and knowledge-intensive continent drives the European Union European Union to create a common research and teaching area in higher education in Europe (Karhapää, 2016).

The Rector described the role of the university in 2001 in terms of meeting diverse demands. On one hand, there are demands to respond to innovation politics (marketisation) and on the other hand to meet the needs of science in general. The metaphor (Fairclough, 2003) of a 'dynamo' was used to signify diversity in the discourse. The university had attempted to achieve an impact at a local level with expectations which were too high. There were not enough resources from the state budget for the university to fulfil (unrealistic) expectations and radiate economic success in the region (Karhapää, 2016). The Rector noted: "Universities are believed to be the dynamos of regional development, yet we have been granted very few tools to power these dynamos," (speech in 2001).

Globalisation was an essential concept in the public debate at the end of the 1990s and at the beginning of 21st century. Several surveys and reports were published in Finland by the government at the time. The globalisation debate reflected a higher education policy, especially in the form of a report (Brunila's report) which was published by the Prime Minister's Office in 2004. Due to the report, public discussion surrounding the effectiveness of the universities accelerated. There was criticism that there were too many universities in Finland and that they were also too small. Finland was lacking in universities with international-level research capabilities. Furthermore, the profiling and specialisation of universities were called for in a report published by the Ministry of Culture and Education (Rantanen's report) in 2004 (Kaukonen & Välimaa, 2010).

Thus, there was a large amount of discussion and numerous surveys were conducted concerning the universities at the beginning of the new millennium in Finland, as shown in Figure 2. Furthermore, the Science and Technology Policy Council of Finland joined the debate and recommended that the financial powers of universities should be increased by legislative measures in order to better equip them for world-class research and networking (Jääskinen & Rantanen, 2007).

When reforming a university, it should be noted that, internally as an operational and administrative entity, a university is a unique, diverse, and heterogeneous organisation, composed of academic work in different disciplines and university governance. Furthermore, a university is also externally increasingly influenced by the pursuit of economic and societal gain. The internal and external interests in the university system and the aims of the increasingly heterogeneous set of actors involved make the university an entity of complexity and tension in regard to its operation and procedures (Karhapää & Savolainen, 2017).

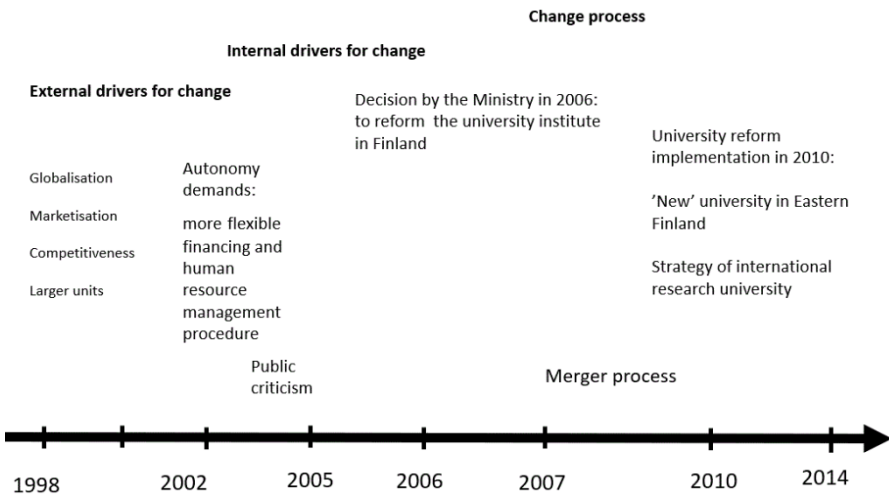
Still, on 1st December 2005, the Finnish Ministry of Education reviewed the financial and administrative status of universities and made proposals for reform. There were new procedures that were seen to be needed at universities to improve steering and management. A reform of university governance was suggested by strengthening the universities' internal management. The university organisation was to transform from a state legal entity to a new type of a legal entity under

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public law. Posts and tenures at the universities fell under legislation on labour contracts instead of civil service regulations (Karhapää, 2016; Nevala, 2009; Jääskinen & Rantanen, 2007).

The Ministry of Education decided on the main principles of the structural development of higher education in Finland in March 2006. There were separate processes which were tightly linked with university reform concerning the structural renewals in university institutes. In 2006, the Ministry of Education started a study into cooperation between universities. Cooperation was suggested between the University of Joensuu and the University of Kuopio (Karhapää, 2016).

Here, the competitive strategy of Michael E. Porter (1990) demonstrates the role of the case university in international higher education markets. The industry, in this case the university institute in the higher education sector, is the arena in which a competitive advantage is won or lost. The case university organisation, through its competitive strategy, sought to define and establish an approach to competing in higher education markets that was both profitable and sustainable. The industry attractiveness and competitive position can both be shaped by the organisation. Successful organisations not only respond to their environment, but also try to influence the environment in their favour. So, by the end of the change process which was initiated by the Ministry of Education, the University of Joensuu and the University of Kuopio decided to join their operations in 2007, and the merged University of Eastern Finland started on 1.1.2010 with four faculties and 13 educational fields. The merger of the two university organisations allowed new bases for competitive advantage as an international research university in higher education markets (Karhapää, 2016; Puusa & Kekäle, 2015). The transformation process is shown in Figure 2.



**Figure 2.** Transformation process of the university institute and of the case university in Finland. (Adapted from Karhapää, 2016).

Additionally, there were three other university structural renewals in Finland: one in Turku and two in Helsinki as part of a major university reform in Finland in 2010 (Kaukonen & Välimaa, 2010; Nevala 2009).

### **Research university: Aiming at excellence**

Opportunities for top international-level research exist for the University of Eastern Finland. This is because the research benefits from the complementary disciplines of both partner universities, thus larger scientific collaborations are possible (Karhapää & Savolainen, 2018). Additionally, there were historical similarities between the merging universities, since the former organisations prior to the merger were both founded in the 1960s as part of the regional policy in Finland. Thus, research competence, a common history, and regional similarities between the two university organisations fostered the transformation (Karhapää & Savolainen, 2020).

Historically, due to regional policy in Finland, universities have been established in different parts of the country. However, there was a transition in the ideal of social and regional equity being as the core of higher education in Finland. The change in policy reflected the view that the development of society had become unpredictable, turbulent, and difficult to control. Centralised societal planning was abandoned and the responsibility for decision-making and problem-solving concerning the future was delegated to the universities. The new era emphasised innovativeness, flexibility, and the universities' ability to react to external changes (Kekäle, 2001; Puusa & Kekäle, 2015).

The structural development of the universities was included as part of the productivity programme of the Finnish government which started in 2003. The aim of the productivity programme was to increase the productivity of the public sector and to reduce the size of the public sector in Finland. There were broad policy efforts aimed at the modernisation of the public sector, and, thereby, the future sustainability of the welfare state (Karhapää, 2016).

Due to the university reform in 2010, the universities have broad financial autonomy and a new governance structure in order to operate in a more proactive manner than Finnish universities were able to as a part of the state bureaucracy. The government would continue to guarantee sufficient core funding tied to the rise in costs for the universities. In addition, the universities would be able to apply for competed public funding and use the revenue from their business ventures, donations, and bequeathals and the return on their capital for financing their operations (Tirkkonen, 2008; Ministry of Culture and Education, 2015).

During the university reform in 2007, there were suspicions within the universities that only some universities would be profiled as high-level, international, research-intensive universities. Those universities could then expect to receive more resources. But what would happen to rest of the universities? The Rector believed that there were bases in Joensuu and Kuopio—partly together and partly apart—for a few top research fields, which would achieve the required level and succeed in Finnish and internationally-known research fields. However, the Rector also expressed, in 2008, the view that focusing on a knowledge-offering



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concept would only be expected from those universities considered to be “top universities”.

The predominant direction of change is the marketisation and globalisation of the university institution. It seems that higher education is governed by the viewpoints of customers and employment, as well as intensifying supranational competition for good and paying students. Also, in research there is a notably growing pressure for commercialisation, which is followed by a strong specialisation bias towards economically useful fields in applications. As the missions of universities become differentiated, increasingly many of them are directed in a market-led way and only the ‘top universities’ can afford to truly be universities of knowledge (speech in 2008).

Two years later, in 2010, the Rector assured that an international research university would be in the best interest of eastern Finland. The Rector continued in 2011 about the aim of the merger referring to the competitiveness of the merging university. He stated: “The aim of the merger in our case was, first of all, to be a more competitive research-intensive university with excellence in teaching and learning and, secondarily, to meet the demands of operational efficiency,” (speech in 2011).

The geographical distance challenged the communication and interaction between the members in the ‘new’ organisation. Face-to-face interaction was costly (Bachmann & Inkpen, 2011) because the campuses were located 135 km apart. As a result, e-communication facilities needed to be built up and utilised between the campuses. The Rector emphasised; “After the first contact and familiarisation, remote access functions as a natural communication platform,” (speech in 2010). By working together, colleagues would get to know each other beyond the campus barriers. The e-communication was cost-effective, and it has supported the competitiveness, expectations, and practices of the ‘new’ university (Karhapää & Savolainen, 2018).

The effectiveness of communication has benefited the ‘new’ university before the pandemic situation. The unprecedented disruption due to the Covid-19 pandemic put e-communication to the test. Because the e-communication practices were familiar at the University of Eastern Finland, virtual teaching was able to be started at the end of March 2020 with a two-week transition period. Almost all the teaching was provided online during the autumn term of 2020. On the other hand, research continued online as before. Since teams are multicultural, they were already used to online cooperation before the pandemic. It seems that the participation in research conferences has decreased, as research conferences have become virtual. Only a few researchers have participated in virtual conferences which have been held despite the changed situation. It is noted that in the so called ‘new normal’ situation, even though restrictions due to the Covid-19 may end, virtual teaching and conferences, and e-communication in general, will remain.

### **University partnerships and cooperation with stakeholders**

The dichotomous theme (Fairclough, 2003) of acting locally, but performing as an international-level research university, emerged in 1998 in the Rector’s discourse, at the beginning of the Rectorship period in the case university. Back then, the

Rector noted that; *“On one hand, from the universities’ perspective, the local environment is essential, while on the other hand it is important for the universities to join global networks”* (speech 1998). The theme appeared in the discourse again after ten years in 2008, as the University of Eastern Finland was created. The success of the new organisation, the University of Eastern Finland, was a ‘matter of fortune’ for eastern Finland (speech in 2008). This was because without a successful research university, the business and public sector in eastern Finland would inevitably fall behind the development of the other parts of the country (speech 2008). Cooperation between the university and the local region was needed. (Karhapää, 2016).

The Rector discussed the strategic choice of being an international research university in 2008. The local stakeholders questioned (speech 2008) the strategic choice of being an international level research university. There was a fear within local stakeholders that the university was stepping away from its responsibilities to the local community. To perform both as an international level research university and as a local operator at the same time was not seen as possible by the stakeholders. The Rector tackled the local stakeholders’ criticism discursively in 2008 by stressing that within every research branch, there was also an important educational function in the ‘new’ university organisation. Adult education, as a locally important mission of the ‘new’ organisation, was also emphasised discursively. On the other hand, all of the strong educational fields supported the research function in the ‘new’ organisation. Although there may be some research fields that were based only on the professional development of a single researcher (Karhapää, 2016).

The Rector highlighted the interplay and cooperation in the region locally. The Rector stressed in 2008 that the basis for the success of the new organisation was the support given by the local public sector and local business. The crucial element for the success of the university was that the local stakeholders also supported the basic funding of the university, not just the projects that brought direct benefits locally. The best way for the university to serve the local area and the key economic branches in alignment with the profile of the university would only be accomplished by providing high-quality education and research. Donations would be a very important resource in the future. The Rector stated in 2011 that, in the future, the University of Eastern Finland wanted to be a very strong partner with local businesses, people, and the public sector (speech 2011) (Karhapää, 2016).

Stakeholders (the city and local businesses) were already mentioned with respect and gratitude in the Rector’s discourse in 2000. At that time the local stakeholders had gathered a donation for a professorship in marketing as a gift for the 30-year-old case university. The Rector emphasized the local city as a valuable partner also in the context of the local science park. In the local science park, there were multiple innovative start-up firms which utilised information and communication technology and were aiming to enter global markets (speech in 2000) (Karhapää, 2016).

The university, for its part, stimulated the local business and cultural environment. The intellectual and open-minded atmosphere and the production of educational and research services were the impacts of the university on the local

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area. Besides the university, the local innovation system consisted of various knowledge-intensive enterprises, other educational and research institutes, the science park and other financial or service oriented organisations (Karhapää, 2016).

The themes regarding the interaction between university professionals and the stakeholders unfolded in the Rector's speeches in 2001. There was a great deal to be done to enhance the cooperation between the university and the local stakeholders. The expertise of the university professionals was not being utilised enough for the good of local development. On the other hand, this expertise was not being offered by the university properly, as the Rector noted in his university opening ceremony speech in 2001. Additionally, themes concerning cooperation and donations already unfolded in the Rector's speech in 2001. The Rector then described the potential that the local businesses may offer R&D-cooperation in the science park of the university and that possibilities for donations for common projects were more limited in a regional area than in the 'heartlands' (Karhapää, 2016).

There was a change in the university's perspective concerning the cooperation with stakeholders in the region and local area after 2006. The university was positioned discursively in the Rectors' speech from this year to be more of an active player in the local area and not only as an object of national regional policy. The university had had an impact on the local area. The university had become a partner with local stakeholders, businesses, and start-up entrepreneurs (Karhapää, 2016).

There were problems from the point of view of the Rector with the attitudes of local stakeholders towards the university as a regional organisation (speech in 2007). Locally the university was seen as the most stable organisation (speech 2001). The local stakeholders' attitude caused fund raising problems for the university. At the beginning of the new millennium, the university was seen as a taken-for-granted, well state-resourced organisation, which brought national budget resources to the local area. Regional financial support from stakeholders was not donated to the university because the university was seen as a very strong operator (speech in 2007) (Karhapää, 2016).

A donation culture is lacking in Finland. There are no private universities that are based on donations and private investments in Finland. However, the Rector acknowledged that Finnish universities needed to diversify their fund raising further (speech in 2005). The Rector continued with the theme in 2007 as the university reform was confirmed. Locally, the university had been seen as an organisation which received budgetary funding from the state, and this had been taken for granted. Local players had assumed that national funding would then be transferred to the local area through the university. Therefore, when the local public sector considered their funding for different purposes in the region, the university was skipped over in their deliberations. There were concerns in the local public sector that scarce resources should not be given to already strong organisations (Karhapää, 2016).

On the other hand, an essential element for the success of the University of Eastern Finland was the support given by the local business and public sector

(speech in 2008). The success in research depends on the donors. But if the research funding is solely based on private donations, there could be a danger that attractive English style ‘Mickey Mouse’ programmes would replace expensive basic science fields, such as chemistry and physics (speech in 2005). In 2005, the Rector clarified that the concept of ‘Mickey Mouse’ programmes was used by the former higher education ministry in Great Britain. The Rector felt that this kind of development might have been occurred in some Finnish master’s degree programmes (speech in 2005). There is an important role for the regional stakeholders, politicians and business, to act on behalf of the university. The fact that makes this challenging is the politics in favour of the capital area (speech in 2006) (Karhapää, 2016).

The change in the role of the university in the region was stressed by the Rector discursively in 2007. The support of the local area was becoming even more important to the university because increases in national support would be limited. Strong research branches were being created in the university with the support of the state, but also with the support of local stakeholders. The university needed the local support for basic funding and also for partnerships in various projects. These local partnerships were essential criteria for the additional funding that the university was heavily competing for (speech in 2007) (Karhapää, 2016).

### **University excellence measured by the rankings**

The competitiveness of the university is measured and evaluated according to international university rankings. The rankings, as such, were a quite novel phenomenon at Finnish universities when they were first introduced at the beginning of the new millennium, although there is a tradition of evaluating academic and scientific activities by colleagues. The Shanghai ranking list was published in Finland in 2003 for the first time (Kallio, 2014).

The universities should possess a sustainable competitive advantage (Porter, 1990) relative to their competitors in order to succeed in the long run. There are two basic types of competitive advantage: lower costs and differentiation. In addition to responding to and influencing industry structure, an organisation must choose a position within the industry (Porter, 1990).

As a public sector organisation, the university’s competitive advantage is based on differentiation or on its profile. Profiling is the ability to provide unique and superior value to the students in terms of education, to be an attractive employer to professionals as teachers and scientists and offer valuable partnerships to stakeholders. Competitive advantage translates into a higher productivity than that of the competitors. The higher productivity of a research university may be measured on the basis of its publications. The Rector positioned the ‘new’ university organisation in the field of Finnish universities in 2007. According to number of publications, the University of Eastern Finland was third in Finland, right after Helsinki and Turku in 2007 (Karhapää, 2016).

The discourse concerning the rankings appeared in the Rector’s speech in 2005. The Rector stated that according to the marketing logic of the daily press, the annual university rankings seemed to have a strong publicity value (speech 2005). The Rector contrasted the rankings to the Eurovision song contests. The rankings

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could be ignored just like the Eurovision song contests (speech in 2005). The Rector felt that rankings like the “Shanghai list” only measured the success of single universities and the volume in selected fields. The rankings did not measure the success of the whole university. At its worse, concentrating on the top university policy would destroy the basis of the broad knowledge which the competitiveness of Finland had relied on over the last decades (speech in 2005) (Karhapää, 2016).

In 2005, the Rector discussed the future direction of the development of universities by stressing that there should be patience in developing a strong Finnish university education system. It seemed then that options were being sought for benchmarking universities in the USA or England, along with the information given by the “Shanghai list” –type rankings. ‘At the end of that road’ is the strong presence of marketisation especially concerning the mission of education in universities. State-bureaucracy would be replaced by a heavy accreditation system and ranking-based market information (speech in 2005) (Karhapää, 2016).

While the discourse on rankings three years earlier viewed the rankings sceptically, the Rector spoke in 2008 of the rankings in a taken-for granted-manner by stating that the aim of the University of Eastern Finland was to be positioned among the 200 best universities in the Shanghai-list rankings and the British Times Higher Education rankings. What was the significance of being among the 200 best universities? This question was posed by the Rector in 2008. The University of Eastern Finland was not to be compared to ‘so called’ top level international universities which have enormous resources and highly selective recruiting policies. Instead, there was to be a very realistic comparison to be made to many very good European research universities, which, typically, also have strong regional and national educational responsibility (speech in 2008) (Karhapää, 2016).

The Rector admitted that from the perspective of international specialisation, aiming to be a top international research university would be ambitious (speech in 2008). Only a few Finnish universities have the possibility to become genuinely international research universities. The Rector positioned (Fairclough, 2003) the University of Eastern Finland in the ranking lists in 2010. The strategy of the university was to be a strong multidisciplinary and international research university. The Rector stated that this strategy was a very good start. The independent ranking lists had announced that the University of Eastern Finland was positioned at number 308 in the QS World University Ranking in 2010. The ambitious aim was to be positioned at 200 in 2015.

The University of Eastern Finland has chosen the development towards a strong, multidisciplinary, and international research university as the basic offset for the merging process. As the Rector noted in 2010, we are also on the right track according to rankings independent of us: today, the QS World University Ranking, one of the most essential global rankings, was published. According to the ranking, the University of Eastern Finland ranked 308 among the universities of the world, while we have set an ambitious goal for the year 2015 to be in the top 200 (Speech in 2010).

The Rector discussed teaching, research, and the rankings in 2011, and stressed that the link between teaching and research had been the traditional ‘supporting

pillar ‘of the Finnish universities. In practice though, the relationship between teaching and research is tense. In the contemporary era of evaluation, the outcomes of the research are stressed at the expense of the teaching. In particular, international university rankings are based on research. In the Rector’s view these rankings were receiving a great deal of publicity. Even though the university aimed to be one of the best 200 universities in the strategy, the Rector emphasised discursively that the university must not ‘blur’ the unity of teaching and research (Karhapää, 2016).

The case university achieved excellence in terms of rankings. The rankings matter and are still discussed in detail at the case university. The multidisciplinary case university’s excellence was communicated to the university’s staff and stakeholders in 2021. The 2021 Global Ranking of Academic Subjects, conducted by Shanghai Ranking, has ranked the University of Eastern Finland’s research in atmospheric science, pharmacy, and tourism in the top 76–100 worldwide. Additionally, biological sciences, dentistry, nursing science, law, and medical technology performed the strongest in the ranking. The University of Eastern Finland was ranked in the top 300 also in geography, biomedicine, public health, education, medicine, forest sciences, and environmental science. Furthermore, 19 academic subjects of the University of Eastern Finland were ranked among the world’s leading 400 universities. In May 2021, the current Rector discussed the performance of the university:

Systematic and strategic support for research, and the strong development of our interdisciplinary research communities have significantly strengthened the university’s international performance in various subjects. This has created a foundation for our competitiveness and attractiveness also in the future. (UEF news on 26.5.2021)

Thus, the strategic choice of the university to aim at excellence as an international level research university has been successful.

## **Conclusions**

There have been several external and internal drivers of university transformation. Universities are expected to support social and economic development more directly, perhaps, than ever before. To gain competitiveness in the global environment, Finnish universities were reformed in 2010. More dynamic and flexible management procedures were applied. The internal change drivers at the national level pushed universities into the larger units. The Ministry of Education decided on the main principles of the structural development of higher education in Finland in 2006.

By the end of the change process, which was initiated by the Ministry of Education, the University of Joensuu and the University of Kuopio decided to join their operations in 2007. The merged University of Eastern Finland began operations on 1.1.2010 with four faculties and 13 educational fields. Thus, the case university, through its competitive strategy, defined and established an approach that was both profitable and sustainable to competing in higher education markets. The case university not only responded to its’ environment, but also tried to influence the environment in its’ favour. Now, the University of Eastern Finland is

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developing further as an international level multidisciplinary research university and is strengthening its' competitiveness.

However, the need for change was already noticed within the Finnish university institute in 2002, when the Council of Finnish University Rectors proposed the need for the change within the universities to the Ministry of Education. The global competitive environment forced Finnish universities towards more dynamic and flexible management procedures, which was not possible under the static accounting office status that the universities had within the state-bureaucracy before the reforms. Additionally, larger universities were sought. The common aim to develop as an international research university bonded the University of Joensuu and the University of Kuopio, as well as their historical and regional similarities. The strategy to become a strong multidisciplinary and international research university led the way towards a merged university in Eastern Finland.

The productivity of a research university is measured on the basis of its publications. The competitiveness of the university is measured and evaluated according to international university rankings. The University of Eastern Finland targeted to be positioned among the 200 best universities in the Shanghai-list rankings and the British Times Higher Education rankings. The strategy has been successful based on the Global Ranking of Academic Subjects, conducted by Shanghai Ranking, which ranked some of the University of Eastern Finland's research fields in the top 76–100 worldwide in 2021.

The link between teaching and research has been the traditional 'supporting pillar' of the Finnish universities. Even though the case university has achieved success and excellence in terms of rankings, it is stressed that it must not 'blur' the unity of teaching and research. As a public sector organisation, the university's competitive advantage is based on its profile. Profiling as an international multidisciplinary research university provides unique and superior value to the students in terms of education. Also, the university can be an attractive employer to professionals as teachers and scientists and offer valuable partnerships to stakeholders.

The need for universities to diversify their fund raising besides public funding increased the value of stakeholders, such as the local city and businesses, to the university. The support of the local area became even more important to the university because increases in national support would be limited. On the other hand, a donation culture is lacking in Finland. The university serves the local area and the key economic branches, which is in alignment with the profile of the university, by providing high quality education, talented young professionals as employees, and research, as well as partnerships in various projects.

External disruption caused by the Covid-19 epidemic changed the operational environment of universities globally in 2020. Since the University of Eastern Finland has been developing innovative management and e-communicating practices throughout its' history, remote working, and e-learning were applied promptly. The multicultural research teams were already familiar with online cooperation before the pandemic. Therefore, the main tasks of the university of teaching and research have not suffered a great deal due to the disruption. The

University of Eastern Finland continues reaching for excellence as an international research university.

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## Author Biography



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# The Single Silo University

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## **Creating a single priority: The university strategic plan**

The University of Salford has always played a significant role in the development of the local community through its economic contribution and social impact. It has worked closely with industry and public sectors through enterprise and research since at least the launch of the Enterprise in Higher Education initiative in 1987. There has also been ongoing recognition of the need to maximise national and international business partnering. Until 2016, this partnering activity was largely departmentalised within the University level research administration services. This meant that partnerships generated by academics with external organisation were largely managed as a reporting exercise rather than being actively planned, encouraged or managed. While there was some recognition of partnering activity in the plans of each academic school the result of this organisational treatment of partnering was a tendency was to see this work occur in isolation and as a separate silo of activity removed from other research or teaching and learning. Some academics were regarded in a colloquial sense as being ‘good’ at partnering without clear explanation or comparison against recognisable benchmarks. With the University’s 2016–2021 strategic plan, a series of “Industrial Collaboration Zones” were formed that made business partnering the sole strategic institutional priority. In practice, the plan created four focus points for collaboration that cut across existing organisational structures and divisions and actively worked to reach out and engage external partners. In the lead up to the development of this plan, the University had been in a process of continuously evolving its internal structures from a multi-layered hierarchy of faculties that were composed of many small and managerially independent schools to the current configuration of four large academic schools representing health and society, arts and media, science and engineering and business. Within these schools is an solely internal structure of departments that vary in size from ten to 50 academics of broadly connected disciplinary interests. This final configuration was itself triggered by the University’s 2016-2021 strategy and, in part, recognising the often confusing structures that confronted potential students and businesses wanting to engage with the University.

The rationale for taking this approach was well-evidenced from an economic and policy point of view. The association of higher education with ‘employability’

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and the need for UK universities to support the recognised skills gap were all emerging agendas at the point of the strategy’s formulation. Collaborative external partnerships make a significant contribution to most UK universities. The University’s new strategic vision reiterated this understanding with a clear statement regarding its expectation regarding the use and value of partnerships (University of Salford, 2016a). At the level of organisational culture and situation, the University’s choice of direction also reflected an opportunity to differentiate itself from institutions located nearby. The strategy also gave a voice to a prevalent internal perception that there was always something ‘different’ about the institution that was often ‘lost’ with external audiences. Despite the merits of the strategic direction, at the same time the strategic vision raised a series of questions that required operational actions to be successfully realised (Table 1).

**Table 1:** The university vision statement and the questions that it raises

Strategic vision	“By pioneering <i>exceptional industry partnership</i> [1] we will <i>lead the way in real world experiences</i> [2] <i>preparing students for life</i> [3].”
Desired operational actions	<ul style="list-style-type: none"> <li>• Create, foster, and maintain partnerships</li> <li>• Create or access real world experiences</li> <li>• Aligning delivery with partners and students’ expectations and needs</li> </ul>
Questions	<ul style="list-style-type: none"> <li>• What is an exceptional industry partnership?</li> <li>• What defines an exceptional industry partnership?</li> <li>• How can exceptional industry partnerships be measured?</li> <li>• What does a real-world experience look like?</li> <li>• What are the benefits to the student and the partner?</li> </ul>

This strategic vision statement could be interpreted broadly and in varying contexts by different parts of university. And this variety of interpretation did invariably occur. The academic contexts created by different disciplines, the variability of forms that partnering activities can take and the highly distributed nature of professional responsibilities in universities are all a major challenge to creating an effective partnering ecosystem within universities.

The popularity of matrix management lines also presents a clear challenge to ensuring that operational requirements and departments can align and work together with a shared purpose to achieve the intent of the strategic plan. Many universities have evolved matrix forms of management with an associate dean taking a lead around a portfolio such as research or engagement while heads of department (or similar) are directly responsible for managing people. The strategy and its priority did not set out to restructure this existing matrix. Instead, as a mechanism to gain grassroots support the university team tasked with operationalising the strategy sought out colleagues who regularly engaged external organisations but did not already have formal roles (such as Associate Dean) to become thought leaders. This was done without any systematic assessment of the

individual colleagues but rather achieved through referrals from multiple trusted colleagues so that the thought leaders were ‘generally regarded as good’. The result of this loose process was to identify individuals scattered across the schools, located within the existing matrix of management, with a brief to be daring and to win hearts and minds. The University undertook an external recruitment process to discover portfolio leads who were given a role that was a mix of being disruptor, change agent and aspirational role model. In some cases, internal applicants – from among thought leaders – were recruited to this wider role that was detached from the traditional management structure. Portfolio leaders did have priorities and these were largely shaped by the external environment and strategies that deliver results in the context of one or other “excellence framework.” In contrast to the role of portfolio leader, the existing role of departmental head is more commonly focused on immediate operational needs and, in the worst situations, their activities concentrate on reactively “keeping the wheels on.” It was often in the space of departmental management and the existing challenges of delivering existing services effectively and efficiently where the most resistance to the new strategy emerged. As a result of this tension there was a genuine need for a collective preparedness that committed to the overall institutional strategy as a mechanism for change. This preparedness coupled closely with a need for high levels of trust in that university leadership to enable a strategy that could be regarded, by some, as not directly related to their own portfolio of concerns.

Internal resistance to this single silo strategy inevitably did occur and was evident from the first formal announcements of the strategy. The forms of resistance represented a broad arc ranging from claims that this represented “business as usual” for some groups of colleagues (so there was no need to change) through to the argument that the strategy diverted focus from teaching and learning activities with an implication that the purpose and focus of the strategy was incorrect. A key tension for many staff was the strategy’s focus on business partnering and its emphasis on being the single priority for the entire institution. Having such a singularity of purpose in the statement was a significant change and challenge for many on a conceptual level as it was about the specifics of the strategy. A focus on business partnering was also challenging for many others who questioned the relevance to their own practice, their discipline or the assumed direction of travel that their own academic department was pursuing. All of these critiques reflected an organisation that was uncomfortable with strategic planning, long-term commitment to a single plan and reflected a challenge to the flourishing small-scale “kitchen table” activities that were flourishing and leading in multiple different priorities across all academic departments. As a result of these pushbacks from staff there was significant internal engagement work undertaken throughout the first year of the strategy to acclimatise its purpose and benefits across the university community. As forums for discussion the critical unpacking of the vision (Table 1) was rehearsed through each staff meeting. The need for well-designed parameters to measure partnerships in a consistent way across different forms and disciplines also soon became very evident as a result of these meetings.

### **Theorising partnering**

Genuinely understanding and theorising partnering became a core aspect of the strategy's development. As the strategy became embedded within the organisational culture, the internal understanding of partnerships proved to be highly variable. This variability was revealed with the presentation from different departments of their "good" partnerships. The effect of this sharing was a showcase of partnerships that went from little more than one-to-one email exchanges though to the much rarer form that incorporated complex multiple streams of activities that extended across teaching and research. Creating an institution-wide baseline for an exceptional partnership required its own stream of research in order to disseminate a shared comparable understanding of 'good' as well as setting out a series of achievable aspirational activities that could enhance existing partnerships.

There is a direct positive correlation between university activities and overall prosperity in the economy. Creating and applying new knowledge is a primary factor in driving economic growth. Universities are one of the key incubation sites for the creation and application of new knowledge. This is particularly true in areas of domain knowledge where research and development time as well as money is scarce in other organisations. The sense among some academics that Salford's strategy was a continuation of their current practice was clustered in specific disciplines (and consequently departments) for this reason.

Partnering opportunities enable commercial organisations to leverage universities as growth partners, to bring continuous improvement to the business and to advance their sustainability at local, regional and national levels. Salford's ongoing success, comparative to its size, in many of its departments with the government-funded Knowledge Transfer Partnership scheme gave substance to the internal sense among colleagues of an organisational difference that was often understated publicly.

The need for collaboration between industry, academia, and government has been further emphasised with growing demand for the introduction of sustainable practices in products such as cars and house construction as well as within the urban environment. Equally, universities need to grow their industry connections to offer students experiences that let them implement theoretical knowledge to solve real industry problems before they enter employment. The model of the Triple Helix is the most commonly utilised work to understand these interlinking needs between universities and other organisations. However, previous theoretical positions invariably do little to define what a good partnership looks like in form and instead focus on the position that partnerships themselves are good and should be part of all university ecosystems. Knowledge of this legacy of academic literature associated with the strategy was concentrated within business academics. This created a situation in which some business academics were resistant to the purpose of the strategy because they 'knew' the literature (and were critical of the work on an intellectual level) while other academics regarded partnership as a more organic process (or simply one driven by their personal networking) and were resistant to more systematic and institution-level interventions.

Theories of relationship management drill further into notions of what makes a good partnership and have evolved to consider a wide range of working environments including universities. Relationship management's focus upon the activities that establish, develop, and maintain successful relational exchanges presents a fruitful level of thinking to define an institution's own quality baseline. Moreover recently, the significance of relationships over and above transactional exchanges has become increasingly important in all types of organisations and relationship management considers how customers can produce and co-produce ongoing value in contrast to individual or discrete transactions. This emphasis implies the need for longer-term and high-quality relationships in practice. Because previous institutional practice had often focused on the reporting of partnerships that had generated by academics the significant difference between transactional contacts and more embedded relationships had been left poorly acknowledged. For some academics having any type of contact that could be labelled as a partnership was regarded as positive. Depending on practice within schools and departments, claiming the existence of partnership may even have produced a small allocation of workload without deeper scrutiny of what activities were occurring or the opportunities that may have been left unrealised when the linkage remained as one academic to one individual in the partner.

There are three identifiable approaches to relationship management. The Nordic School concerns itself with the interaction between consumers and marketing functions and uses descriptions such as "buyer-seller interaction", "interactive marketing" or "customer relationship" to reflect the focus. The second, Industrial Marketing and Purchasing Group (IMP), approach is based on interaction and networking approaches to business relationships and emphasises a view where transactions are not seen as isolated occurrences but as part of a set of continuous ongoing engagements. Finally, the Anglo-Australian school places value on the integrating concepts of quality management, service marketing, and customer relationship economics.

The complex challenges associated with business-university partnering is conveyed at the intersections of these three schools of thought. As a result, the influence of all three schools of relationship management is evident in the ways that universities generally undertake their partnering. The size mismatch between universities and the businesses they are endeavouring to partner with, especially SMEs, can unwittingly move the relationship towards becoming a series of one-to-many B2C transactions - and all the issues that this implies. To be successful the partnering needs to be long term and continuous, even if it fluctuates in its intensity significantly during the partnership. This makes the relationship more B2B in form and more accurately reflecting the way the partnership should be viewed. The contrast of these two models also reveals the conceptual tension between having a partnership with the university as a single entity and the contrast with day-to-day reality where interactions are conducted on an individual level.

Examination of the practical experience of partnering between businesses and the University revealed a pivotal quality for all of the successful relationships which was the importance of balanced reciprocation. The existing partnerships revealed that those most easily quantified as successful brought benefits to both parties of similar value even if the form of that value differed. Relationship

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management also acknowledges the role of trust, commitment, and satisfaction as being key to developing a successful sustainable organisational relationship. In the University of Salford, these attributes had to be achievable internally first given the need for departments as well as staff and students to work together before external relationships could be maintained successfully. The blend of relationship management perspectives used in universities and the complex internal/external interaction reflects the complex three-way partnering relationship that exists at an operational level between academics, students, and businesses. In the complex partnering relationship it was often evident that personally managed partnerships were often made simpler by dropping, or reducing, the student input and opportunities. These short-term simplifications also evidenced a consequent longer-term diminishment of the value of the overall partnership. For the businesses, access to students (and potential graduate employees) was almost always part of the reciprocal benefit.

Beyond the challenges of creating an internal environment of trust and commitment came a further complexity that related more clearly to the student experience of partnership. With students coming from a range of backgrounds and different countries a further factor for successful business relationship development can be seen in the need for cultural affinity, diversity, and experience. The need for this understanding becomes a more significant in international contexts precisely because of their increased psychic distance.

The partnering challenge is even more complex with at least thirteen recognisable variables for partnering success: commitment, cooperation, interdependence, comparison level of the alternative, non-retrievable investments, summative constructs, social bonds, trust, mutual goals, performance satisfaction, adaptation, shared technology, and structural bonds. Even with the definition of this wider set of key variables there remains a need to recognise that any set of variables related to partnering are contextual and modified by the specific situation. Examining specific examples of partnerships within the University made it clear that not all the variables needed to be fully present in a positive sense to be considered successful. Even with the variables defined there are multiple patterns of success and no “one size fits all” partnership model. The challenge for the strategy and its objectives was that portfolio leaders regularly reported this need for sensitivity to context. However, as a change programme the need for context was sometimes applied as a mask to justify legacy partnerships that offered scant evidence for success through any combination of the thirteen variables. It was also evident from these variables identified that there were indicative patterns more relevant to universities and for gaining the type of benefits that universities were seeking from their partnerships. In a higher education context, the value of business partnership comes from generating innovative classroom practice, gaining access to primary research data and income generation opportunities. The portfolio leaders, as a set of eyes that were generally more independent and detached from the institutional legacy were particularly conscious of these variables and their own performance objectives were shaped by these beneficial activities. Being new, or at least new to the role, also enabled the portfolio leaders to re-evaluate the benefits of existing partnerships without the fog of unsubstantiated claims and with a mechanism for an assessment that could be justified. This undertaking was not

solely a case of removing poor partnerships. With the thirteen variables and acknowledge the contextually different weighting of each provided leaders with a way to make constructive and supportive suggestions for improving existing partnerships and make them more valuable. Identifying the variables for successful partnership also defines behaviours that are valuable within a university environment more generally. One indirect outcome of the strategy has been the development of ten Salford Behaviours that are now incorporated into staff development activities, the management development programme and workshops that define the vision of the schools, the departments, and the courses. These behaviours are expressed with a single word. The influence of the strategy is particularly evident with behaviours such as ‘connecting’, ‘co-creating’, ‘enabling’, ‘inspiring’ and ‘learning’. This development has continued to develop the institution’s collective and shared awareness of itself not only in relation to partnership with businesses and industry collaboration but more widely with all knowledge exchange activities (in the widest possible meaning of this term). This develop is a justification, in itself, for adopting a single silo university strategy but the set of variables also reveal the ways that theorisations of relationship management and partnering are the most well-defined forms of knowledge exchange practice.

### **The value of knowledge exchange**

Although university and industry activities are interlinked it is difficult to directly evidence the total value of commercial knowledge exchange. However, some clear indicators of the financial value generated shows the scale of its impact within the economy. In 2014–2015 more than £836 million in research grants and contracts from the EU were provided to UK universities amounting to 14.2 percent of the UK’s research income. The creation of economic value is also shown in the claim that the Higher Education Innovation Fund (HEIF) generates £9.70 to the economy from every £1 invested. The outcome from InnovateUK funded partnerships can return up to £35 back to the economy for every pound invested. Universities are crucial to the evolution of national industry and economy, as they have the flexibility to take advantage of new opportunities and provide rapid responses to new needs that emerge from industry challenges. There are some indications that there is increasing recognition of the benefits that university partnering can bring with a continuously increasing number of knowledge exchange activities between UK universities and public, private, and third sector organisations.

Notwithstanding the acknowledged contextual and situational nature of partnering the university strategy still needed to understand impact in ways that could be measured and compared. Irrespective of the form of measurement, business to business relationships are understood within a current dominant logic of a service-centred economy that positions service provision as fundamental to sustainable economic exchange. At the core of this logic is the importance of collaborations and partnerships above the supply and sale of goods or products. Despite the differences between universities and traditional commercial organisations this key point is central to any measurement.

With the service-centric perspective and the need to understand the University’s partnerships in a comparative and consistent manner the need to



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measure became evident. Utilising the thirteen variables of successful partnering became the basis for this activity. Data was captured from twenty existing partnerships based around the thirteen variables and tentative bandings were defined (with acknowledgement of the relatively small sample being used). Using visualisations of the data and to create an iterative process this work was shared back with the academic leading each partnership to understand the value of the bandings and better insight as to the value and meaning of the variables within each partnership. A key learning from these iterations was that bandings were sometimes overly nuanced and within some partnerships specific variables were more often binary choices. Key contextual differences were also identified through this process specifically the noticeable differences between SMEs and larger enterprises in terms of the values that created success and the more granular differences between sectors which was hampered by small sample sizes and an institutional bias to partnerships in a relatively small range of sectors.

As knowledge is of central importance and value to universities consideration of “absorptive capacity” is also relevant in the consideration of partnership success and impact. This perspective aligns closely with dominant service-centred logic where value is based on the application and exchange of knowledge and skills rather than assumed to be embedded within tangible resources or goods. People exchange knowledge and skills to acquire the benefit of specialised competencies or services. In universities this is expressed as a need to create reciprocal relationships that are able to mutually create and exchange knowledge. The formation of these types of partnerships are then best able to respond to an increasingly volatile, uncertain, complex and ambiguous external environment. Unpicking the theorisation of what constitutes a “good” partnership in a knowledge organisation - including a university - produces a key learning from the single silo strategy. Knowledge exchange defines all the key activities of a university and the matrix of associate dean portfolios generally resolve to represent specific forms of knowledge exchange activity. This is a challenging statement for many individuals within a university. When we took our observations to key stakeholders within the university who were charged with the management of teaching and learning, creating international partnerships with other universities as well as research there was a very mixed response. These areas of the University’s operations sat outside the academic school structure where most attention had been applied in the operationalisation of the strategy. These functions were embedded within the University’s professional services structures that had in some cases less willing to recognise the value or purpose of the strategy within their own current practice or purpose. In effect, a siloed response to the strategy had been developed in these departments that suited existing internal needs and structures and represented less disruptive or radical responses than were made possible by the strategy. There was general acknowledgement that in principle the conclusion was correct, but individuals and groups effectively acted as gatekeepers for maintaining practice with a lighter touch acknowledgement of the purpose of the strategy. When pushed on how the management of their own functions within the university might change considering a knowledge exchange perspective the reaction was often less positive. It became very clear that the ambition of the strategy would need to evolve further to elicit change more broadly. The legacy of information systems and of work roles

largely defined around functions that would be directly challenged by altered perspectives was too much of a management challenge with too little prospect of additional benefit to be justified of the risk. With the conclusion of the five-year strategy in 2021 there is now evidence of organisational change within the University that now does reflect the knowledge exchange perspective. This has included the promotion of the ten Salford Behaviours, the formulation of an Innovation Strategy to replace separate engagement and research strategies and the ongoing re-organisation of many professional service departments. All of these actions reflect a conscious movement towards a service-centred business logic across the University. Reflecting the experience during the period of the strategy, this has met resistance from some parts of the University. The overall programme of change now underway in the University has been influenced by the outcomes of the 2016–2021 strategy as well as the national introduction of the Teaching Excellence Framework and Knowledge Exchange Framework and more recent changes in the higher education and Office for Student policy with the proposed Proceed metric.

Working with partners requires the mutual agreement to share benefits and mitigate risks. Individual enterprises increasingly no longer work as independent entities but through collaborative networks and clusters. The advantage of this type of working is in direct contrast to a persistent perspective in higher education environments where some academics cast themselves in the role of being an independent contractor reactively responding to requests for work activity from management as and when required. This attitude, combined with the increasing casualisation of the workforce through the use of adjunct faculty makes pro-active collaborative working more difficult to successfully achieve. A networking philosophy encourages collaborative working to achieve mutually beneficial goals where the parties become partners but it is problematic for individual academics who resist the transparency (and opportunities) of sharing culture. We encountered this directly with the evaluation of partnerships in the university as some partnership “owners” actively resisted our enquiries as they were particularly concerned about someone “stealing” “their” partnership. This was the cultural change that the strategy needed to engender when transactional modes of thinking are transformed into collaborative models. It should be stressed that the change in thinking required was often more about internal perspectives of the different departments than the external partners. Bringing about this change in organisational thinking has, in turn, produced an evolution in relationship management perspectives. Moving away from dominant individualistic concepts such as competitive advantage in favour of social and communal terms like collaborative advantage echoes both the individual as well as theoretical transformation that has had to occur. The partner is seen as the co-producer and an active participant in the relational exchange as well as a co-creator of value. The small value produced in a short-term exchange transaction becomes secondary to long-term value co-creation that is the product of collaborations across multiple stakeholders. Although commercial organisations increasingly recognise the central benefits of a knowledge based approach to partnering there is a clear lag in recognising the value of applying this perspective to university practice.

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Thinking regarding value creation and knowledge exchange primarily comes from observation of traditional “for-profit” commercial organisations found in existing literature. However, increased scrutiny of UK universities through the “excellence frameworks”, their wider social and economic impact, internal funding challenges, and their pronounced role as knowledge producers the conclusions of this wider body of literature increasingly works for universities too. The “knowledge economy” through the creation and application of knowledge is a primary factor in driving economic growth. This knowledge economy is driven by industry, academia, and the government working together in response to market demands for skilled labour and innovation.

### **Parameters for a successful partnership**

With an understanding of the significance of partnerships and taking the viewpoint that long-term knowledge exchange orientated collaborations produce greater value than transactional relationships leads to the need to determine the factors that enable university-business partnerships to be considered as successful.

Earlier literature identified many factors for successful business partnering. Some classifications are shaped negatively around concepts such as time restraints, lack of unity, communication difficulties or poor management. Others present the success factors in a more positive frame highlighting the value of trust, communications, diversity, and a culture of learning. Although the approaches vary, there is general agreement that the responsibility for managing business relationships rests with both parties. The variety of views in the literature were represented within the University by different attitudes towards partnerships and their overall value. The most enthusiastic saw the value of partnerships in everything they did with opportunities across the entire spectrum of university activities. Some colleagues regarded a partnership as a lower order priority than classroom activities or even a barrier to getting on with ‘real’ research. More worrying some colleagues lacked any opinion and were willing to let others collaborate while they repeated already well-rehearsed routines in their work practice. These latter positions are present irrespective of the clear value that partnering brings to classroom and research.

However, some of the frustrations expressed by less enthusiastic colleagues may have had some justification from the available evidence. Examination of the many claimed institutional partnerships often revealed a lack of any real management in the relationship process. Making maintaining the relationship problematic at the very least. Without clear reciprocal management in many of the University’s partnerships other factors could also be identified as falling short of optimal. A main factor for long-term success is the definition of goals that set out complementary and clear objectives for the partnership. Goals assist in framing the collaboration’s value as a whole and the responsibilities of each partner. Having agreed purpose brings alignment between the mission and vision of both partners. Other operational factors enable a reciprocal alignment but most important is the level of project management that brings coordination of the relationship while also enabling flexibility for both parties. The value of shared goals, coordination, and shared understanding of the relationship are central to all strong partnerships.

The presence of trust is crucial in the early development phases of a relationship. The importance of this in university-industry partnerships is pivotal to long-term success and setting expectations. The formal project plan and the collaborative creation of the application documents used in Knowledge Transfer Partnerships is one example of how to build trust early, set expectations for both parties clearly and build a working relationship quickly. Higher levels of commitment — put into a relationship early on by each partner — assumes a long-term and sustainable situation. Mutually sharing the expectations of both partners early on and in a transparent way also helped to remove any doubt as to why everyone is involved.

However, with knowledge of the importance of trust in a partnership, efforts to capture the parameters for successful partnerships constantly showed the process to be derailed by the complex internal organisational environment. In effect, the University's various departments were found on a number of occasions to be in an almost competitive relationship with one another for the attentions of the same partner. This made the University's purpose and expectations opaque and had a negative impact on trust. In some cases, this resulted in the business partner retreating to contact solely with the original academic or, in the worst case, withdrawing completely. Qualities such as trust and commitment were often absent between departments within the university, and this could increasingly be identified as a major impediment to successful (external) partnering. Upon investigation the root cause for this damaging situation often came back to the lack of clear internal reciprocating relationships and a lack of trust founded in a shared organisational vision – a legacy of the organisational culture that was prevalent prior to the 2016-2021 strategy. The concern this recognition raised was fundamental. If parts of the institution could not cooperate on partnering activities, then the likelihood that research or teaching based collaboration could ever eventuate would also be unlikely. Realising that the parameters for partnership success were also measures for internal permeability and cooperation returned to the persistent observation that all the core services of the University were forms of knowledge exchange.

Much of the previous research regarding business relations focus on identifying quantitative factors however more qualitative factors now also receive attention in the conscious movement away from transactional perspectives. Geographic location, the political climate, and social context are also viable considerations. Irrespective of which factors are prioritised there is a clear interconnectedness between each identified success factor. For example, outstanding communication, good coordination, and multiple connections between parties are all components present in an atmosphere of general success. It is also as important to have agreements that evidence the formality of the relationship. All these factors build trust and confidence in the relationship and enable further planning of future actions. As they have overlapping interrelationships, success factors cannot be understood separately but rather as a set of elements that in combination have a bearing on the success of a business relationship. In this way the many parameters for shaping a partnership are better considered as contributing to specific patterns for success. There is not a single right approach, and contextual sensitivity ensures that attempting to identify this type of framework would never be realistic. However,

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it is possible that the identified parameters can be combined in multiple different ways to produce a successful partnership.

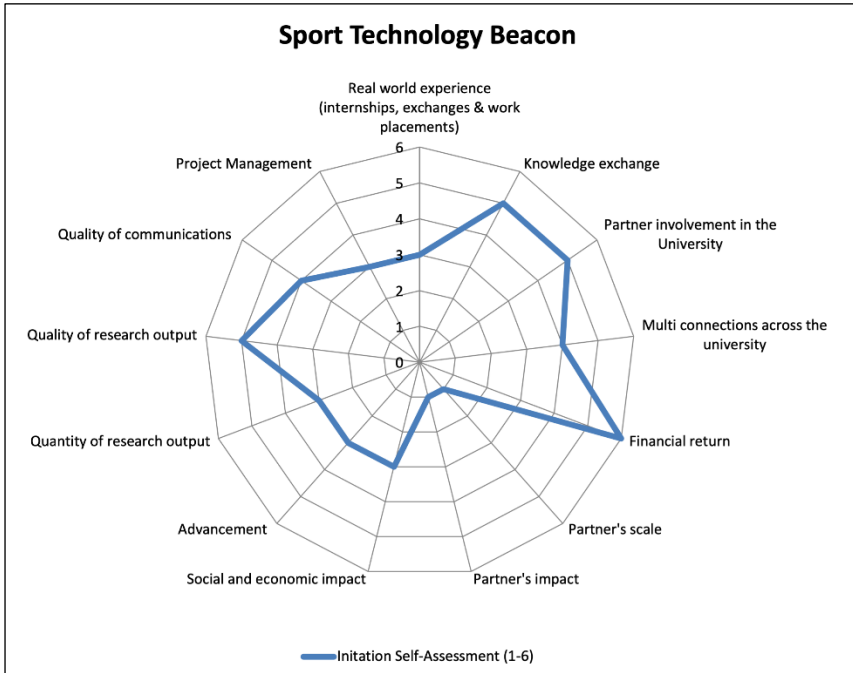
The existing literature reinforces the need to combine the success factors into patterns that can produce success that is sensitive to locational and situational context (Table 2). It was this set parameters that became the basis for evaluating and comparing existing and emerging partnerships that we used within the University. These parameters could be scored within quantitative bands and visually graphed in a manner similar to the format used to report KEF outcomes. To ensure alignment each parameter was also consider in relation to the most relevant excellence framework, an indication of the quality that the parameter brought to the partnership. Figure 1 indicates the scoring for the first parameter 'Real World Experience'.

**Table 2:** "Parameter" and "Real World Experience"

<b>Excellence Framework</b>	<b>Teaching</b>
Qualities	Demonstrability
Criteria	Real world experience (internships, exchanges & work placements)
Core (C) and Leading (L) University Indicators	% Work placements (L)
Low (1)	Students are unaware of the relationship with the organisation. No student involvement in the collaboration.
Medium - Low (2)	Generally students are unaware of the relationship with the partner. Few and sporadic student involvements (<=1 student p.a.).
Medium (3)	Awareness of the partnership among students on specifically related programmes. A small number of students are involved (<3 students p.a.).
Medium - High (4)	Students within a few programmes or a School are generally informed about the partnership. A number (<8 students p.a.) of students are involved.
High (5)	There is a university-wide awareness among students of the partnership and the potential opportunities. Many students are regularly involved with the partnership (<15 students p.a.).
Exceptional (6)	Students University-wide are fully aware of the collaboration and there is a clear route to easily become involved. There is some possibility to be hired or receive an academic award from the partner. Many students are regularly involved (>=15 students p.a.).

The visual representation also enabled visual comparison of the changes in the partnership over time. The academic evidence for the value of each parameter (Table 2) was an important aspect of the work as the intention was to convince academics that all their partnerships could be captured and measured in this consistent way. This graphical representation also allowed for direct comparisons to be made across multiple partnerships. An example of a sports technology beacon partnership (Figure 1) indicates the variables being used and how the banded scoring was represented ranging from 1 (lowest) to 6 (highest). Figure 1 also

outlines in summary the other twelve parameters that were used alongside ‘Real World Experience’ each had a similar rubric for assessment (Table 2).



**Figure 1:** Sport technology partnership visualisation

A key outcome from sharing these parameters for success with existing partnership leads in the University was that more ambitious activities were planned by the partnerships based on the parameters and the evaluation criteria listed for each. In other words, ambitious partnership leads used the table of parameters as a type of “shopping list” of potential new activities to explore with their partners. In some rarer examples, the academic leading a partnership used the literature cited by the sources used in the evaluation parameters (Table 3) as a form of further reading to better understand the value of the parameter and the benefits to their own partnership. The issue of a partner’s scale (Figure 1) in relation to the thinking expressed in the previous literature became a source of ongoing debated for some colleagues. This parameter was seen as biasing focus towards partnering with multi-national corporations over SMEs or startups. Increasingly the debate evolved the parameter itself to become consideration for a partner’s presence (both physically and digitally). This viewpoint better aligns with locational context and consideration – where high levels of presence might be important in a civic or regional context – and also captures the understanding that a startup can obtain very high levels of presence if their offering was disruptive or challenging established sector leaders. This evolution also aligned more comfortably with the thinking defined in the previous literature relating to communication and environmental characteristics.

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**Table 3:** Success parameters for business partnering based on existing literature

<b>Parameter</b>	<b>Description</b>
Goal setting	Common, complementary and clear objectives set across partnerships. Goals established from the beginning of the collaboration that clarify the importance of the relationship as well as the potential benefits and risks that each party is taking (e.g., Jacobson & Ok Choi, 2008).
Coordination	Excellent coordination brings flexibility and adaptability (e.g., Palmer <i>et al.</i> , 2005).
Nature of the relationship	Coherence of intention and motive surrounding the partnership leads to a clear relationship between parties. Learning from the collaboration must be available to both partners (e.g., Durr 2014).
Sustainability	The level of engagement within the relationship and the commitment to sustain it assumes that the relationship has a future, bringing value and benefits for both parties (e.g., Williamson <i>et al.</i> , 2016).
Communication	The quality and process of information exchange between the partners adds value to the relationship. Data sharing, open, and frequent communication through formal and informal links are important (e.g., Williamson <i>et al.</i> , 2016).
Real evidence	Early establishment of methods that measure both qualitative and quantitative partnership impact (e.g. Ulrichsen & O'Sullivan, 2015).
(Inter)dependence	Awareness that both parties are strong individually but benefit from the value created by the partnership making both more successful. An understanding by the partners that complementary skills produce the greatest impact (e.g. Benson, 2016).
Environmental characteristics	Contextual circumstances affect the success of a relationship including geographic location, social context, political climate, or government policy (e.g., Williamson <i>et al.</i> , 2016).
Trust	Reliability implies mutual respect and understanding of those in the partnership (e.g., Williamson <i>et al.</i> , 2016).
Multiple connections	Having a broad range of connections between partners links the organisations at many different levels and through multiple layers of decision-making. This requires a multidisciplinary approach and promotes cross-disciplinary projects (e.g., Edmondson <i>et al.</i> , 2012).
Formal agreement	Formal evidence of the relationship with documents outlining approach and policy (e.g., Benson, 2016).

### **Lessons in excellence: Making institutional learning persist**

A key learning during the period of the single strategic priority was the benefit of recasting all the activities of a university as one form or other of knowledge exchange. While the initial intention of the strategy was to focus on working with businesses, different interpretations and forms of partnerships regularly made a consistent level of partnership management and service difficult. In other words, the single silo strategy - and ambition - was better cast from the original vision statement (Table 1) as “By innovating multiple forms of knowledge exchange we will lead the way in real world experience preparing students for life.” This statement is particularly salient in the current UK HE sector where the tendency of government policy has been towards the generalisation of universities. There are few distinctive features that genuinely define UK universities individually and as a result there is a public reliance on the outcomes of national “excellence frameworks” to enable applicants to choose between institutions. The ambition of a single silo institution lends itself to differentiation in a way that is directly evident for potential students and businesses. This vision challenges ideas of ‘teaching only’ contracts, the presence of an ivory tower or the sometimes amorphous and tense role of the university within their own communities.

As the period of the strategic plan came to end, much of the ambition had been realised. The institution was confidently articulating its own presence and purpose. It is better structured to face different external audiences while also understanding that it does address multiple audiences. It knows its purpose in relation to bodies such as the Greater Manchester Combined Authority in a way that would have been problematic prior to the strategy commencing. The benefits and change within the university can also be evidenced in more unexpected ways. The recognition of the parameters that shaped good partnerships as well as the underlying need for trust and commitment within the organisation has led to the definition of ten “Salford Behaviours” that are seen as attributes to be encourage in all staff. These behaviours are labelled as connecting, inspiring, learning, enabling, evolving, achieving, deciding, co-creating, aligning and daring. The behaviours figure heavily in the evolution of the academic performance review process into the more mature system of career conversations and have become central to the way the staff development activities are presented within the university. Recruitment practice in the University has also evolved around the identification of these behaviours. Many interviews for academic positions are now incorporating questions that probe the candidates’ own alignment with the sentiments (and interrelationships) expressed within these behaviours. Candidates are also more commonly asked about their partnering experience and their capabilities to work with external organisations. With the benefit of reflection and time, the institution-wide impact of the strategy is both expected and a necessary outcome. The greatest challenge was always people and prevailing organisational culture(s) within the institutions. Any process of change based around these two aspects of an organisational will take time and continue beyond the scope of a five-year strategic planning.

At the same time, new and significant partnerships were generated during the period of the strategy. The maturing partnership between the NHS Foundation Trust, the Salford City Council, Peel Holdings and the University has become a



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hallmark for other partnerships to follow. This multi-organisational partnership emerged at the end of the period of the strategy. This was partly the result of the strategy being in place at the University as well as the maturing interest that all the other organisations had come to have in the value and benefits of closer working relationships. The locational proximity makes the partnership appear obvious, but it is with the maturity and learning taken from the period of the strategy that is making it possible for the University to sustain its place and its role. This pivotal partnership is significant for the ways that it brings together the largest employers in the city in a manner that is heavily focused on a mutual desire to improve and learn as organisations as well as the recognised mutual benefits in promoting the city as a destination for entrepreneurs, innovators, and investors. The evidenced success of this partnership also creates a more visible focal point for other organisations outside the Salford region to initiate discussions with the University. This itself is a proof of success of the strategy as an increasing number of highly valuable partnership proposals are brought to the University. These developments would not be happening without the five-year strategy. As a result of the internal focus on this single silo of activity, academics across the University are now more confident to engage in innovative assessment practice that uses external business briefs as well as engaging businesses in a wider range of activities that extend beyond the commonly deployed one-off guest lecture.

The learning that developed during the period of the strategy still has opportunity to develop with academics all individually on different points in their own journey. Management and leadership are also maturing as Associate Deans (Academic) - whose responsibility is teaching and learning focused - learn new ways of engaging with their equivalents from the research and innovation as well as engagement and enterprise portfolios. For some associate deans and heads of departments taking the view that all activities are based in knowledge exchange has been enabling and given those individuals the space to re-imagine their own roles. For others, they still have distance to travel on this journey but the continued institutional encouragement upon industry collaboration and the regular articulation of the Salford Behaviours also provides a supportive and focused way to enable this journey.

This developments and improvements within the University have brought real change within the classroom. The focus of research endeavour and bidding has shifted, and businesses are now engaged with in a more timely and “commercially” appropriate way. However, there is a caveat to the positive internal and organisational change brought by the strategy. The results are yet to be seen within the “excellence frameworks” with the KEF outcomes for the University best described as a “mixed bag, the 2021 REF outcome still to be reported and the TEF results including the NSS in limbo as a result of COVID-19 circumstances. Early indications are that even after five years of the single silo university any markers of success within one or other of the “excellence frameworks” will be much slower to emerge.

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## Author Biographies



**Gordon Fletcher** is Director of Research and leads the Business 4.0 directorate at Salford Business School. His research focuses on effective digital business practices. He recently published a third book around these broad topics titled "Creating a Successful Digital Presence". Gordon is a Chartered Manager and a professional Member of the British Computing Society.



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**Monica Gimeno-Dalmau** studied Advertising and Public Relations in Barcelona, followed by MSc Marketing at the University of Salford. She worked extensively in marketing, brand positioning and business development for haute cuisine and deluxe hospitality segments in the UK and Spain. Having returned to Barcelona, in response to the pandemic she has founded a family enterprise, a luxury construction business in the Barcelona region.



# How Transforming a Teaching Center Prepares a University to Adapt to Change

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## Introduction

With teaching and learning as their core mission, many universities and colleges embrace the traditional model of a professor lecturing in a classroom while students sit and listen. Though this model remains firmly ensconced in many classrooms and institutions, the interest in, and demand for, more engaged teaching to facilitate active and deep learning has steadily grown (Ørngreen, et al., 2021; Miller-Cotto and Schunn, 2020; DeLozier and Rhodes, 2017). Moreover, in recent years, there has been a call for more inclusive pedagogy, more diversity in faculty and student bodies, and more equity in educational opportunities (Castillo-Montoya, 2020; Dobbin and Kalev, 2016). At the same time, the competitive landscape has seen the rise of online institutions that leverage the power of technology (Morris, et al., 2020; Garrett, et al., 2019). All of these trends have created the impetus and momentum for educational institutions to analyze environmental changes and systematically respond in a number of ways, such as offering faculty workshops and seminars on engaged teaching and other pedagogical approaches, investing in educational technologies and online programs, and adapting admissions policies and hiring practices to strengthen the diversity of faculty, staff and students.

Though the trends are accelerating, and institutions have been responding, priorities changed on March 11, 2020, when the World Health Organization declared the Novel Coronavirus Disease, or COVID-19, a pandemic. Suddenly, institutions needed to take dramatic action, with little time for in-depth analysis and systematic responses (Grajek et. al., 2020). In this chapter, we argue that the University of Pittsburgh was able to successfully transition teaching and learning out of the classroom in response to COVID-19, largely due to the transformation of its centralized teaching center that had begun some years earlier. Not only did transforming the Center position the University to address the teaching challenges associated with the pandemic, but it will aid the University in addressing unknown challenges to come.

## **Background and motivation for change**

The University of Pittsburgh, founded in 1787, is a public institution with approximately 24,000 full-time undergraduate students and 7500 full-time graduate students. The university's main campus – by far the largest – is located in the U.S. city of Pittsburgh, which is in the commonwealth of Pennsylvania; the University also operates four small regional campuses across western Pennsylvania. The University employs about 4800 full-time faculty and about 7500 full-time staff. Administratively, the University is led by the Chancellor and overseen by the Board of Trustees. The academic mission of the University is led by the Provost, who reports directly to the Chancellor, and who is responsible for all academic programs and units, related support units (e.g., the centralized teaching center, undergraduate admissions and advising, registrar, etc.), associated personnel, strategies and resources across the University. On the main campus, academic programs are offered through sixteen schools and colleges, each of which is led by a dean. The regional campuses, led by campus presidents, also offer a range of academic programs. The deans and regional campus presidents, collectively referred to as the Council of Deans, report to the Provost.

The University of Pittsburgh, or “Pitt” as it is often called, is a comprehensive university, offering a wide range of academic programs in arts and sciences, business, engineering, computer science, public and international affairs, law, medicine and other health sciences. Pitt is also a world-class research institution with a Carnegie Classification of R1 (a doctoral university with very high research activity), advancing scholarship and innovation through research in health sciences, engineering, the humanities, the social sciences and more. Organizationally, the University has been decentralized in much of its structure and decision-making, with deans and regional campus presidents given considerable latitude in overseeing their academic units within the boundaries set by university policies and guidelines. However, some resources at Pitt have traditionally been centralized, including resources for the support of teaching.

## **Drivers for change**

In 1995, the University of Pittsburgh established the Center for Instructional Development and Distance Education (CIDDE), consolidating in one location staff who provided direct support for instructional design, development and delivery. According to a memo from then-Provost James Maher, the Center would serve as a “university-wide instructional support unit” to “advance existing efforts, [and] encourage and support new initiatives.” Instructional designers, media producers and educational technology staff were brought together to staff the new center. A director was named to lead the team of about thirty staff; the director reported to the vice provost for faculty. Unlike teaching centers at many universities, the portfolio of CIDDE was quite broad and, by the early 2000's, it included assistance with pedagogical strategies and use of educational technologies, direct support for the learning management system, development and support for online programs and courses, professional development programs for faculty and teaching assistants, design and technology support for classrooms and other learning spaces, robust media production services, and later, operation of a testing center and a center for measurement and evaluation of teaching.

In 2014, the University of Pittsburgh embarked on a university-wide strategic planning process. The outcome – *The Plan for Pitt 2016-2020* – included “advance educational excellence” as one of six overarching goals. Advancing educational excellence called for innovation in the classroom, increased use of educational technologies, enriching the curriculum, and personalizing the educational experience for students. During the planning process, it became clear that CIDDE would play a primary role in advancing educational excellence, but it also became clear that CIDDE – in its current form – was not strategically positioned to have the desired impact. In particular, the Center lacked much faculty engagement in key areas, some resources were focused on legacy services that did not have a direct impact on improving teaching, and organizational adjustments and additions were clearly necessary to build a more responsive and agile organization. By this point in time, we had direct responsibility for CIDDE as its director (second author) and vice provost for faculty affairs, development and diversity (first author). While the director, who reported to the vice provost, provided overall day-to-day leadership of CIDDE, we worked closely together to align the functioning of the center with university goals and priorities. Thus, to support the strategic plan, we developed a proposal to transform CIDDE to address its shortcomings and build a center that would meet the current and future needs of the University. Chancellor Patrick Gallagher and Provost Patricia Beeson accepted our proposal, and on June 24, 2016, announced the formation of the University Center for Teaching and Learning.

### **Goals, objectives and critical success factors**

The primary goal of the newly established University Center for Teaching and Learning, consistent with the *Plan for Pitt*, was to advance educational excellence through innovative, research-based approaches to teaching and learning, and through effective uses of technology to enrich both the on-campus and virtual learning environments. As Provost Beeson put it during our recent interview of her, “We want a lively academic environment around teaching.” To meet this goal meant moving beyond simply providing support services to faculty, to becoming a driving force in creating opportunities for faculty to learn, engage and experiment to enrich the teaching and learning environment.

We had two key objectives for the new Center. The first was to enhance the curriculum at all levels through innovative, discipline-based approaches to teaching and learning, and appropriate uses of educational technology. In Provost Beeson’s words:

*What we envisioned was having a core faculty interested in pedagogy who want to be great teachers, love thinking about it [and] doing research on it, brought together, engaged, and then being ambassadors to other faculty.*

By supporting faculty interested in pedagogy and great teaching, we could support and encourage the scholarship of teaching and learning at Pitt. Moreover, we saw this as an opportunity to more tightly integrate instructional design and information technology. That is, we weren’t interested in simply implementing new educational technologies because they were available; rather, we wanted to implement technologies that would support our teaching faculty and student learning.

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The second objective was for the Center to engage more directly with faculty through new initiatives and closer collaboration on pedagogy and educational technology projects. CIDDE tended to be reactive rather than proactive in working with faculty, waiting for faculty to contact Center staff for assistance. Provost Beeson observed: “Everyone had to walk to the Center. This wasn’t the kind of faculty outreach we needed.” With the transformation to the University Center for Teaching and Learning, we aimed to change both the reputation and the culture of the Center to one that anticipated faculty needs and brought faculty together. We wanted to change the primary focus from solving problems to fostering innovation and engagement.

To succeed, we needed to motivate and excite more faculty to innovate. We also needed to engage more faculty in activities such as experimenting with alternate modes of instruction, using flexible classroom space in novel ways and in conducting research on pedagogy. This would require revamping and developing programs and resources, ensuring the staff had the appropriate skillset and mindset, and implementing a communication plan to raise faculty awareness of the Center, its goals and its resources.

As we planned the transformation, we articulated a set of Critical Success Factors (CSFs) that would ensure success. These included:

1. *Increased faculty engagement with the Center.* In the past, CIDDE tended to be reactive to faculty needs and university priorities. For the transformation to succeed, the University Center for Teaching and Learning would need to be much more proactive in motivating broad and deep faculty engagement, supporting innovation and experimentation. Faculty would be encouraged to engage with the Center as partners in advancing excellence in teaching, rather than viewing the Center as the place to simply fix problems that arise.
2. *Enhanced communication and widely available resources.* We understood the need for a dedicated communications strategy and skillset to help hone and deliver messaging. This would include a redesigned and enhanced website, new and targeted communications to faculty and leadership, and an informative newsletter to the academic community.
3. *More targeted faculty development offerings.* While CIDDE offered a range of faculty development programs, the *Plan for Pitt* highlighted the need for more broad-based and targeted offerings, including opportunities related to the innovative use of educational technologies, and additional opportunities for faculty to increase awareness about diversity, equity and inclusion, and to develop the skills needed to teach in a diverse, multicultural environment.
4. *Expanded use of technologies to support teaching.* A successful transformation meant that faculty would look to the Center for guidance and innovative ideas for using state-of-the-art educational technology to support and enhance their pedagogy. This also implied that the Center would need appropriately skilled and trained personnel to provide this assistance.

5. *Expanded campus partnerships.* Though CIDDE was the University's centralized resource to support teaching, other units had begun to build expertise and accumulate resources; in recent years, this trend accelerated, in part due to an increased emphasis at Pitt on the quality of teaching. Thus there were pockets of excellence across the University. However, there was little sharing of lessons learned or best practices. With the transformation, we wanted to leverage the knowledge, progress and enthusiasm found in the units through strong partnerships.
6. *Engagement in the scholarship of teaching and learning.* The transformation would involve innovation and experimentation. We wanted to capture and share what we learned about the scholarship of teaching and learning with the broader community.
7. *Expanded focus on assessment of teaching.* CIDDE administered the University's student opinion of teaching survey. While use of the survey was not mandated, most academic units did take advantage of this service; consequently, the survey results tended to have considerable weight in annual reviews of faculty as well as in promotion decisions. In recent years, however, there was increased recognition of the shortcomings of student opinion surveys and the call for a more comprehensive approach to assessment of teaching became louder. A successful transformation effort would have to address this concern.
8. *Consistent support and buy-in from deans and regional campus presidents.* The transformation would need strong support from the Council of Deans. Through regular briefings and discussions, their input would help to develop the new strategies and initiatives. Additionally, their support would play a significant role in raising awareness and motivating faculty to engage more deeply with the re-focused Center.

### **The transformation process**

Following the Chancellor's and Provost's announcement establishing the new University Center for Teaching and Learning, and approval by the University's Board of Trustees, we worked over the next two years to refocus and reorganize the Center, and build new capacities. Specifically, in the summer of 2016, we continued to build on our previous organizational work by focusing on the newly defined strategies and initiatives to support the Provost's vision for teaching at Pitt. We re-branded as the University Center for Teaching and Learning in the fall of 2016. In January 2017, we reorganized staff units to more effectively implement the plan. We focused on building a strong foundation for the Center that would allow us to flexibly adapt its focus as needs and the environment changed over time. To help achieve the changes, the University invested new funds over two years – the equivalent of 10.5% of the annual budget of the Center. With these funds, we were able to hire five new staff and support major new initiatives described in Section 4.3.

### **We stopped doing things**

To support the new initiatives, some changes to the current service portfolio needed to be made. Legacy services, including operation of a photography unit,



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poster printing and support for certain special events, were reassigned over a two-year period to more appropriate units within the University. Other services, such as software application development, technology design, installation and support for non-instructional facilities, and a courier service were discontinued. This strategy freed up resources and re-focused staff on enhancing instruction and learning.

### **We re-organized and hired into new positions**

A gap analysis of our resources against our plans showed we needed to add to our portfolio of expertise by hiring a communications manager, an assessment expert, web support staff and event management staff. We also re-assigned staff in instructional design, instructional technology and Graduate Student Assistant positions to support new priority programs. We ensured staff had the training needed for their roles and responsibilities. In addition, we consolidated the service units of the Center (units such as the Testing Center, Communication and Marketing, Web Services, Event Support) into one business unit, rather than distributing these functions throughout the Center. This allowed one management level person with strong operational skills to focus on operational units and freed other managers to focus on technology and pedagogy innovation.

### **We launched new initiatives**

Over the next several years, we launched a number of key initiatives aligned with the *Plan for Pitt* and in support of our goals of enhancing the curriculum and engaging more directly with faculty, including:

1. *Course Incubator*: a program designed to radically redesign a small number of large enrollment courses by bringing together teams of experts in pedagogy, instructional design, and educational technologies. These experts, working with faculty who teach the courses, would use the latest research to transform curricula, foster educational innovations and enhance learning outcomes. A competitive two-phase process was developed to give faculty the opportunity to develop initial ideas for course redesign prior to presentation and selection for funding.
2. *Center for Mentoring*: a set of resources to support professional excellence by encouraging growth and development of faculty as teachers and scholars through a variety of faculty mentoring programs. A flagship program of the Center is the *Mentoring Academy*, a program that targets development of mentoring competencies and results in a credential awarded by the Center. The Center also hosts events throughout the year to help mentors, mentees, and administrators establish, improve, and evaluate mentorship programs.
3. *Center for Communication*: a central resource to help faculty communicate the significance of their work, as well as strengthen their verbal and written communications. The Center offers workshops on improving presentations, poster sessions, and videos; feedback on writing (for grants and teaching portfolios); coaching on presentation skills for different audiences; and individual consultations.
4. *Center for Diversity in the Curriculum*: a variety of workshops, events, and other resources to help faculty ensure that their courses and curricula

offer diverse perspectives, to increase faculty awareness of diversity issues, to build faculty capacity to develop course materials that reflect a diverse society and to foster inclusive learning environments. In this context, “diversity” expands on traditional race and gender perspectives to include other differences such as age, socio-economic status, gender identity and sexual orientation, religion, and political preferences. With input from faculty, we developed programming for an intensive summer institute, a year-long faculty learning community for course redesign, and workshops and programs throughout the academic year. Some of the more popular sessions included an interactive theatre performance on student race relations in the classroom, a poverty simulation, and a series called “Understanding our Students” that featured student panel discussions on political diversity, religious diversity, perspectives of students with disabilities and transgender students.

5. *Teaching & Learning Exchange*: a program that focuses on applying the latest research on effective approaches to teaching and learning by sharing ideas and best practices among discipline-based teaching and educational research centers across the University. Academic leaders whose work focuses on studying and improving teaching and learning are invited to regularly “exchange” ideas, to share outcomes of current work, and to collaborate on projects to enhance teaching and learning.
6. *Teaching Partners*: a faculty learning community focused on the scholarship of teaching that provides a regular forum for both in-person and virtual engagement. Agendas and topics are faculty driven. Teaching Partners are notified early of new developments in the Teaching Center, and often serve on focus groups or complete surveys to test ideas for new services, strategies, or resources. Both the Center and the members benefit from this two-way engagement.
7. *The Open Lab*: a makerspace dedicated to providing support and technical resources to faculty for incorporating emerging technologies into teaching. In collaboration with the University Library System, the Lab offers faculty hands-on opportunities to explore how technologies like virtual reality, augmented reality, or 360-degree video can be used to enhance their courses and student learning. Experts from the Teaching Center work with faculty to plan and implement technological innovations in their courses.

## **Results and assessment**

In this section, we present the outcomes of our efforts to transform CIDDE into the University Center for Teaching and Learning, often referred to as simply the Teaching Center. We begin in 2020, presenting an overview of the Center and the state of the transformation effort before the COVID-19 pandemic hit. Then we consider the impact of the pandemic. Finally we share the views of senior leadership.

### **Where we were in 2020**

By 2020, the University Center for Teaching and Learning consisted of a staff of about 65 full-time professionals as well as undergraduate and graduate students, post-docs, and contract employees. The Center's learning design experts help faculty apply research-driven pedagogical techniques to their teaching, and to design impactful learning experiences for students, whether using a face-to-face, online or hybrid approach to instruction. A group of technology experts supports faculty in their use of educational technologies within and outside the classroom. Professional videographers and graphic designers work to meet the multimedia requirements of Pitt instructors, and the classroom support staff design and support technology and instructors teaching in campus learning spaces. The University Center for Teaching and Learning also operates a testing center, offers services for the measurement and evaluation of teaching, and provides multimedia support for numerous academic events and instructional activities. The work of the Center is driven by the needs of the Pitt community. New projects and opportunities arise on a regular basis. They require responsiveness, flexibility, agility, and the ability to re-prioritize current work, while remaining in alignment with stated goals and directions of the University.

The new initiatives launched since 2016 have generally been successful, bringing greater visibility to the Center and expanding our client base. In particular, the *Mentoring Academy* has trained almost 30 faculty to facilitate the mentoring programs being offered across many departments. Broadly expanded offerings in the *Center for Diversity in the Curriculum* have led to the creation of a new position – director of equitable and inclusive teaching. More resources have been directed toward the *Assessment of Teaching Initiative* in response to changing needs and to align with a university priority of more holistic faculty review.

The University Center for Teaching and Learning monitors its performance with a set of metrics inspired by the previously articulated Critical Success Factors. As we transitioned from CIDDE, we identified a set of Key Performance Indicators (KPIs) for the new Center, as shown in Table 1. We track each of the KPIs and include these metrics in annual reports to the Provost.

Monitoring the KPIs over time not only allowed us to assess how the transformation was progressing, but it allowed us to make adjustments along the way. For example, as we saw increasing attendance at diversity-related events, aligned with a growing campus emphasis on equity, diversity, and inclusion, we were able to quickly re-align resources to expand programming opportunities, hire a full-time consultant focused on inclusive teaching, and develop inclusive teaching competencies in all consultants.

Similarly, as we watched attendance at educational technology workshops double from academic year 2017-2018 (223 attendees) to academic year 2018-2019 (442 attendees), we knew that simply adding more workshops to meet demand would not scale. We embarked then on a strategy to offer more online resources, including recorded workshops and the development and curation of more self-help resources.

**Table 1:** Critical success factors and key performance indicators

<b>Critical success factor</b>	<b>Key performance indicators</b>
Increased faculty engagement with Center	<ul style="list-style-type: none"> <li>• Number of workshops offered</li> <li>• Number of faculty attending workshops</li> <li>• Number of faculty consultations</li> <li>• Courses using Canvas or Blackboard</li> <li>• Number of faculty and students using the Open Lab and types of projects initiated</li> <li>• Faculty engagement in Teaching Partners programs</li> <li>• Number of Course Incubator projects funded</li> <li>• Number of faculty participating in mentoring programs</li> </ul>
Enhanced communication and widely available resources	<ul style="list-style-type: none"> <li>• Newsletter distribution and open rate</li> <li>• Number of columns authored in the University Times</li> <li>• Social Media and Web statistics</li> <li>• Coverage in Pitt media and publications</li> </ul>
More targeted faculty development offerings	<ul style="list-style-type: none"> <li>• Number of faculty attending workshops</li> <li>• Variety of workshops offered</li> <li>• Number of faculty attending diversity programming</li> <li>• Number of applications for newly established Provost's Award for Diversity in the Curriculum</li> </ul>
Expanded use of educational technologies	<ul style="list-style-type: none"> <li>• Number of faculty consultations on technology use in teaching</li> <li>• Number of courses using Canvas or Blackboard</li> <li>• Number of faculty and students using the Open Lab and types of projects initiated</li> <li>• Faculty engagement in Teaching Partners programs</li> </ul>
Expanded campus partnerships	<ul style="list-style-type: none"> <li>• Number and types of faculty-initiated Open Lab projects</li> <li>• Number of Teaching Partners Events</li> <li>• Number of new online programs</li> </ul>
Engagement in the scholarship of teaching and learning (SoTL)	<ul style="list-style-type: none"> <li>• Number of SoTL articles published</li> <li>• Number of presentations made at SoTL conferences</li> </ul>
Expanded focus on assessment of teaching	<ul style="list-style-type: none"> <li>• Student Survey response rate</li> <li>• Number of faculty consultations about assessment</li> <li>• Number of school and regional campus consultations about assessment approaches</li> <li>• Number of schools and regional campuses that created and adopted revised assessment of teaching plans</li> </ul>

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Overall, by 2020, we were doing well on a number of KPIs, a representative sample of which are shown in Table 2 along with data from 2016 when the transformation began and 2020 (the most recent data available). There was significant advancement in most KPIs over this time period. The one exception is “the number of faculty attending diversity events,” which saw only modest growth from 2016 to 2020. This perhaps reflects the significant change seen after the *2020 Diversity Summit*, a two-day University-wide event that we sponsored and hosted in 2014, to reinvigorate diversity in the curriculum programming. Prior to the *Summit*, fewer than 50 faculty participated in such events each year. By 2016, when the transition to the new Center officially began, that number jumped to 510 and has slowly increased since then.

**Table 2:** Sample key performance indicators and changes over time

<b>Representative KPI</b>	<b>At the start of the transition (2016)</b>	<b>Most recent data (2020)</b>
Number of workshops offered	75	236
Number of faculty attending workshops	670	2073
Number of faculty teaching consultations	141	761
Number of faculty attending diversity events	510	582
Number of newsletters distributed weekly	350	6700
Number of visits to the Open Lab	0	1759
Percent of faculty using learning management system	64%	74%
Number of columns authored in the University Times	0	4 per term

The university’s investments in the transformed Teaching Center contributed to the Center being able to build a strong and positive reputation among faculty as sought-after consultants and knowledgeable partners. In the three years preceding 2020, faculty engagement with the Center increased in all areas. The Open Lab far exceeded expectations with almost 1800 walk-in visits in 2020, with faculty and students learning about using emerging technologies in teaching. Attendance at the Center’s workshops had been growing steadily, increasing by over 200% in that time. The weekly newsletter distribution reached almost all full- and part-time faculty and use of web-based resources had been growing steadily. The Center’s reputation was strong and communication channels were established. We were on-track to meet our overarching goals and objectives associated with the transformation from CIDDE to the University Center for Teaching and Learning. Little did we realize that, just around the corner, our progress would be severely challenged by a worldwide pandemic.

### **The pandemic**

Arguably, the real test of our progress and ultimate success came when COVID-19 hit in early 2020. In late February of that year, concerns about the spread of the Novel Coronavirus were mounting. Discussions began in the Teaching Center

about how to help support the University community should things become worse. Following the World Health Organization declaring COVID-19 a pandemic, the United States declared a national emergency on March 13, 2020.

To help combat the spread of the coronavirus, senior University leaders announced that campus would shut down, instructing staff and faculty to work from home beginning in mid-March. Students were told to return home during spring break and informed they would finish their classes remotely. Leadership also decided to extend spring break by one week, thus adding the week of March 15-22 for faculty to prepare for remote instruction. This week was dubbed Faculty Preparation Week. Remote classes would then begin on March 23.

During late February and early March 2020, the Teaching Center was gearing up to help facilitate the move from classroom teaching and learning to temporary, remote teaching and learning. Planning was in full swing and time was tight. Our goal was to take advantage of Pitt's unique and strong instruction and technology infrastructure to provide guidance and support to faculty and students in a fluid situation. There was no playbook for what needed to be done. And our situation was complicated by the fact that we were in the middle of a major software conversion from our old learning management system Blackboard, to a new one, Canvas. At the same time, faculty, students, and Teaching Center staff were also trying to manage their personal lives and what the pandemic was thrusting upon them – a rapid shift to working from home, sudden loss of childcare, personal health challenges, sick family members, and grave concerns for their own health and safety. Nevertheless, we remained focused on the goal of enabling teaching and learning to continue in the absence of face-to-face instruction.

The upcoming move to remote instruction put tremendous pressure on the Teaching Center. During the two weeks leading up to March 15, 2020, the start of the Faculty Preparation Week, the staff worked to anticipate the needs of the faculty and created numerous resources, including an Instructional Continuity website, preparedness checklists for faculty, instructional strategies, and technology resources. We also developed a robust communication strategy, working with deans and regional campus presidents to identify Remote Teaching Contacts with whom we were in daily communication. We used social media, web pages, and newsletters to share best practices and research-based strategies for remote teaching effectiveness and to invite faculty to participate in our workshops and consulting hours during the Faculty Preparation Week of March 15.

During that week, 1354 faculty attended virtual workshops hosted by the Teaching Center (which were recorded and subsequently accessed by hundreds more), 99 faculty participated in virtual office hours, and hundreds of phone and email questions were fielded. The *Teaching Online at Pitt* course saw 328 faculty enroll as the Teaching Center continued to provide faculty with just-in-time resources and advice on how to communicate with their students. In collaboration with Pitt's Information Technology group, the Teaching Center worked to secure and provide instructional support for the Zoom software, which would be critical to enabling remote, synchronous engagement among faculty and students.

By the time classes resumed on March 23, 2020, over 5500 courses were running in our two learning management systems, Blackboard and Canvas, and we

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were supporting faculty in both environments. Faculty were using multiple teaching approaches, such as “flipped” instruction with recorded videos and asynchronous discussion tools, as well videoconferencing for lectures, virtual office hours and class presentations. Our staff provided extended consulting hours for faculty that went well into the evenings. We had resumed operations and were focused on finishing the term. At the same time, current Provost Ann Cudd convened a task force on Re-imagining a Pitt Education, which would consider scenarios and options for the summer and beyond and provide for broad faculty input. As the task force anticipated an uncertain future, we as participants were able to bring to bear knowledge of the Teaching Center transformation and the experience of the recent move to remote instruction.

When the Spring term ended, an internal survey of faculty was conducted to assess the broad impact of the COVID pandemic. The survey included a wide range of questions about teaching, research, and specific University strategies taken in response to the pandemic. In May 2020, the survey was sent to 5507 full-time faculty and part-time faculty who had taught in the Spring term; 3067 responses were received for a 56% response rate.

A sampling of items and results relevant to teaching and learning is shown in Table 3. The responses to the first three items listed under Question 1 highlight some areas that needed attention. For example, when asked about adapting to remote teaching and learning, 54.8% of faculty reported it was somewhat or very difficult to find the time and/or energy, 54% stated it was somewhat or very difficult to translate their lessons or activities, and 60.9% indicated it was somewhat or very difficult to understand how to best assess student learning in a remote environment.

**Table 3:** Illustrative items and results from survey of Pitt faculty

<b>Question 1: How easy or difficult have each of the following been for you in adapting your course design and/or assignments to remote teaching and learning?</b>						
	<i>Very easy</i>	<i>Some-what easy</i>	<i>Neither easy nor difficult</i>	<i>Somewhat difficult</i>	<i>Very difficult</i>	<i>Not applicable</i>
Finding time and/or energy to effectively adapt	11.0%	16.4%	15.4%	32.7%	22.1%	2.5%
Translating my lessons or activities to the remote environment	10.0%	17.7%	15.0%	37.2%	16.8%	3.1%
Understanding how to best assess student learning in the remote environment	6.2%	14.3%	15.1%	39.6%	21.3%	3.5%
Getting comfortable with online tools and applications	19.4%	29.4%	20.1%	24.1%	4.2%	2.8%

*Laurie J. Kirsch and Cynthia Golden*

Understanding the options for online course delivery	19.3%	26.1%	21.2%	23.8%	5.4%	4.2%
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<b>Question 2: How much of a challenge have each of the following technological issues been for you since the transition to remote teaching and learning?</b>					
	<i>Large challenge</i>	<i>Moderate challenge</i>	<i>Slight challenge</i>	<i>No challenge</i>	<i>Not applicable</i>
My access to reliable communication software and tools (e.g., Zoom, Skype)	2.7%	9.4%	18.7%	64.9%	4.4%
My access to a reliable and robust digital device (e.g., laptop, mobile device)	3.3%	10.0%	14.3%	68.9%	3.5%
My access to reliable Internet service	5.0%	10.0%	20.4%	61.5%	3.2%

<b>Question 3: Since moving to remote teaching and learning, how well have the following worked for you?</b>				
	<i>Worked very well</i>	<i>Worked somewhat well</i>	<i>Did not work well</i>	<i>Not applicable, did not use</i>
Synchronous class meetings using Web Conferencing tools (e.g., Blackboard Collaborate, Canvas BigBlueButton)	39.6%	33.4%	5.3%	21.6%
Virtual office hours	32.9%	29.4%	7.8%	29.9%
Zoom	59.0%	28.3%	2.6%	10.1%

On the other hand, the responses to the next two items suggest a more positive outcome: fewer than one-third of the faculty respondents indicated that it was somewhat or very difficult to get comfortable with online tools and applications (28.3%) or that it was somewhat or very difficult to understand the options for online course delivery (29.2%).

When asked about challenges associated with the switch to remote teaching and learning (Question 2 in Table 3), 83.6% of faculty reported that they had slight or no challenges with access to reliable communications software and tools, 83.2% indicated little or no challenges with access to a robust digital device, and 81.9% reported little or no challenges with reliable internet service.

Finally, faculty were generally positive about how well various tools and strategies worked for them (Question 3 in Table 3). In particular, 73% indicated that synchronous class meetings using web conferencing tools worked somewhat or very well, and 62.3% reported that holding virtual office hours worked



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somewhat or very well. Faculty also were generally satisfied with technology tools such as Zoom, Canvas, Blackboard and Panopto; for example, 87.3% of the respondents reported that Zoom worked somewhat or very well.

Taken together, these results reflect the resilience and commitment of Pitt faculty in the face of the pandemic and the need to quickly move to remote instruction. They also reflect well on the Teaching Center's efforts to transform itself, particularly the efforts to engage more faculty in the Teaching Center and to encourage the appropriate uses of educational technologies. Had we not had increased faculty engagement and widespread use of educational technologies in the years immediately preceding the pandemic, the switch to remote instruction would have proved much more challenging, for both the faculty and the Teaching Center staff.

### **Lessons learned about crisis management**

The faculty survey, along with other internal data and discussions among leadership, yielded a number of lessons learned. First of all, it was clear that past experience with educational technology eased the transition to remote learning. Pitt faculty, staff and students had used learning management systems for years, and, though the University had decided to emphasize residential education for undergraduates, senior leadership did support and encourage some fully online and hybrid courses and graduate programs on different platforms. This experience and comfort with educational technologies made it easier for everyone to move to an online environment when it became a necessity. Perhaps most significantly, prior experience and experimentation gave the Teaching Center staff insight into potential challenges and pitfalls they and the faculty might encounter, as well as likely concerns and needs of faculty and students during the transition to remote teaching and learning.

Another lesson learned is the importance of clear, concise, and coordinated communication. During a crisis, events unfold quickly and there are many uncertainties. Because information is not always readily available, rumors can take hold and spread. Thus, the need to communicate with stakeholders is critical. But equally important is the need to coordinate messages across communicators to ensure consistent messages. Further, communicators must be realistic and honest so that faculty, staff and students understand the current situation and have realistic expectations about what is to come.

It is also important to recognize that crisis management – as in the case of the COVID-19 pandemic – requires flexibility, extra effort, and patience from faculty, staff and students. There is no “one size fits all” approach for managing crises, including a sudden move to remote teaching. There will be false starts and wrong turns but keeping in mind overall objectives and maintaining proper perspective will help ensure progress. Nevertheless, it cannot be overemphasized that crisis management will put considerable demands on those trying to manage it as well as those impacted by it. Understanding that the human touch matters – e.g., expressing concern about others' well-being and providing access to resources to deal with stress and anxiety – will go a long way to helping all constituents weather the crisis.

### **View of university leadership**

In addition to the formal metrics presented earlier, we solicited the views of senior leaders on the transformation of CIDDE to the University Center for Teaching and Learning. We were particularly interested in leadership's assessment of whether we met the two key objectives of enhancing the curriculum by relying on discipline-based approaches to teaching and learning and on usage of educational technology, and of engaging more directly with faculty through new initiatives and closer collaborations. Provost Beeson views the transformation as successful, noting: "*There has been an atmosphere change around the Teaching Center. Faculty are reaching out for support and technology.*" She further observed:

*The Center has become a partner to researchers and faculty across the University. The Center has brought together faculty – faculty who teach large lecture courses, faculty involved in the Course Incubator projects, faculty who are new to teaching, faculty who participate in the Teaching Partners community, and other faculty networks. All of this has elevated the thinking about pedagogy and the engagement of faculty in thinking about teaching.*

Reflecting on the changes, Provost Beeson said that one of the alternatives considered at the time was downsizing the Center, specifically, breaking up CIDDE because its functions were so broad. These discussions largely centered around information technology and whether support of educational technologies should move out of the Teaching Center and into Pitt's centralized Information Technology (IT) unit. It was noted that while support of educational technologies did not typically reside in teaching centers at other universities but was more likely found in centralized IT units, many institutions were moving toward a model similar to Pitt's for more effective faculty support. Ultimately the decision was made to leave support of educational technologies within the Teaching Center because of the desire to more strongly integrate instructional design and the use of technology, which requires not only knowledge of the technology but also knowledge of pedagogy and how technology can be used in delivering a class.

From a broader University perspective, Provost Beeson and current Provost Cudd commented that the changes made to the Teaching Center helped ensure the success of the *Plan for Pitt*. Not only did this effort contribute to meeting the goal of advancing educational excellence, but it made significant contributions to another two of the six broad goals: promote diversity and inclusion, and build foundational strength. The launch of the *Center for Diversity in the Curriculum* has clearly established inclusive pedagogy as a priority for Pitt, with the goal of creating an educational experience that is welcoming and inclusive of all students. Key to successful teaching and learning in the future is strong support services and the ability to not only respond but to innovate. Investing in professional staff is critical to providing that foundational strength.

### **Looking to the future**

The support and financial investments made by university leadership allowed us to carry out our plan to transform CIDDE into the University Center for Teaching and Learning. The advent of the COVID-19 pandemic tested the outcomes of our

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transformation in a way we never anticipated but it became clear that the investments and efforts paid off. “The Center enabled us to resiliently respond to the pandemic,” Provost Cudd noted. She continued:

*It is clear from our surveys and observations that our faculty felt supported. We were set up to succeed. Now we are also set up to move forward, taking what we learned from this experience to inform how we will support the new Plan for Pitt.*

The soon-to-be-launched new *Plan for Pitt* will call for, among other things, creating more preeminent teaching, learning, scholarship, and research experiences. As we look to the future, we have an opportunity to re-examine some of the ideas that were not implemented at the time we launched the new Center. For example, to support our goal in increased faculty engagement, we initially envisioned our *Centers for Diversity in the Curriculum, Mentoring, and Communication* being led by faculty. We put this idea on hold while we established advisory committees and administrative operations for these functions. Similarly, the *Course Incubator* project was planned at first to be an annual process where faculty would apply for funding and be assisted by the Teaching Center to implement transformative teaching innovations. The size and scope of the initial projects required longer implementation times and significant staff resources, so a two-year timeline was established. However, the project outcomes have shown such benefits to student learning that a re-examination of the timeline and required resources may be warranted. Examining these and other plans and outcomes may yield helpful ideas for future directions.

Some new paths are becoming clear for the Center, too. Expanded initiatives in assessment, equitable teaching, and online learning, as well as broader application of emerging educational technologies are being discussed as key initiatives in support of the University’s strategic directions.

### **Advice for transforming a teaching center**

As other institutions consider the benefits of investing in the process of transforming their own teaching and learning center, we offer several recommendations. First, it is essential to engage University leadership. The provost, deans and other academic leaders will play a critical role in recognizing the need for change and then supporting the transformation. Their initial and ongoing support is fundamental to success. Having a shared vision of the reimagined Center will help garner and galvanize leadership support. Further, it is important to set clear goals and objectives, to communicate them to the broader University community, to reinforce them with staff, and track progress against them.

It is critical to understand that all things a teaching center does requires partners. Faculty, libraries, information technology division, and academic leadership all have important roles to play in the transformation and success of the center. All stakeholders must be deliberately engaged. Conducting a formal stakeholder analysis can be useful for identifying potential roadblocks as well as areas of support.

Creating a teaching center with broad functionality, such as Pitt's University Center for Teaching and Learning, means that teaching and technology can no longer be separate. A teaching center needs to not only embody pedagogy expertise, but also be experts in the appropriate applications of technology to teaching and learning. It must be clear to all constituents that the role of technology is to support the teaching goals.

The major transformation described in this chapter not only sought to change the reputation of the Center with the faculty and administrators, but it demanded changes to the internal culture of the Center. As any teaching center transforms to focus not just on service to faculty, but to partner with faculty on innovation and experimentation in teaching, changes to long-held approaches or practices will be required. Engaging the staff directly in driving the change is important for them to see the role they play in the ultimate success of the reimagined center.

The University of Pittsburgh's success in transitioning to the University Center for Teaching and Learning illustrates how one institution positioned itself to not only meet the known goals of a strategic plan (the *Plan for Pitt 2016-2020*) but also deal with an unknown crisis (the COVID-19 pandemic). What we learned as we planned for and executed the transformation to the new Center, and what we experienced as the pandemic unfolded, enhance Pitt's readiness for change and position the University to meet future challenges that higher education will face.

### **Acknowledgements**

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### **Author Biographies**



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# 14

## Middlesex University Towards 2031 Strategy

A Case history of excellence in transformative leadership

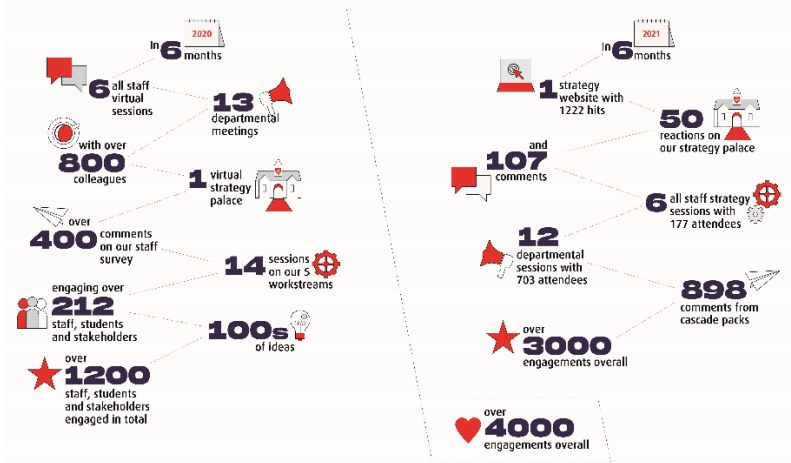
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### Background

Middlesex University Towards 2031 Strategy was approved by The Board of Governors in June 2021. This follows an unprecedented consultation process involving over 4000 community engagements from staffs, students and other stakeholders (see Figure 1.).



**Figure 1.** Engagement with the Strategy.

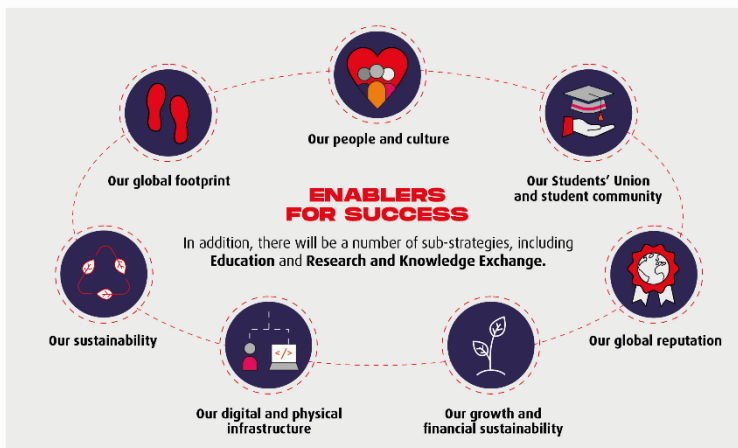
The prior University Strategy 2017-2022 included a vision and mission rooted in the idea of transforming potential into success and a strategy geared around mechanisms to ‘put students first’. The appointment of a new Vice Chancellor prompted the development of new vision, mission and strategy focused on how the university is united by a shared purpose to shape a better world, through a triple focus on education, research and engagement, and impact in a selected number of institutional themes, with a strategy that is based on co-design and collaboration (see Figure 2.). The prior strategy was felt to be too top-down oriented in staffs surveys.



**Figure 2.** Key themes.

The current thinking still recognises the important role the university will continue to play in providing opportunity and enabling transformational journeys for students. However, the global pandemic and increased concern over issues such as climate change have created a new context in which leaders and managers needed to act. In fact, the pandemic prompted the university to explore and innovate with remote learning and social impact.

This meant that the university needed to redesign the institution (the new Education for Sustainable Development guidance from QAA, 2021, speaks of HE ‘providers’ rather than HE ‘institutions’) and core activities to focus efforts on themes which address global challenges. The intention was to build on current strengths but also to explore how technological innovation, radical creativity and entrepreneurialism (commercial and social) could play an important role in effecting social change, and the role healthy lives and a sustainable environment could play in enhancing societal, organisational and personal wellbeing. To achieve this, a number of ‘enablers’ were identified (See Figure 3.). These ‘enablers’ are considered as key mechanisms to facilitate change and thus more detailed sub-strategies were designed around them.



**Figure 3.** Key enablers

Of particular interest is the renewed focus on sustainability, with the university signing the SDG Accord (2021) and committing to becoming carbon neutral by 2040. And this in turn is enabled by a global mind-set which will become a central part of this way of thinking (MDX, 2021) including the integration of Education for Sustainable Development (ESD) across the curriculum (QAA, 2021) as a core part of this strategy.

### **The strategy development process**

The approach to developing the new strategy was evidence-based with benchmarking against best practices in a way that stretched and challenged thinking. The evidence-base to support the strategy development process included analyses of how others evaluated and perceived the university through reputation and league tables such as: Times Higher Education World University Rankings, Complete University Guide, Guardian Good University Guide, Sunday Times Good University Guide. Of particular interest was the new Times Higher Education global ranking of universities on social impact based on annual audits of progress in achieving the United Nations Sustainable Development Goals (SDG's). Here Middlesex scored in the top 200 universities globally for its debut submission. This new ranking provided a counterbalance to the existing focus on excellence with the Research Excellence Framework (REF), and more recently with the Teaching Excellence Framework (TEF) in which MDX were awarded Silver.

Data on future trends were also considered as part of the strategy deliberations including the transition from *Generation Z* (established in 1995) to *Generation Alpha* (established in 2010) with the latter characterised as global, digital, social, mobile, visual; and where the ideal leadership style is co-creation and inspiration (McCrindle Research, 2020). Population trends were also used to indicate a significant increase in the proportion of 18-year-olds from 2014-2025. Such data were coupled with data on the make-up of the student body to illuminate questions on access, continuation, attainment and progression. For example, MDX had a high proportion of school leavers eligible for free school meals, with a third from a deprived area, and many from the first generation to go to university. This data was critical to understanding students and the support they need. For example, most students commuted to university for over one hour and a third were working part-time. All the above data were made available to staffs through the MDX strategy portal (MDX, 2021).

Four different phases to the strategy development process were identified (see Figure 4.).

The first phase produced a consultation paper, the second phase included feedback and options appraisal, the third phase produced a full draft of the strategy for testing, and the fourth phase finalised and approved the strategy. Importantly, key learning from the university response to Covid-19 was incorporated into the strategy development such as remote learning, remote working, and social/community impact.



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**Figure 4.** Phases to the strategy process

The strategy was described as an evolving and iterative process, throughout which colleagues from across the global community engaged and contributed ideas, suggestions, reflections and questions (MDX, 2021). And the strap line of ‘Let’s Shape The Future Of Middlesex Together’ was used to galvanise involvement and feedback on the dedicated ‘mdx strategy’ intranet pages. The virtual strategy palace included the use of ‘padlet’ - an online platform with the option to share ideas anonymously. Various creative techniques were thus used to stimulate discussion including projecting views of the student of the future - what will our 9-year-old student look like tomorrow?

Other themes to prompt discussion and feedback on padlet included: people and culture, research, global reputation, partnering with students and student experience, growth and financial security, digital and physical infrastructure,

sustainability and global footprint. All of these padlets attracted numerous comments from staffs, and this and other platforms were considered invaluable in helping to shape together a compassionate, innovative and collaborative strategy (MDX, 2021). Certainly, the use of more creative communication techniques encouraged more widespread responses to the consultation process.

### **The resultant strategy**

The Board of Governors approved the new MDX Strategy 2031 on 28<sup>th</sup> June 2021 and this chapter is the first opportunity to publish details of the new strategy in a case history format. The strategy though is not just a case history as it is a ‘living strategy’ due the world constantly changing. And signing the SDG Accord was considered instrumental in this regard (MDX, 2021:16):

*Middlesex is part of the SDG Accord which aims to inspire, celebrate and advance the critical role that Higher Education has in delivering the SDGs and the value it brings to governments, business and wider society. It also carries a commitment to do more to deliver the SDGs, to report annually on progress and to share learning with other educational institutions, both nationally and internationally.*

This commitment to the UN SDG’s was described by the Vice-Chancellor as core to the MDX 2031 Strategy and placed a profound expectation with stakeholders that MDX will make significant progress towards meeting the global goals (see Appendix). This would mean substantial changes to the way in which staffs and students engaged with their teaching and learning. To drive this progress, ‘communities of practice’ (Wenger, 2006) are being developed to ensure that there is a changing mindset to deliver on the goals. These communities of practice are described (MDX, 2021:14) as: learning-oriented groups that focus on priorities and take action to achieve purpose, bringing together staffs, students and partners to collaborate, drawing on different perspectives, skills and expertise to innovate and create solutions. Coordination of the communities of practice will be through a main committee and sponsored through the University Executive Team, with Local Communities of Practice designed to support the integration of themes and deliver on priorities (MDX, 2021:14). It is too soon to evaluate the success of these groups. However, this case history provides preliminary feedback.

### **Leadership vision and values**

The launch of the MDX Strategy 2031 (MDX, 2021) heralded Middlesex University as being radically creative, excelling in collaboration to find solutions to complex problems, taking risks with thinking, active learning, and looking beyond the way things have always been, to see how they can be better, valuing simplicity in systems and processes, being clear about priorities, empowering staff to take decisions and reducing unhelpful complexity. The vision is to transform outcomes for individuals, communities and organisations and to empower people to change their lives. Whilst these are multiple potential beneficiaries, tentative insights have been gained from this case history on particular strands of the strategy. The values or community principles for work, learning and behaving are shown in Figure 6.

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**Figure 6.** MDX Community Principles

According to the MDX 2031 Strategy document (MDX, 2021:13) everything that Middlesex University does and achieves comes back to people and culture, principles and shared purpose. With campuses in London, Dubai and Mauritius, this approach regards Middlesex as a global family that is caring, action-oriented, purposeful and inclusive, with the following key elements:

- High-performing Communities of Practice being our core way of innovating and working
- Co-leading with students and the Students' Union and co-creating across academia and professional services, disciplines, professions, sectors and cultures
- Being radically creative in our approach, open to trying things, and learning from our experiences and each other
- Designing simplicity into our ways of working and organisational structures to be agile, less hierarchical and more sustainable
- Being a learning organisation, passionate about self-development and the development of others, enacted through a coaching approach

## *Christopher J Moon*

- Embedding diversity, equity, inclusion and belonging in everything we do
- Building a healthy institution where people thrive mentally and physically and where we behave responsibly towards people, cultures and the environment
- Creating innovative approaches to organisational design.

These values exemplify the spirit and the letter of the strategy development. However, the ‘radicality’ of the approaches will need to be tested.

### **Methodology**

The following research questions were thus posed. 1. How has the university incorporated excellence in the new 2031 strategy? 2. Which examples of existing best practices in innovation and excellence were used to drive this strategy? 3. What was the proposed impact of the 2031 strategy (people, planet, profit)? 4. Why did the university sign up to the UN Sustainable Development Goals as a core part of this strategy? 5. Which actions did the university decided to focus on to achieve Net Zero carbon by 2040? 6. What were the main managerial challenges in order to achieve the above strategic goals? It was felt that these questions addressed the issues raised in the author brief for the proposed book, *Case Histories of Excellence regarding University Leadership and Management*, that is: the drivers, objectives, execution, assessment, and next steps – with a clear emphasis on excellence and innovation.

These questions were posed to the Vice-Chancellor, and all other members of the University Executive Team plus other senior colleagues, in the form of interview questions delivered via zoom due to the pandemic. The research proposal was approved by the University Ethics Committee following application through the Middlesex On-line Research Ethics (MORE) platform, with a consent form provided via Qualtrics. The above interviews were used to supplement the ongoing results of the consultation process involving 4000 community engagements and including the virtual strategy palace. Participants were asked to provide as many examples of best practices as possible.

### **Findings**

Early signs are that the MDX strategy development process has been a success. The primary KPI for this was the number of community engagements, and with over 4000 contributions this is a key measure of success. However, more than this, the strategy development process was deemed a success because the co-design and co-development by staffs, students and stakeholders has enabled the embedding of the strategy into core operations. Rather than a top-down initiative with the emphasis on just getting people to buy into it, the leadership team recognised that they did not have all the answers, were willing to learn, and the open leadership style of the new VC did inspire ideas, critique and challenge and this process has been widely recognised as a success. Above all, it was recognised that the pandemic had provided a catalyst for change:

*We have been given a new window for looking at the world – a stimulus to start looking further afield for models, collaborations, solutions* (The Deputy Vice Chancellor).

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Results of the interviews provided a rich narrative ‘grounded’ in the views of senior leaders. This was felt important to avoid interviewer bias. Further, an additional interview was added to provide some critique. This latter interview gained the views of a senior trades unionist but was provided as a personal reflection rather than representative of any formal trades-union view. Thus, these latter interview comments have provided a counterbalance to the above interviews of senior leaders in the university. This latter interview shows that successful implementation of the strategy cannot be taken for granted and will require ongoing dialogue and testing out of actions against stated values:

*Communities of Practice and cooperation sounds fantastic, but we still have individual objectives rather than team ones* (Trades unionist).

The focus of the strategy was on integration across three themes of: Education, Research and Knowledge Exchange, and Engagement and raised a number of managerial challenges. Do managers have the necessary mindset and skills to lead such transformational change? Would managers resort to measuring what can be measured rather than on what needs to be evaluated to improve value? What training and development did managers need to enhance their people management skills? How would the SDGs be properly included in job descriptions and performance appraisals? These are some of the issues raised as part of this case history:

*The biggest challenge will be to build all this into the heart of our learning culture... We will also need to change the performance appraisal and promotion systems to recognise these challenges.* (The Vice Chancellor).

*The main managerial challenge is bringing everyone with us. Strategies come and go, leadership teams come and go, we need to work very hard to live the strategy every day, embedding this in everything we do – all our behaviours (including the executive!).* (Chief Officer for Students and University Registrar).

The above quotes are only selected examples. However, they do serve to show that the interviews provided a range of pertinent responses that form a narrative or story that the reader can relate to in a more personable way than simply reading strategy documents and statements. The latter two examples indicate that the transformation process needs leaders to lead by example but that managerial processes will be harder to change.

## **Discussion**

The interviews have provided a rich narrative ‘grounded’ in the thinking that had gone into the development of the new MDX 2031 Strategy and on the inclusion of the word excellence in the strategy by senior university leaders. The consultation process, with 4000 engagements, has been described as unique and as such does exemplify excellence in leadership in terms of going beyond the norm to engage staffs on a new 10-year strategy. Whilst this is not a case history with a single beneficiary which can be evaluated in a more linear, rational and logical way, the case is an example of how a complex organisation can transform its strategy for the benefit of multiple beneficiaries and highlighting key measures needed. To

galvanise support for the strategy has required culture development (this phrase being preferred by the VC over culture change) and this could not be achieved overnight or at the flick of a switch. Key tools for the culture development included more collaborative and team working, with the formation of 'communities of practice' highlighted as a key mechanism in this regard - their success will need to be evaluated.

Following approval of the MDX 2031 Strategy by the Board of Governors on 28<sup>th</sup> June 2021, Middlesex University signed The SDG Accord. The purpose of the SDG Accord (2021) is twofold: first it is to inspire, celebrate and advance the critical role that education has in delivering the Sustainable Development Goals (SDGs) and the value it brings to governments, business and wider society. Secondly, the Accord is a commitment that learning institutions are making to one another to do more to deliver the goals, to annually report on each signatory's progress, and to do so in ways which share the learning with each other both nationally and internationally. The first annual report for MDX will be made by May 2022 and will be an opportunity to review progress and granulate against the targets set. The first step in the strategy was to integrate Education for Sustainable Development across the curriculum (QAA, 2021). Thus, a requirement to report on how sustainability is being integrated into departments was inserted into unit plans for the first time.

As part of the universities' commitment to Net-Zero Carbon Emissions, MDX are moving the electricity for all university operated premises to 100% REGO CleanTec carbon-free electricity from 1 October 2021. EDF will supply the electricity, and the deal is brokered through The Energy Consortium (TEC). Separately, the university has signed an agreement to participate in a Power Purchase Agreement with TEC to buy 20% of its electricity needs from a verifiable sustainable source (subject to price and contract). The REGO (Renewable Energy Guarantee Origin), endorsed by OFGEM, provides transparency about the source and generation of green energy. All the electricity the university buys through the REGO or PPA can be reported as Zero Carbon. However, most of the estate is heated by gas boilers so new technologies and potential partnerships will need to be evaluated to further reach decarbonisation goals.

To stimulate the development of a more collaborative and innovative culture, people were considered integral to developing the learning culture needed to support the new strategy. Incorporating innovation and risk though needs managers that are people oriented and senior leaders recognise that performance appraisal and promotion systems will need to change to reflect this alignment. One mechanism in the strategy designed to support the learning culture is to develop a coaching culture within the university, and staffs have been invited to participate in a new apprenticeship coaching programme in this regard. The emphasis is on accrediting coaching practice to transform attitudes and behaviours, and the number of accreditations will be a key measure of the success of developing the learning organisation over set time periods.

Another mechanism in the strategy is the development of 'communities of practice' (Wenger, 2006) designed to promote collaborative and interdisciplinary working. Managers would thus need to learn how to use metrics in a way that did

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not alienate staffs, and Moon (2018, 2019b, 2020) has provided some indication of the new sustainability mindset required. For example, research on managers suggests that they tend to be left brain hemispheric dominant and possibly lack the empathy, compassion and connectedness to nature needed to tackle issues such as climate change in ever more creative ways. There is recognition in the MDX Strategy 2031 of the place of entrepreneurship, and various authors have highlighted the role of entrepreneurship in meeting social and educational challenges (Apostolopoulos et al, 2018., Jones et al., 2021, QAA., 2021) with recognition of the role of social and eco entrepreneurs in particular (Moon et al, 2018., Moon, 2021). Ongoing support for entrepreneurship is especially pertinent given the facts that one in seven graduates from MDX become entrepreneurs (Hitachi Capital, 2020) and MDX is in the top 10 UK universities for the number of graduates becoming CEOs (Business Leader, 2021). Measuring the impact of the communities of practice on entrepreneurial outcomes will thus be needed.

By way of adding some critique to the interview of senior leaders the personal reflections of a senior trades-unionist were provided in the same format as the above interviews of senior leaders. This interviewee struggled with the narrative of excellence as a top-down expression rather than a bottom up one. Thus, they felt that assumptions underlying the terms used can be questioned:

*Fashionable language from management can lead to superficial examples being used especially when policy is externally driven...The language and logic of the private sector can be very Anglo-American and approaches to public services that do not clearly relate to the actual job are problematic... grand ideas for cooperation and collaboration and being more attentive to the environment can sound great but the profit motive is what really drives the strategy – the need to make more money...The greatest challenge is that the university should be a university rather than managed as a private sector organisation.*

Clearly further feedback on the strategy is needed to ensure that achievements are met. Structured evaluations of the key elements of the strategy will be received by The Board of Governors and Academic Board, including quantitative and qualitative indicators and accreditations which will shape learning and action. The approach to Value, Evaluation and Measurement (VEM) places 'value on what we value' (MDX, 2021:30). This case history provides an early attempt to gauge the success of the strategy consultation process, and the resultant strategy, and to highlight key managerial challenges ahead.

## **Conclusions**

Key to this case history was the wide-ranging consultation with stakeholders, MDX Towards 2031 Strategy (MDX, 2020). This case history is therefore an example of how one university demonstrated innovative and creative approaches to meeting the challenges of the current global pandemic whilst developing a vision, values and strategy to transform the university into a more environmentally sustainable, socially just, entrepreneurial and healthier community of practice in order to shape a better world. Excellence in leadership was demonstrated through the response of the university to the Covid-19 pandemic with over 70 staff

volunteers manufacturing 67,200 visors for the NHS, and 160 sets of scrubs each week, 500 nursing students and staff returning to frontline duty, and over 2000 vaccinators trained. The pandemic also meant developing new ways of working and was a catalyst for the leadership team to consult on and develop the new 10-year strategy – described as radical and brave compared to previous 5-year strategies. The consultation process itself could be described as an example of excellence in leadership as more than 4000 engagements were facilitated when the university has only 2000 staff.

For this case history, interviews were conducted with the Vice-Chancellor and all other members of the University Executive Team, plus other selected senior colleagues, in order to identify best practice examples from the consultation process and the resultant shaping of the new 2031 strategy. The interview responses were coupled with various strategy consultation documents to inform the author of key learning points arising from the process. In particular, the case highlights that an emphasis on ‘excellence’ was a driving force in the strategy development process and resultant outcomes. There is recognition though that the word ‘excellence’ has had problems in HE, and debate about the value of these as rankings is ongoing, with Moon (2019a) providing a critical review of some of the issues. However, inclusion of the word excellence in the new 2031 strategy was used by MDX in the context of ‘raising the bar’ or to excel.

The resultant 2031 strategy used the word excellence as a key driver but in a way that raised ambition rather than as it is currently enshrined in the ‘excellence framework’ applied to HE in general. Thus, to some extent problems of defining excellence were circumvented by placing emphasis on exceling rather than substantive standards per se. The strategy also included sustainability at its core, with the university signing the SDG Accord and determining to become Net-Zero by 2040, but the above aspirations are not without significant management challenges. Further research will be needed to review the extent to which the culture has developed in line with the following strategic targets:

Culture – by the end of 2021/2.

- Communities of practice established by the end of 2021/2.
- Deliver a leadership development programme and Coaching Academy that builds capability.
- Equality Diversity and Inclusivity: Athena Swan and Stonewall recognition.
- Implement blended working principles for an inclusive, caring, mentally healthy culture.
- New staff engagement and benchmark aligned to principles.

Culture - by the end of 2023/4.

- High performing communities of practice delivering a step change in learning and inclusivity.
- Coaching culture embedded and integrated into Performance, Development, Progression and Career Management.
- Race Equality Charter and improvements in EDI, mental health and satisfaction metrics.



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- Flexible working, agility and less bureaucracy.
- Enhanced sense of belonging, knowledge and pride in what we do.
- Partnership and collaborative working as a norm.

### **Acknowledgements**

The author gratefully thanks all the participants for their interview responses. Interviews were conducted with the Vice-Chancellor, the Deputy Vice-Chancellor and Provost, The Deputy Vice-Chancellor, The Deputy CEO, Chief Office for People and Culture, Chief Officer for Students and University Registrar, and The Director of Communications and External Engagement.

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## Appendix: Integrating themes mapped against the UN SDGs.



## **Author Biography**



**Dr Christopher J Moon** FRSA FHEA FEEUK is a multi-award winning eco and social entrepreneur and former Head of Sustainability at two companies. He is judge of the international Innovation and Entrepreneurship Excellence Awards, the National Enterprise Educator Awards, the F Factor (the UKs premier competition for 14–25-year-olds tackling the SDGs with Industry 4:0 applications), Canada's SDG Jam and the global Green Stories competition. He is widely published included co-editor of *Universities and Entrepreneurship* (2021), and co-author of the highly acclaimed Economist Book, *Business Ethics* (2001).

# The Smart-up Program

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## Introduction

In a world of increasing competition among higher education institutions, both nationally and internationally, universities must constantly improve their offerings and develop special programs for being attractive to potential students and employees. At the Lucerne University of Applied Sciences and Arts (LUASA), an important pillar to this end is the support of students, academic staff as well as alumni who wish to set up their own ventures. For students in particular, it is increasingly important to get empowered for putting their own plans into practice during or after their studies.

LUASA implements this ambition of developing entrepreneurial competencies and supporting start-ups of university members with the Smart-up program. As a cross-university program, Smart-up is not tied to a specific discipline, institute or school, and all departments are involved. Smart-up was set up in 2013 to foster entrepreneurial thinking and acting among students and within the university. The aim is to offer holistic support for finding the right idea and implementing it.

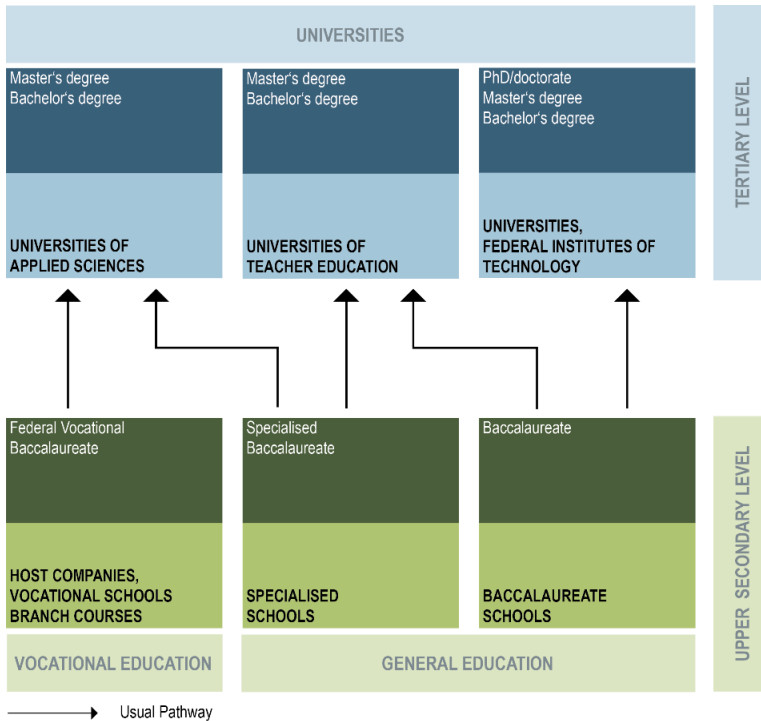
This case history reveals the importance of the Smart-up program attracting students, alumni and academic staff in the past, present and future.

## The role of Universities of Applied Sciences and Arts

Switzerland's higher education and research landscape is characterized by a variety of organizations ranging from federal institutes of technology and cantonal universities to universities of applied sciences and arts and universities of teacher education (Figure 1). All higher education institutions provide an individual mix of teaching in bachelor and master programs as well as continuing education and training courses, conducting research and offering services to third parties. However, within this framework, the Swiss higher education institutions are separated in two main types based on their specific focus: The two federal institutes of technology and the ten cantonal universities, on one hand, offer tertiary study programs of general educational nature with academic focus including doctoral studies; those are primarily active in basic research. The eight universities of applied sciences and arts and the fourteen universities of teacher education, on the other hand, tend to focus on students with a vocational training

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background and place emphasis on professional studies which are particularly close to business practice and on applied research and development (SERI, 2019a).



**Figure 1** Simplified Extract of the Swiss Education System (SERI, 2019b)

According to the Swiss Higher Education Information System SHIS-studex, in the autumn semester 2020/2021 there were 270'475 persons studying in University degree programs in Switzerland. The federal institutes of technology and the cantonal universities accounted for approximately 61 percent (164,575 students), whereas about 31 percent (83,093 students) were enrolled at universities of applied sciences and arts and eight percent (22,807 students) at universities of teacher education (FSO, 2021).

Out of the eight Swiss universities of applied sciences and arts, seven are public and one is private. Based on their strong practical focus, they play an important role as innovation-drivers bridging the world of business and academia. This is reflected in their bachelor's and master's degree programs as well as the wide range of continuing education and training courses including advanced studies programs leading to the Certificate of Advanced Studies (CAS), Diploma of Advanced Studies (DAS) or Master of Advanced Studies (MAS). Also in their research and services projects, universities of applied sciences and arts enable the transfer of know-how to economy and society (SERI, 2019a).

## **Smart-up: A program fostering entrepreneurship**

For the region of Central Switzerland, LUASA fulfills the tasks of a university of applied sciences and arts described above. In the following, LUASA and its Smart-up program will be presented. The focus is on the description of the LUASA organization as well as the background, development and organization of the Smart-up program.

## **Lucerne University of Applied Sciences and Arts**

LUASA was founded in 1997 under the Inter cantonal Council of the University of Applied Sciences and Arts of Central Switzerland and is funded by the six central Swiss cantons Lucerne, Uri, Schwyz, Obwalden, Nidwalden and Zug (art. 1 ff. Zentralschweizer Fachhochschul-Vereinbarung of 15 September 2011).

LUASA comprises six schools:

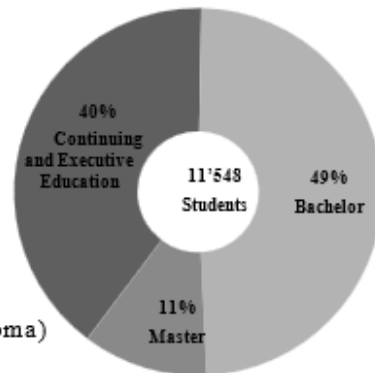
- Business
- Computer Sciences
- Design and Arts
- Engineering and Architecture
- Music
- Social Work

According to LUASA's annual report of 2019 (Figure 2), the university counted 11'548 students of which 49 percent were enrolled in a bachelor's program, eleven percent in a master's program and 40 percent in continuing education or executive programs (EMBA, MAS, DAS, CAS). In 2019, LUASA employed 1'828 persons and was involved in 498 new research and development projects (LUASA, 2020).

### **6 Schools**

- Business
- Computer Sciences
- Design & Arts
- Engineering & Architecture
- Music
- Social Work
- 
- **91 Programs**
- 31 Bachelor programs
- 18 Master programs
- 42 MAS (post-graduate diploma)

**1'828 Employees**



**Figure 2.** Facts and Figures 2019, Lucerne University of Applied Sciences and Arts (LUASA, 2020)

Besides LUASA, the canton of Lucerne is home to two other public higher education institutions, i.e. the University of Lucerne and the University of Teacher Education Lucerne.

## **The Smart-up Program**

Smart-up is a program of LUASA that aims to inspire and enable students, alumni and employees to start their own businesses and to provide a cross-university network for supporting the founders. In the following section, the development, the mission, the organizational structure and the process model of the program are presented.

### **Background, assessment and metrics**

The program began in 2013 as a project in which the School of Business and the School of Engineering and Architecture offered the first joint teaching modules for students from all schools at LUASA and established an "entrepreneurial track" for many degree programs. At the outset, it was questioned whether a program like Smart-up would even meet a need at LUASA. Therefore, students were asked about this as part of a preliminary project. This survey revealed a significant demand for support services in entrepreneurship - and the green light was given for the launch of a pilot project. Substantial services could already be offered in 2013 under the title "entrepreneurial thinking and action - UDUH"

During the pilot, the project management team was able to identify significant demand for coaching, additional events and programs with start-up content, and co-working spaces. The KPIs were derived from this as early as mid-2014 and respective metrics were included in the reports to the Steering Committee of representatives of LUASA's Executive Board for the assessment of the initiative's success. The Steering Committee received a quarterly report documenting the development of the project. From 2020, the project was transferred into a program and is still documented today with the following KPIs:

- Number of registered start-ups
- Number of coaching hours of start-ups with internal and external experts
- Number of blog views
- Number of participants in entrepreneurial supplementary programs
- Number of partnerships with co-working places and investors

Based on Smart-up's development, additional metrics were included in the reporting as of 2016:

- Number of newsletter subscribers
- Number of bookings of co-working places,
- Research projects carried out, articles published or articles in the press

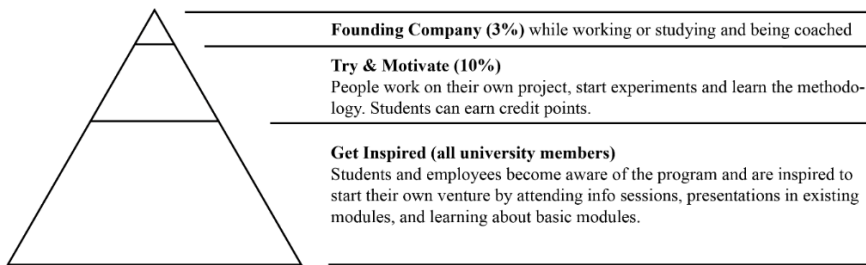
These tangible and direct KPIs aim at reflecting the most important KPI of the Smart-up program: the enhancement of entrepreneurial activities at LUASA, via state taxes and creation of new jobs ultimately resulting in a significant return flow of value into the economy of the Central Switzerland region. This value was and is highly appreciated by the Steering Committee and the regional political leaders.

### **Development and results**

Since 2013, more than 200 start-ups have been founded by students, alumni or employees. Over the years, six of the start-ups supported by Smart-up ranged among the top 100 start-ups in Switzerland. Only ten percent of the start-ups

stopped their ventures, which refers to a careful preparation before being registered. Smart-up arranged over 1000 individual coaching sessions with internal and external experts so far. Each year, more than 300 start-up cases are developed in semester programs and about 15 different inspiring events are organized for a broad audience. The program also provides a solid network of inventors and co-working spaces. The program's blog is one of the most read blogs of LUASA with more than 5000 views per quarter, resulting in an 80 percent awareness of the program among all university members.

As shown in Figure 3, about ten percent of all university members take the first steps and follow up on their ideas. Three percent manage to successfully start a business while studying or working at the university.



**Figure 3.** Pyramid of Interest in Start-up Activities at LUASA

From the 20 new start-ups per year, probably 10 might not have been established without the Smart-up program.

Since its beginning as a project, the program and its offerings have been evaluated through continuous feedback from participants and dedicated surveys among all university members. Based on these findings, it is possible to continually improve the program and align it with the needs of interested parties and participants. As the idea and concept behind Smart-up has been shared openly, positive feedbacks reached LUASA. For instance, surveys show that for a growing number of students the Smart-up program has been a decisive factor to study at LUASA. Further, in recent years Smart-up won two renowned awards by presenting the program on international conferences: the Good Practice Award from the University of Adelaide, Australia, in 2017, and the Innovation and Entrepreneurship Teaching Excellence Award from the University of Peloponnese, Greece, in 2019.

### **Vision and mission**

Smart-up itself has a broad claim: "Together we make innovations fly." The vision is to build a community of shapers and to foster innovation, entrepreneurship and self-employment within the whole LUASA.

The mission of Smart-up is to inspire, enable, support and bring together entrepreneurially spirited people who are connected to LUASA and interested in following up their own venture. The goal is to offer whatever is necessary to successfully identify the right idea and to implement it. The program addresses all



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students, alumni and employees. It works based on an interdisciplinary approach and considers the specific requirements of each of the six schools.

### **Organizational structure**

The Smart-up program is not tied to any specific school or institute of LUASA. Rather, Smart-up is linked to all organizational units of the university. Therefore, the program follows a holistic approach. The following chapter shows how the program is integrated within the university's organization and its internal structure.

The Smart-up program is part of the Higher Education Development & University Services (*Hochschulentwicklung und -dienste*, HED), which also host all major cross-university units like the grants office, the career services, the alumni organization as well as the center for learning, teaching and research. HED coordinate cross-university activities, foster innovation and integrate members and organizational units of the university. Their mission is to enrich the university with new ideas, knowledge and methods. It is key to build up a holistic approach not only for the units of HED, but particularly also to establish an entrepreneurial mindset.

At LUASA, Smart-up has become a dedicated organizational network which is not tied to any of the six schools but contributing to the success of each one.

A defined core team member from each school, the so-called Ambassador, is responsible for the further development of the program and spreading the offering into the school and into each study program. It is crucial that the program is continuously adapted to the needs of each school and that a disciplinary and specific network is built up. Depending on their size, each school has one or two core team members. The core team is complemented by two team members driving the program coordination and communication. The whole team meets quarterly for a review on the actual status in every school and actively looks for synergies among the schools.

The tools, methods and wording are adapted to the specific needs of each school. The key to success is to balance the disciplinary adaptations and to attract the disciplinary target group. The Smart-up team is challenged to create synergies and offers a dedicated program for all students. In this way, they also benefit from such interdisciplinary approaches.

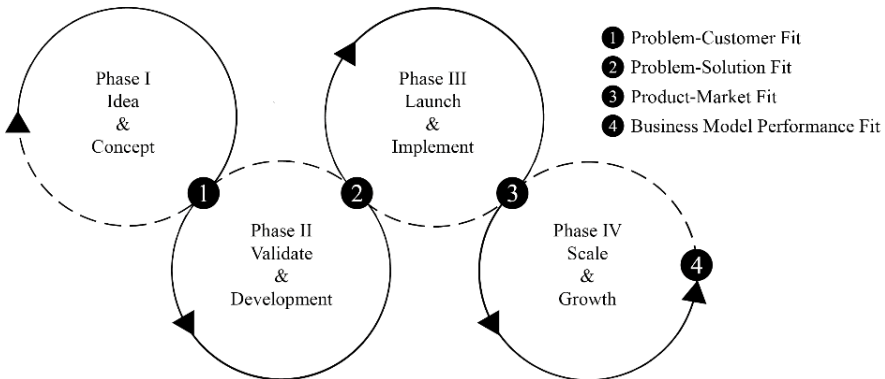
The team members form interdisciplinary thematic groups are regularly adapted according to specific needs. There exists a minimal coordination and reporting effort since efficient digital tools are used. Due to this lean network structure, the organization stays flexible and efficient, the schools are free to implement the program offers, and new developments and synergies are encouraged and exploited.

On a quarterly basis, the university management and the key players in the ecosystem are informed by a detailed report based on the metrics described above.

### **Smart-up's process model**

Smart-up follows a four-step process (Figure 4) in the development of the supported start-ups by combining Design Thinking and Lean Start-up (Link et al.,

2019). The start-ups go through the four phases, whereby their questions and needs change.



**Figure 4:** Smart-up Process Model (Grossmann & Link, 2018)

Ideally, these phases are passed through linearly. However, an iterative process with repetitive steps back to earlier phases is common in practice. The process is designed to achieve four defined milestones. It also helps coaches to adapt coaching to the changing needs of start-ups.

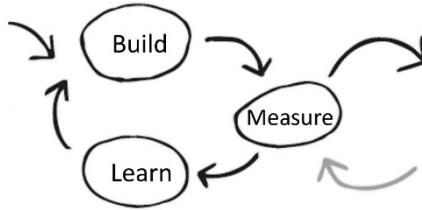
### **Phase I: Idea and concept**

Aiming at the so-called Problem-Customer-Fit, Phase I focuses on the following three key issues that need to be ensured for offering a valuable coaching throughout this phase:

1. A prospective entrepreneur must be ready to embark on the journey. Starting and building up a business is not easy and requires great willpower and perseverance. It is worthwhile to seek advice from experts and learn what it takes to be successful as an entrepreneur. An important point to clarify is how much one is willing to invest and lose (affordable loss), i.e. first and foremost how much time and how much financial resources (Sarasvathy, 2008).
2. Identifying a real problem that is worth solving is crucial for every entrepreneur. By using Design Thinking methods and tools entrepreneurs can gain empathy for their users and potential customers. A series of first prototypes and experiments simulates the solution for the customer and allows to test the user needs extensively and to really understand the problem (Lewrick et al., 2018).
3. Design Thinking is a methodology and at the same time a way of thinking that enables the solving of complex problems and promotes the development of new ideas focusing on the user. Often, upcoming entrepreneurs get stuck with the first idea. Coaches need to motivate them to find other ideas for solutions and think in variations. In this way, ideas which create greater added value can be found. Continuous testing and validation of the ideas with prototypes and experiments help to understand the problem and to gain deeper insights into the problem space.

## **Phase II: Validate and develop**

Eric Ries' Lean Start-up (Ries, 2017) is based on the iterative process of the "build-measure-learn" cycle (Figure 5.) and is used as the core methodology for Phase II. The aim of this phase is to reach the next milestone in the development of a start-up: the Problem-Solution Fit.



**Figure 5.** Approach for Phase II - Lean Start-up (Ries, 2017)

For the coaching of start-ups in this phase, the following two key issues need to be considered:

1. While the exploration of the problem space and the initial ideation can be completed with a relatively small team or even alone, in the second phase of a venture, people with additional competencies must be added to the team to support the implementation and further development of the initial idea. One of the core tasks of the Smart-up program is to support the initiators of the ventures in finding the right people. At the various schools of LUASA, individuals acquire different competencies that are required for the further development of a start-up. Smart-up offers university members the opportunity to connect with people who have complementary competencies and are willing to work on the venture.
2. The main challenge for the start-ups in this phase is to show the prototype to many potential customers and to optimize it for better meeting customer needs. Through continuous customer feedback and hypothesis testing, conclusions are drawn as early as possible in product development. Initially, it is only about whether the type of solution seems attractive to the target group or not. Early low-resolution prototypes can also be called prototypes. The term prototyping is made up of the words "pretend" and "prototyping". It is a method of testing new product ideas quickly and at minimal cost (Savoia, 2011). Over time, the prototypes become more functional compared to prototypes and are called in the end "Minimal Viable Products" (MVP) in the Lean Start-up language. In parallel, the Lean Canvas is used to determine the Problem-Solution Fit and describes a basic business model with different building blocks. Like the prototypes, the business model is developed in an iterative process evaluating the assumptions behind the value proposition (Maurya, 2012).

## **Phase III: Launch and implement**

In the third phase, the focus is on implementing the project and introducing the product or service to the market. The desired outcome of this phase is the Product-Market Fit, the central milestone in the life of a start-up. This means that the

product or service has been developed to be launched and sold on the market where it meets corresponding needs and interests. Phase III marks the end of the learning process in which the founders aim at understanding their future customers and developing the first marketable version of their product. For the coaching in this phase, the following three key issues are crucial:

- In this third phase, monetization of the business becomes increasingly important. Regardless of the business model, financial resources are needed for the market launch. Such funds usually not being available within the start-up to a sufficient extent, the founders are forced to pitch their venture in front of appropriate investors or at funding awards. Founders need to develop good pitching skills to convince investors in a decent amount of time.
- Besides the continuous development of the product, the company must be completely set up. A team must be built and the roles and competencies of each must be described. Care must be taken, especially when building up long-term resources such as the head count. In addition, the development of a supply chain and sales organization via partner companies is crucial and the founders have to secure intellectual property, enhance the business model, monitor potential business risks and define the key business processes.
- The third key issue in this phase is the preparation of the market. The acquisition of the first customers willing to pay for the product or service of the start-up is needed prior to the launch. Therefore, founders need to gain marketing skills to advertise their offer appropriately.

#### **Phase IV: Scale and growth**

After a successful market entry, the fourth and final phase of the process is about growing and scaling the business. In this phase, the value proposition and the business model are continuously adapted to reach new target groups. The result of this step is the Business Model-Performance Fit. As in the previous phase, the focus of the founders changes again to the following two key issues that are important for coaching:

1. Continuously scaling and growing the business needs more financial resources than setting up the activities in the first three phases. Depending on the degree of innovation of the idea and the stage of the company, there are various ways to raise capital. In addition to the classic financing options such as "family, friends and fools" or a partnership with a "business angel", there are numerous funding awards, foundations and venture capital companies which provide start-ups with the necessary financial resources at an early stage.
2. Addressing new target groups or new markets requires fresh capital and understanding of foreign markets. When entering international markets, logistics must be adapted to growth. Special knowledge about placing on the market, customs clearance and taxation in foreign markets must be built up. Depending on the product or service, it may be necessary to establish a branch office in the respective economic area.

### **Success factors of Smart-up**

Based on the above introduction to the Smart-up program, the following sections outline the main success factors that help Smart-up make a valuable contribution to the development of LUASA and its environment.

### **Implementation of entrepreneurship modules**

In order to foster entrepreneurial thinking among students, Smart-up facilitates the offering of a broad spectrum of entrepreneurship courses, modules and tracks at LUASA, ranging from university- or even cross-university-wide to school-specific perspectives.

Cross-university-wide Smart-up provides two so-called ISA modules (*interdisziplinäre Studienangebote*; interdisciplinary study offers). ISA modules are open to students of all three Lucerne university institutions, which further expands the disciplinary mix of participants.

The first of the two ISA modules called "Ideation" starts in the earliest development phase. The students apply methods for generating ideas as well as creativity techniques and develop their own innovation project in teams. They create prototypes, run initial tests and translate their ideas into business models. At the end of the module, the teams present their projects in a pitch.

The second ISA module "Business Concept", which is offered in cooperation with Innosuisse, the Swiss Innovation Agency, is designed as the optional continuation of the module "Ideation". Students learn how to think and act like entrepreneurs. During the module's 14 events, participants train both the theoretical and practical skills needed to set up and run their own business.

On a school level, the School of Computer Science, the School of Engineering and Architecture and the School of Business are offering an entrepreneurship track. Students following one of the different entrepreneurship tracks attend a variety of entrepreneurial modules and courses and dedicate their project-based module assignments such as the major scientific papers or thesis at the end of their study program to a topic related to their start-up. If students select all entrepreneurial courses offered and attend the project-based modules, they are able to spend up to 25% of 180 European Credit Transfer System (ECTS) Points for a bachelor's degree on developing the idea and the scientific background of the venture.

Besides these general programs, the schools have developed specific offerings that meet the needs of their members.

For instance, the School of Business provides the elective course "Start-up Accelerator" in which students at bachelor's level have the opportunity to dedicate themselves in depth to the development of their own start-up during their studies and hereby earn three ECTS Points. During this commitment, which normally extends to a period of twelve months, they are giving periodical status reports and receiving individual coaching according to their needs.

Graduates of the BSc program Business Engineering (*Wirtschaftsingenieurwesen*), offered by the School of Engineering and Architecture, will receive a supplemental entrepreneurship certificate with their diploma, if they dedicate at least one of their major scientific papers to a topic of their start-up,

select at least four modules out of a catalog of entrepreneurship specific minor modules and are officially recognized as a founder within the Smart-up program.

For the future, Smart-up aims at keeping the offer equally attractive for all six schools of LUASA. Each of the schools has a different understanding of what entrepreneurship means in their context and therefore different needs for the design of the program. Appropriately addressing all of these ideas and claims in their uniqueness while consolidating them under the common umbrella of Smart-up remains an important and continuous aspiration.

### **University as a network of experts**

In addition to the well-established integration of entrepreneurship into the study program, a key success factor of Smart-up is the extensive network of experts. As the core of its activities, Smart-up offers expert coaching in all relevant fields. Here, LUASA itself with its highly skilled staff serves as the primary pool of experts from various practice areas. If specific knowhow cannot be provided internally, Smart-up arranges coaching sessions with a suitable external specialist.

The process from an initial contact of a student, alumni or employee who is interested in Smart-up's services to a coaching session usually includes the following steps which are applied in a flexible manner and on a case-by-case basis: After contacting the responsible Ambassador at the respective school, a general initial meeting is scheduled. There, the start-up outlines its idea and status, and the Ambassador presents Smart-up's offering in detail. On this basis, they jointly determine the next steps and any current concerns where support is needed. Subsequently, the start-up may contact the Ambassador at any point with any specific coaching request. Based on the query, the Ambassador identifies a suitable expert within LUASA's network or, in exceptional cases, beyond and connects the start-up with such expert. Afterwards, the coaching is organized bilaterally between the start-up and the coach in an appropriate mode. Usually, a coaching session takes between one and four hours.

Smart-up is based on a case-specific coaching concept. This means that the focus of advice is not of a general but on a concrete, issue-specific nature. Accordingly, Smart-up coaches do not carry out extensive work *for* the start-ups, but rather offer tangible inputs to and work *together with* the start-ups in order to enable them taking the necessary steps. For example, within a legal coaching the expert will not prepare comprehensive legal documents like relevant contracts for the start-up, but he or she may provide guidance and reliable templates, review clauses in a start-up's draft, answer questions and ambiguities in this regard, or, more generally, outline, together with the start-up, the key legal issues which need to be considered.

Up to seven hours of free Smart-up coaching are offered to every university member. This offer is actively used and appreciated by the start-ups, as over 1000 coaching sessions have been arranged by Smart-up since 2013.

### **Access to infrastructure**

Along with access to the right knowledge and expertise, access to LUASA's infrastructure is a third key success factor. Start-ups in the university environment

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are often dependent on the infrastructure of the universities. The needs vary greatly and depend on the business model.

For technology-driven start-ups that emerge directly from the research activities of LUASA, access to the laboratories and specific technical facilities of the university is provided. In an early phase, the laboratories are needed to ensure technical feasibility and in a later stage to ensure the functionality of the products created. This often requires specialized equipment or software which is available at the university's laboratories. As soon as start-ups prove to be commercially successful, they adequately contribute to the maintenance costs of these specific facilities at the university. If a start-up has a need to use the laboratories, Smart-up reviews the access options and determines the terms of use together with the respective responsible parties.

At some point, every start-up needs spaces where it can start its business. In particular, start-ups that rely on the university's infrastructure for their work look for space near or, preferably, at the university campus. For these purposes, Smart-up maintains Smart-up Hubs at two locations of LUASA. In addition to offering seats in a coworking space, a limited number of small offices are available to start-ups at one location. These locations are also meeting places for all founders, where they can share experiences with each other.

In order to frame its infrastructural offerings that go beyond the basic coaching of up to seven hours, which is free for all university members, Smart-up has developed the so-called "Smart-up Package". This package, which is offered for a symbolic annual fee, is mainly addressed to start-ups with infrastructural needs. Besides access to infrastructure and facilities, the package provides founders with the possibility to use the university's address as the company's place of business. Further, start-ups that have booked the Smart-up Package can benefit from an even closer mentoring and support including a total of 20 coaching hours, a bi-annual status review and an annual roundtable with peer start-ups. And finally, Smart-up also supports the digital visibility of the venture and its activities by presenting the start-ups with a package on the program's communication channels and the media displays throughout the university. Since 2013, more than 50 start-ups have taken advantage of the Smart-up Package.

### **Inspiring workshops and events**

In practice, inspiration and a strong network among peers are key drivers for successful start-ups. Therefore, inspiring workshops and events are another important pillar of Smart-up's activities.

The Smart-up event series "*Treff mit uns...*" ("Meet with us...") aims at showcasing successful entrepreneurs. In a live interview format, they share their cases, experiences, challenges and successes with the audience and thus become encouraging role models for prospective young entrepreneurs.

Short luncheon events are another established format. Ranging from sessions dedicated to specific entrepreneurial topics and recurring start-up questions (e.g. legal or financial hotspots for start-ups) to cycles for specific target groups (e.g. the "Female Founder Luncheons" which emerged from several research projects on the

topic of female entrepreneurship), these workshops are designed to gain new insights in a short time.

On behalf of Innosuisse, Smart-up conducts the two-hour event "Business Ideas" designed to inspire the audience to start their own business. At this event, entrepreneurs talk about their path to success and the experiences they have had along the way. Participants may ask questions during panel discussions and network with each other and the entrepreneurs.

Finally, with regular roundtables at the individual schools and an annual community event, Smart-up promotes the community among the various start-ups and founders. Here, the focus is on exchange and networking, learning from each other as peers and even developing joint opportunities.

### **Access and connection to a regional network of experts**

For a program like Smart-up, networking with all relevant actors at regional and national level and becoming an active shaper of the regional entrepreneurship culture are key. Actively maintaining these network partners is important because a university-based program like Smart-up can support start-ups to a limited extent only and therefore relies on the complementarity of external partners.

For this reason, Smart-up was one of the initiators of the Swiss central start-up network \*zündler. The network is made up of the six regional economic development agencies of the cantons, the association *Innovationstransfer Zentralschweiz* (ITZ), Smart-up, various innovation and technology parks in the region and other regional companies, institutions and associations whose purpose is to support start-ups in establishing their business. ITZ plays a special role in the cooperation between the business and academic world. It is made up of around 200 members from business and industry, representatives of the governments of Central Switzerland, business development agencies, LUASA and other research institutions. It also manages the Regional Innovation System (RIS) of Central Switzerland which was proposed by the State Secretariat for Economic Affairs SECO in 2012 and enacted by the Federal Council in 2016. RIS promotes the competitiveness and innovative capacity of SMEs by offering coordinated support and services in the areas of information, consulting, networking, infrastructure and financing (Egli, 2020). For Smart-up, ITZ is an important partner for its substantial network of experts in various fields.

In addition to the larger regional associations described, Smart-up uses contacts with individual local companies and associations for specific support of start-ups which help the founders with financing and further coaching offers. In the future, the network to potential investors will be strengthened further.

On a national level, Smart-up is an implementation partner of the entrepreneurship support services of the Swiss Innovation Agency Innosuisse. As described above, Smart-up implements the modules "Business Ideas" and "Business Concept" in this mandate. Smart-up is part of a consortium of six universities which organizes the entrepreneurship training for Innosuisse in the Central Region. The participating universities besides LUASA are the University of Berne, the Berne University of Applied Sciences, the University of Basel, the University of Applied Sciences and Arts Northwestern Switzerland and the



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Università della Svizzera italiana. Participation in this network promotes the national exchange of entrepreneurship knowledge and at the same time expands the network of experts at the national level.

### **Highly diverse and skilled Smart-up team**

To fulfill the tasks described above, a suitable team is needed in order to match the heterogeneity of the university, embrace the different demands on Smart-up and provide a valuable offering for all university members. Such a team is composed by each of the six schools sending at least one Ambassador who represents the concerns of the respective school in the program and acts as a contact person for all interested parties. The work in such a team requires people who are willing to cooperate in an interdisciplinary way and who can admit different perspectives on the same problem and integrate them into their own work.

The team is led by two main representatives for the entire program. Together with a program coordinator and a communication specialist, they build the core team of the program. As already mentioned, each school has its own small team that recognizes and takes up the needs on site and translates them into new offers. In total, 13 people are working part-time in the program. In addition to the tasks for the respective school, all team members also work in interdisciplinary groups which specifically address individual topic areas across schools. These topics are e.g. cross-curricular teaching offers and interdisciplinary entrepreneurship research activities as well as common events and a uniform communication and appearance.

Finally, the directors of each school as well as the dean highly appreciate the efforts and results of the Smart-up program. This important support further drives the program, for example via the integration of investors, the partnership with other universities or an additional focus on research.

### **Conclusion**

Swiss universities of applied sciences and arts play an important role in the region they are located. They offer practice-oriented education and training and application-oriented research, supplying business partners and institutions with skilled workers as well as up-to-date knowledge. In this way, they are key drivers in knowledge and technology transfer. LUASA, like all other Swiss universities of applied sciences and arts, covers a broad professional spectrum with its six schools, each with a different disciplinary orientation. The single schools provide the four-fold mandate of education, continuing education, applied research and services for third parties.

To further develop the university as a whole, to meet the growing demand for interdisciplinary offerings and to avoid parallel developments, the Higher Education Development & University Services unit HED was established in 2018 and is since 2020 home to the Smart-up program and other interdisciplinary units and programs. HED contribute to the alignment of performance mandates and transversal themes with the university strategy and promote their implementation. To achieve this, they coordinate activities at LUASA, promote innovation and bring together LUASA members and organizational units. HED experiment with new concepts themselves and inspire by living new ideas, new knowledge and new working methods and bringing them into LUASA. Through their work, HED

contribute significantly to the further development, dynamism and success of LUASA. HED base their work on the interdisciplinary participation and support of all LUASA schools and units. The interdisciplinary collaboration within Smart-up is therefore of great importance and exemplary for the entire university.

LUASA's Smart-up program was launched in 2013 as a project to promote entrepreneurship throughout the university. Smart-up is an excellent example of how synergies between the schools can be exploited in an optimal way. The special set-up of Smart-up is its organizational independence. This allows Smart-up to address the individual needs of each of LUASA's six schools. Smart-up follows the slogan "Together we make ideas fly". The focus is not on commercial success only, but on enabling each individual founder to successfully implement his or her idea, be it in various educational modules and courses with an entrepreneurship focus, at Smart-up's events or via Smart-up's offering of infrastructure, coaching and network. Smart-up benefits from LUASA as an expert organization. The individual concerns and questions of the entrepreneurs are forwarded to the right specialist within and, if necessary, outside the university. Short training events are organized based on recurring questions. The networking function is a key pillar of Smart-up's success. Surveys among Smart-up start-ups confirm the greatest need of the start-ups: to find the right person within the shortest time possible for questions which need to be taken care of. This can only be achieved through the open and service-oriented attitude of all members of Smart-up which is crucial for interdisciplinary work.

In addition to the direct support of the start-ups by the LUASA's experts, Smart-up promotes the exchange of ideas between the start-ups themselves. For this purpose, Smart-up organizes about 20 events per year fostering networking among start-ups and providing inspirational insights. In order to involve interested persons as easily as possible, the entry to the program is designed to be very low barrier. An initial meeting can be arranged with the Ambassadors of the program at any time; afterwards, admission to the program is granted and coaching can begin. Like this, the entrepreneurs may focus on advancing their project and on pressing business challenges, while Smart-up takes care of all the necessary formalities. The goal remains to engage as many interested parties as possible in order to create value.

The current drivers for entrepreneurship in the Smart-up program will continue to be of central importance in the future. However, depending on relevance, accents could be set such as promoting female founders, improving pitching processes, promoting international collaboration and strengthening the investor network.

The entrepreneurial spirit generated by the program's activities and network is of enormous importance for the development of LUASA as a whole. Even if only a small number of university members become active as entrepreneurs, Smart-up encourages everyone to adopt a basic entrepreneurial attitude and to contribute and implement their own ideas for the further development of the organization. In this way, a bottom-up cross-university development is created which is supported and moderated by the management bodies.

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All this makes Smart-up a valuable program for the overall development of LUASA and its environment. The entrepreneurial spirit exuding from the program attracts new university members and opens the university itself to new offers and forms of cooperation. From a broader perspective, Smart-up makes an important contribution to the economy of the entire region. By establishing new ventures, future economic prosperity in the area is promoted. New companies and jobs are created through start-ups in the vicinity of the university for which a knowledge and technology transfer must take place and new workforce must be trained. To achieve this, Smart-up collaborates with all relevant partners in business and government. In this way, Smart-up's efforts contribute to the benefit of the Central Switzerland region.

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## **Author Biographies**



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For the past 15 years, **René Zeier** has contributed to the development of the Lucerne University of Applied Sciences and Arts by leading a master program, the Smart-up program supporting start-ups and other projects. He gained his marketing experience working with Nestlé, Novartis and Coca-Cola.



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# Towards Human Resources Excellence at Sofia University

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## Introduction

The knowledge intensity in economies and societies has grown rapidly in past decades. Businesses all-over-the-world have faced rapid changes of technologies and markets, and acceleration of innovation and scientific discoveries. Special emphasis has been put, therefore, on knowledge workers and talented employees – not only to attract them, but also to motivate them for higher performance and to engage them with the organisation for a longer period (Dibiaggio & Meshi 2012, Wallace et al. 2014).

As a specific workforce, researchers have been considered important due to their role in the knowledge-based economy – for knowledge creation and knowledge transfer in industry and education. At the European level, several measures have been taken to attract young people into research and innovation, and to equip them with the knowledge and skills necessary to face the challenges of the 21<sup>st</sup> century: digital skills, entrepreneurial and transferable skills, innovation and Open Science skills as well as capabilities for dialogue with citizens and industrial stakeholders on scientific topics and the research needs of the economy and society (Gourova & Dimitrova 2020).

In Bulgaria, universities and research organisations have undergone deep transformations in past decades. On the one side, they had to adapt to the changes in Bulgaria during the transition to a market economy, and to introduce democratic principles of governance. On the other side, they had to follow the changes of the higher education and research systems in Europe so as to respond to the demands of the knowledge-based economy and society.

Sofia University “St. Kliment Ohridski” (SU) is the first higher education organisation, and the largest and the most prestigious university in Bulgaria. Presently, SU faces the need to attract young talent and prominent researchers, so as to strengthen its human resources (HR), and thus, its role in the knowledge economy. Moreover, the university aims at better integration in the European Education Area and in the European Research Area (ERA). Therefore, it launched a significant organisational change for meeting the requirements of the Human Resources Strategy for Researchers (HRS4R) and obtaining the “HR excellence in research” award (HR award) from the European Commission (EC).

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The goal of the case history is to describe the SU experience in the application for the HR award. The first section focuses on the European and national context, where some details are given related to the main building blocks of the European Union (EU) labour market for researchers. The main section is devoted to the Sofia University case, starting with a short overview of the University and its strengths and weaknesses, followed by a description of the change drivers and the implementation process. In this part, special attention is paid to the gap analysis, and the related Action plan. The section finishes with a description of some essential follow-up SU activities. In the conclusions, additional challenges related to the European policy trends, and the national framework are provided.

### **European and national policy for researchers**

#### **Building blocks of the open labour market for researchers in Europe**

Human resources in research have been a priority since the establishment of the ERA in 2000. Along with the emphasis on the Open labour market for researchers in Europe, specific attention has been paid on establishing an attractive working environment for researchers – and applying the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers (Charter & Code) (European Commission 2005). Other ERA priorities have focused on building of key research infrastructures, ensuring gender equality and knowledge transfer in Europe, as well as effectiveness of the research ecosystem (European Commission 2000). Several measures have been taken for overcoming the innovation gaps (incl. skills gaps) and facilitating the collaboration between various actors – with different background and traditions, from public and private sectors, at national, regional and European levels. Furthermore, policy makers have acknowledged the need to attract young talents to Science, Technology, Engineering and Mathematics (STEM), and to equip the new generation of researchers and innovators with the knowledge and skills needed for a diversified career path (Gourova & Dimitrova 2020).

The latest policy for the future of the ERA (European Commission 2020) aims to overcome the present challenges for research and innovation in Europe and to fully utilize their potential for higher competitiveness and economic growth. The economic value of the research and innovation results is equally important as the goals for improved access to research excellence and for deepening the ERA. A cornerstone for the future of the ERA are researchers and their involvement in the transformation towards Open Science and Open innovation, making the EU attractive for world talent. Several building blocks are considered for the new Framework for researchers' career in Europe. Essential action lines are the amendments of the Charter & Code, and the transformation of the EURAXESS job portal into the ERA talent platform. A new initiative ERA4YOU is envisaged including mobility schemes between academia and industry, and measures for attracting talent.

Several EU initiatives within the ERA have focused on facilitation of the diversified career paths of researchers, and their mobility (European Commission 2008). For example, the European network for career and mobility of researchers EURAXESS has grown as an important pan-European actor supporting research

organisations and universities applying for the HRS4R, aligning their internal practice with the Charter & Code, and the toolkit for Open, transparent, merit-based recruitment of researchers (European Commission 2015).

A specialised Standing Working Group on Human Resources Management has been established at the European Research Area and Innovation Council (ERAC) with the task to guide the work for building an Open labour market for researchers (referred to as ERA priority 3), and to monitor its progress.

As pointed out in Siekkinen, Pekkola & Kuoppala (2015), the European Commission has guided the measures for unifying the researcher landscape in Europe and diminishing the differences in the labour markets for researchers. The Charter & Code includes 40 principles grouped into 4 pillars (Table 1), which should build an attractive legal and administrative environment for researchers' training and career development, and should stimulate professional attitude, higher quality and impact of research achievements, knowledge transfer and protection of Intellectual Property Rights (IPR).

**Table 1.** Principles of the Charter & Code, extracted from European Commission (2021)

<p><b>Ethical and Professional Aspects</b></p> <ol style="list-style-type: none"> <li>1. Research freedom</li> <li>2. Ethical principles</li> <li>3. Professional responsibility</li> <li>4. Professional attitude</li> <li>5. Contractual and legal obligations</li> <li>6. Accountability</li> <li>7. Good practice in research</li> <li>8. Dissemination, exploitation of results</li> <li>9. Public engagement</li> <li>10. Non-discrimination</li> <li>11. Evaluation/ appraisal systems</li> </ol>	<p><b>Recruitment and Selection</b></p> <ol style="list-style-type: none"> <li>12. Recruitment</li> <li>13. Recruitment (Code)</li> <li>14. Selection (Code)</li> <li>15. Transparency (Code)</li> <li>16. Judging merit (Code)</li> <li>17. Variations in the chronological order of CVs (Code)</li> <li>18. Recognition of mobility experience (Code)</li> <li>19. Recognition of qualifications (Code)</li> <li>20. Seniority (Code)</li> <li>21. Postdoctoral appointments (Code)</li> </ol>
<p><b>Working Conditions and Social Security</b></p> <ol style="list-style-type: none"> <li>22. Recognition of the profession</li> <li>23. Research environment</li> <li>24. Working conditions</li> <li>25. Stability and permanence of employment</li> <li>26. Funding and salaries</li> <li>27. Gender balance</li> <li>28. Career development</li> <li>29. Value of mobility</li> <li>30. Access to career advice</li> <li>31. Intellectual Property Rights</li> <li>32. Co-authorship</li> <li>33. Teaching</li> <li>34. Complains/ appeals</li> <li>35. Participation in decision-making bodies</li> </ol>	<p><b>Training and Development</b></p> <ol style="list-style-type: none"> <li>36. Relation with supervisors</li> <li>37. Supervision and managerial duties</li> <li>38. Continuing Professional Development</li> <li>39. Access to research training and continuous development</li> <li>40. Supervision</li> </ol>



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The HRS4R describes a process for aligning the organisational practice with the Charter & Code and other policy requirements (European Commission 2021):

1. *Initial phase:* The research organisation applies for the "HR Excellence in Research Award" consisting of 3 main documents – Declaration, Gap Analysis and Action Plan. The process and documents are visible on the website of the research organisation. After evaluation by independent external experts, the EC grants to the research organisation the HR Award and provides it the right to display the HR logo (an icon) on its website
2. *Implementation phase:* The research organisation ensures the implementation of the Initial Action Plan within 24 months after the initial granting of the HR Award. An Interim Assessment is undertaken by the EC. Three years after the initial granting of the HR award the research organisation is preparing a Revised Action Plan.
3. *Renewal phases:* Implementation of the improved Action Plan that will culminate in the Renewal with Site Visit (five years after the initial granting of the HR Award).

The implementation of the HRS4R is voluntary. The HR award has so far been granted to 610 organisations. Guidance to applicants is provided by the EC and the EURAXESS staff, and special digital tools are available for application and monitoring. On the EURAXESS jobs portal, the HR logo appears in front of the organisation's name so as to indicate to job seekers the high quality of the research environment and the observance of the Charter & Code. As pointed out in (European Commission 2021):

*"The "HR Excellence in Research" award gives public recognition to research institutions that have made progress in aligning their human resource policies with the principles set out in the "Charter & Code". Institutions that have been awarded the right to use the icon can use it to highlight their commitment to implement fair and transparent recruitment and appraisal procedures for researchers."*

### **Bulgarian actions for an attractive research environment**

As pointed out above, the Open labour market for researchers is priority 3 for developing the ERA. Following the decision to reinforce the partnership for ERA (European Commission 2012), in Bulgaria, the Ministry of Education and Science prepared a National Action Plan with specific measures in each ERA priority area, where the following measures are considered in the priority 3 area:

1. Incentives for research careers at all stages and to retain and attract young talent from Bulgaria and abroad into science and innovation
2. Partnerships to address shortcomings in terms of qualifications, career and salary structures
3. National commitment to support postdoctoral researchers
4. Addressing research integrity and gender

The research landscape is regulated at the national level by two important acts: the Law for development of academic staff and the Higher Education Law. The policy priorities and action lines are described in two recent documents: the Strategy for

development of higher education in Republic Bulgaria for the period 2021-2030 and the National strategy for development of the scientific research in Republic Bulgaria for 2017-2030. Also of note is the Law for encouragement of research activities and the National Roadmap for research infrastructure 2017-2023. These documents determine the main principles to be respected by all research organisations and universities: autonomy and academic freedom, gender balance and non-discrimination, ethics, openness, transparency, accessibility, etc.

As stressed in the National research strategy (Ministry of Education and Science 2021), human resources in research, despite the funding limitations, still remain one of the strengths of the system. In the state sector of research and higher education gender balance is also ensured (Table 2), with 53% female researchers. It is pointed out that despite the balanced age representation, more emphasis is needed to increase the number of researchers in order to reach the EU average, and more measures are needed to attract young talent and to preserve the established researchers in the country. To overcome the main weaknesses and threats of the national research system, as well as to meet the strategic objectives, special attention is given to human resources in research, and the following specific objectives were put in place (Ministry of Education and Science, 2021):

1. Ensuring higher qualifications and effective career development of researchers, based on excellence in research
2. Increasing the living standard and the social status of researchers and specialists engaged in research activities by ensuring adequate and merit-based remuneration, as well as excellent working conditions
3. Increasing the number of researchers in order to reach the EU average, whilst keeping a balanced distribution according to age, gender, scientific area and region.

**Table 2.** Age and gender of Bulgarian researchers (Ministry of Education and Science 2021)

<b>Age</b>	<b>Men</b>	<b>Women</b>	<b>Total</b>	<b>% of age groups</b>
below 34	1 238	1 434	2 672	21%
35-34	1 441	2 034	3 475	27%
45 – 54	1 339	1 582	2 921	23%
55 – 64	1 516	1 493	3 009	24%
over 65	423	232	655	5%
Total	5 957	6 775	12 732	

Regarding the progress made for implementing the National Action Plan, the following initiatives could be noted:

1. *Policy focus on retaining and attracting young talent:* In 2018, the Council of Ministers adopted a new programme "Peter Beron" targeted at the reintegration of Bulgarian researchers, based on criteria for individual fellowships of the Marie Skłodowska-Curie Actions of the European framework programme for research and innovation Horizon 2020. The first call for proposals was published in 2019. In addition, attracting talent for research excellence is the objective of the national programme

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- "VIHREN" managed by the National Scientific Fund. The programme follows the Horizon 2020 concept for European Research Council grants.
2. *Focus on recruitment and promotion of researchers, and adopting the Charter & Code:* The Law for development of academic staff was revised in 2018 in order to introduce minimal requirements for all degrees and positions specific for each scientific field. In pillar 1 of the Operational programme "Science and Education for Smart Growth" (OP SESG) aimed at building Centres of Excellence and Centres of Competence, and all centres were set specific requirements to apply the Charter & Code. The legal and administrative measures have been supported by the EURAXESS centres in Bulgaria. Since 2018, several seminars and workshops have been held in several cities to raise the awareness of researchers and research managers on the European policy in ERA Priority 3.
  3. *Policy focus on making doctoral programmes more international, higher mobility of PhD students, better connections to market needs, and higher quality in different disciplines:* The main policy tool is the OP SESG providing funding for the establishment of Centres of Excellence and Centres of Competence in the 4 priority areas of the Innovation Strategy for Smart Specialisation of Bulgaria. All centres selected in 2018 are based on a consortia of research organisations in specific scientific areas, and have plans for knowledge transfer, including the development of a specific knowledge transfer policy and commercialisation actions, as well as partnerships for research results utilisation with industrial and international organisations. In addition, the National Science Fund ensures funding for bilateral collaboration of Bulgarian research organisations with peers from different countries. Project funding is also available for collaboration under 11 national research programmes adopted in 2018 by the Council of Ministers. The programmes are in eight specific scientific areas, three of which are targeted at HR in research, and one – at scientific excellence.
  4. *Improving the economic and social status of researchers and creating attractive conditions for scientific activities:* As a follow-up to the recommendations of the EC Policy Support Facility Panel, a new national programme "Young and Post-doctoral researchers" was launched in 2018. The programme is targeted at attracting and developing the next generation of highly qualified researchers, and thus supports the Innovation Strategy for Smart Specialisation. Under the OP SESG several projects were funded focused on targeted training of PhD students and post-doctoral researchers. Subsequently, a contractual obligation was included for all Centres of Excellence and Centres of Competence and a specific indicator for success related to recruitment of new young and post-doctoral researchers. Furthermore, targeted support is ensured for STEM education, and increased funding of STEM programmes at universities.
  5. *Addressing research integrity and gender balance:* Here should be noted the amendments of the Law for development of academic staff in 2018,

and the introduction of ethical requirements and minimal national standards for academic degrees and positions. An ethical commission was established at the Ministry of Education and Science. All academic organisations were encouraged to establish their internal procedures for ethics and special ethical bodies. Focus of the policy on responsible research was given as well, and the inclusion of special requirements for public communications of all research centres funded under the OP SESG.

## **Application for “HR excellence in research” award**

### **Challenges for Sofia University**

Sofia University is the first university in Bulgaria, established in 1888 in the Principality of Bulgaria. Today, SU is the largest and the most prestigious educational and research centre in the country with an academic staff of 1700 lecturers and 22,000 students across 107 specialties. SU includes 16 faculties, as well as several separate units – including the university library, university press, various centres including the Institute GATE, the Centre for Information Society Technologies, the Technology Transfer Office, etc. Many of the best Bulgarian scientists in all areas of natural sciences, mathematics, and humanities are working in SU. The quality of SU teaching and scientific achievements is comparable to major European universities. It is ranked among the world’s top 750 and Europe’s top 300 universities.

Sofia University has been either the coordinator or a partner in research projects funded by European framework programmes for research (FP5, FP6, FP7, Horizon 2020), by international programs (NATO, UNESCO, NASA), by Bulgarian ministries, national agencies, and businesses. Among SU achievements are its participation in three of the Centres of Excellence funded under the OP SESG in the priority areas (four in total) of the Innovation Strategy for Smart Specialisation.

The analysis of the strengths, weaknesses, opportunities and threats of SU (Gourova 2018) shows that despite its excellence in several areas, many challenges remain. For example, human resources in research are the key factor for SU achievements and its high recognition not only in Bulgaria, but also in Europe. The excellent traditions in higher education, the substantial research outcomes and the wide reputation of individual researchers facilitate a good level of SU collaboration with European universities and its involvement in national and international research and innovation projects. On the other hand, human resources have become an essential weakness of SU due to ageing and the brain-drain of academic staff, and difficulties in attracting young researchers. There was clearly a need to provide a practical experience in industrial settings for young researchers and students, as well as to equip them with complementary skills for technology transfer, project, innovation and IPR management.

Generally, insufficient funding has contributed to large disparities among SU departments and faculties in research, higher education and innovation. Several measures are needed to improve the research infrastructure and the overall research environment of SU, as well as to overcome the fragmented nature of research activities and to increase the quality of research and teaching. Whilst higher

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education continues in strong technology fields, insufficient efforts have been made for building the interdisciplinary and multidisciplinary competences of students and researchers. It is not surprising, therefore, that knowledge transfer activities are quite limited, as well as collaboration with industry for joint research and innovation. A threat for SU is the increasing gap in industry-academia collaboration, and the danger of a lack of sustainability in STEM research due to ageing and mobility of researchers (Gourova 2018).

### **Drivers of Sofia University change**

The Bulgarian EURAXESS coordinator was established at Sofia University in 2004. Its staff has been active in several European projects supporting the career and mobility of researchers, and has been promoting at national level the EU tools and ERA actions. Since 2005, several seminars and roadshows have been held to raise the awareness of university and research managers, policy makers and researchers on the Charter & Code, on the HRS4R, on the Open Science requirements and tools. SU EURAXESS members have supported the Ministry in monitoring the ERA priority 3 trends, and in designing measures to support human resources in research.

The first serious changes at a national level started after the adoption of the OP SESG where a requirement for alignment with the Charter & Code principles was introduced in the Guide for applicants. Another trigger was the Horizon 2020 programme, and in particular its Marie Skłodowska-Curie Actions, where the application of the Charter & Code principles was set as an important requirement. Recent debates for making in the Horizon Europe programme an obligation for implementing the HRS4R further influenced the SU decision making bodies. In parallel, legal and regulatory changes were going on at a national level relating to the modernisation of universities and for ensuring higher quality of education and research.

Despite the efforts of the EURAXESS staff and its awareness raising activities, it only became possible for SU to adopt the Charter & Code principles after the publication of the OP SESG, and after changes in SU governance. The main driver of change became a newly appointed SU Deputy Rector – an experienced researcher involved in several EU-funded projects, aware of the severe problems for ensuring the sustainability of STEM-related research due to ageing researchers. The dependency on project-funding to maintain excellent research achievements was another reason for starting the procedure to align the SU internal rules and practices with the Charter & Code principles. Essential for the success was the involvement in the whole process of experienced, knowledgeable and committed experts of SU EURAXESS and of the Centre for Information Society Technology.

### **Change management and gaps identification**

The HRS4R process at Sofia University started in October 2016 after the submission of a declaration for accepting the principles of the Charter & Code signed by the Rector to the EC. Thereafter, an inclusive and participative approach was implemented involving SU management, and the academic, administrative and support staff. Initially, two working groups were appointed with instructions from the Rector: firstly, to prepare a draft proposal for a Code of conduct for researchers

in accordance with the principles of the Charter & Code (October 2016), and secondly, to perform a Gap Analysis and prepare an Action Plan (February 2017). Both were chaired by the Deputy Rector of Information Activities, Academic Staff and Administration. The working groups were composed of administrative department staff, including EURAXESS members. In 2018, an expert for revising the application documents invited a SU researcher, to be a delegate of the Working Group (on Human Resources Management) at ERAC.

Many of the SU governing bodies were involved in the process of the application to the HRS4R, including:

1. The Council of Rectors who monitored the process and supported the SU strategy for alignment with the principles of the Charter & Code and the HRS4R.
2. The Academic Council adopted a Regulation on implementation of the Charter & Code in SU (2016), and in 2019 adopted the Action Plan for implementing the HRS4R.
3. The SU top management and all deputy deans responsible for research participated in a workshop on improving SU working conditions and the career development of researchers (February 2018).
4. The SU central administration participated in a workshop (February 2018) for training and discussion on improvement of SU environment according to the Charter & Code.
5. The Gap Analysis and Action Plan were sent to all deputy deans responsible for research for approval, and were discussed with researchers at Faculty level (December 2018-January 2019).
6. In relation to the implementation of the Action Plan, three specialized bodies were set by the SU Rector in July 2019: Administrative Working Group, Steering Group and Researchers Focus Group.

A consultation with SU academic staff was made using several surveys and follow-up discussions at department and Faculty levels with the objective of performing an internal analysis and identifying areas of improvement according to the principles of the Charter and the Code (Table 1). Essential information for the gap analysis was obtained from:

- Training needs analysis (October – November 2017)
- Assessment of quality of administrative services (December 2017 – January 2018)
- Survey on researchers' career (April 2018).

It is interesting to note the outcomes of a survey on researchers' career opportunities. This paper-based survey was carried out in April 2018 among SU academic staff closely involved in the research funding programmes of the University. A total of 147 responses were received including both quantitative data and qualitative assessments and comments about the respondents' career insights. The questionnaire covered five sections: 1) research career, 2) recognition and value, 3) recruitment and selection process, 4) support and career development, 5) equality and diversity. The analysis of the survey results (Table 3) allowed SU management to better understand the problems of its researchers and to identify the

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main gaps in its internal environment and for the career development of its human resources. It was also an essential tool to ensure the future commitment of the academic community in the follow-up actions designed to overcome these gaps.

**Table 3.** Summary of the outcomes of the SU Researchers' career survey (April, 2018)

<b>Sections</b>	<b>Identified gaps</b>
1. Research career	<ul style="list-style-type: none"> <li>• low international and intersectoral mobility of SU researchers</li> <li>• low involvement in EU, international and industry-funded research projects (only 32% of the respondents worked on EU-funded projects, 8% on international non-EU programs, 10% on industry-funded projects)</li> </ul>
2. Recognition and value	<ul style="list-style-type: none"> <li>• lack of recognition of researchers' efforts to commercialise research outcomes and to communicate their research achievements to the general public</li> <li>• dissatisfaction with the low level of remuneration (common for Bulgarian researchers)</li> </ul>
3. Recruitment and selection process	<ul style="list-style-type: none"> <li>• overall satisfaction</li> <li>• fair information for job application, guidance for starting work and encouragement for career development</li> </ul>
4. Support and career development	<ul style="list-style-type: none"> <li>• interested mainly in career in research and education</li> <li>• lack of interest in career outside academia</li> <li>• identified training needs in the fields of: Science communication and public engagement; Collaboration with industry partners; Development of research projects and attracting funding</li> </ul>
5. Equality and diversity	<ul style="list-style-type: none"> <li>• satisfaction with the research freedom, equal treatment and diversity in SU</li> </ul>

In addition, all internal documents and the respective national legislation were carefully analysed to establish which of the principles of the Charter & Code were already implemented, which ones were partly fulfilled or needed further actions. It was noted that many of these principles are included in the national legislation, however, some weaknesses exist in their understanding and practical implementation:

1. *Research freedom* is acknowledged in the Higher Education Law and the Law for Academic Staff Development, as well as in the specific internal documents of SU. Although it is highly appreciated by researchers, some constraints exist related to insufficient funding of research and innovation, access to research infrastructures, and access to scientific literature in technology and engineering disciplines.
2. An amendment of the Law for Academic Staff Development of May 2018 ensured a framework for observing the *research integrity* principles, including *ethics*. The Ethics Code of the Academic Community of SU is based on the Charter & Code principles, but some specific amendments are needed to integrate the research integrity principles and the specific ethical issues in different scientific disciplines.

3. The principles for *professional responsibility and attitude* are generally observed. There is a need to consider how to integrate the principles of research integrity and responsible research in the internal documents and the procedures of SU, as well as to launch specific activities linked to research impact assessment. Such activities should be integrated in the training of PhD students, and in the regular assessment of all researchers, and the rewarding of research projects funded by SU.
4. Regarding *Good practice in research*, it was acknowledged that the national legislation (Law for Health and Safety Conditions of Labour, Labour Code, Personal Data Protection Act) and the Regulation on organisation and work of SU ensure its observance. At the same time, recent trends in data protection and cyber security should be considered, and specific guidelines for researchers on cyber security and back-up strategies, as well as appropriate training, should be provided to cope with information technology disasters. There is a need to benchmark the SU research practices according to accepted good practices in the specific disciplines, and if necessary, take measures for introduction of changes in the internal rules and procedures.
5. For the *dissemination, and exploitation of results* it was noted the existence of national legal framework (IPR Law, Law for Fostering of Scientific Research, Law on Access to Public Information, Higher Education Law) and specific internal documents of SU: IPR Rules of SU, Strategy for commercialisation of scientific research of SU. More efforts are needed for researcher training on IPR protection, knowledge transfer and research commercialisation. In the long-term SU needs to undertake specific actions in relation to Open Science, Open Data, and Open Science rewards. Subsequently, many researchers are involved on voluntary basis in *public engagement* activities; but this is not considered in their assessment, and SU has no official policy on public engagement.
6. The legal regulations and the SU internal rules ensure compliance with the Charter & Code regarding *researchers' evaluation*. The evaluation of academic staff is carried out regularly, following transparent, generally accepted criteria and procedures. Many of these criteria, however, are not used in staff appraisal. The official *appraisal system* focuses mainly on scientific metrics (publications, patents, quotations) while national or international collaboration, public engagement, administrative duties, and mobility are not considered.
7. Recent amendments of the Law for Academic Staff Development are mainly focused on qualitative data and bibliometric indices. By *judging merits* of researchers, insufficient emphasis is put on the diversified career path, e.g. on national or international collaboration, public awareness activities, administrative duties, and mobility experience gained in industry or abroad. A more qualitative approach is needed, especially to consider diversified career paths and the research impact.
8. The principle for *career development* is observed in national legislation and SU internal documents. However, there is a need for the development of a comprehensive strategy for HR development at SU, including



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concrete measures for facilitating all the career stages of researchers, and for the monitoring and implementation of career plans. In addition, SU lacks funding for ensuring different schemes for *continuous professional development* and researchers' mobility and specialisation.

A description of the whole process for implementing the HRS4R in SU is provided on the University website: <https://www.uni-sofia.bg/eng/HRS4R>.

### **Sofia University action plan**

According to the results of the Gap Analysis, 29 actions were identified for aligning the SU internal rules and practice with the Charter & Code principles. The actions were combined in 4 groups according to the Charter & Code pillars (given in Table 1 above), whereas many of the actions are related to more than one principle of the Charter & Code. Each action has a specific time-frame and a responsible SU unit. For monitoring purposes, suitable key performance indicators or specified ways for validation/verification of the results achieved by each action are added.

The Action plan is composed of the following sections corresponding to the Charter & Code principles:

1. *Ethical and Professional aspects*. It is considered that the principles of research integrity and responsible research, and the specific ethical issues in different scientific disciplines are not integrated in SU internal documents and practices. Moreover, SU researchers face difficulties for IPR protection, knowledge transfer and research commercialisation, and many of them are not aware of how to cope with information technology disasters. Therefore, in these areas, guidelines will initially be prepared, and specific activities will be integrated in internal practices and researcher training. As far as Open Science and Citizens Science are concerned, several activities exist in SU, but there is no official policy on public engagement and regular monitoring of public and economic interests in research and innovation. In order to facilitate knowledge transfer and communication with society on scientific issues, SU considers introducing regular actions at faculty level (Table 4).
2. *Recruitment and Selection*: The specific objective is to ensure fair and balanced evaluation of all achievements of researchers during their career path. The concrete actions include changes in the internal rules for researchers' appraisal and selection, and the internal staff evaluation criteria in order to recognize the different mobility forms.
3. *Working Conditions and Social Security*: The main emphasis of SU is on raising the capacity of the academic staff for research funding, and on strengthening the services for career guidance and competence development of researchers. Here, more efforts will be made to ensure professional support to researchers for fund raising and project preparation, as well as to undertake regular monitoring of researcher's needs for new knowledge and skills, and subsequently to provide relevant training opportunities according to these needs.

4. *Training and Development:* SU set an objective to ensure research quality and excellent supervision and mentoring of new researchers (PhD and post-docs). It is planned to prepare a HR Strategy of SU, and to consider specific actions related to better structuring the PhD supervision and post-doctoral mentoring and advice, as well as training for supervisors and mentors of researchers.

**Table 4.** Ethical and Professional Aspects

<b>Charter &amp; Code principle</b>	<b>Objective</b>	<b>Planned actions</b>
2. Ethical principles 3. Professional responsibility 4. Professional attitude	Ensure observance of research integrity principles and attitude for responsible research	• prepare internal Guidelines on research integrity and responsible research
		• design requirements for research ethics in different disciplines
		• information on research ethics and research integrity requirements to be provided to all researchers
		• training of supervisors and mentors based on good practices for observance of research integrity principles
		• integrate guidance on professional attitude of researchers in PhD training
		• introduction of software tools for plagiarism checking
7. Good practice in research	Ensure observance of good practices in research and rules for information security	• preparation of specific guidelines for researchers on cyber security and back-up strategies
		• provision of training to cope with information technology disasters
		• changing internal rules according to specific good practices in different research fields
8. Dissemination, exploitation of results 31. Intellectual Property Rights	Facilitate research results exploitation and Open Science practice	• design of practical guidelines on IPR, knowledge transfer and research commercialisation
		• seminars on awareness raising and training on IPR and research commercialisation
		• design of Open Science databases at SU
		• training of researchers on Open Science
9. Public engagement	Communication with the society on scientific issues to become regular practice	• introduce in SU annual plans organisation of regular Open doors at SU and guided visits for students
		• introduction of training of PhD students on effective science communication
		• stimulation of researchers for participation in outreach activities

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Charter & Code principle	Objective	Planned actions
		<ul style="list-style-type: none"> <li>• introduce in Faculty strategic plans regular monitoring of research needs in economy and society</li> <li>• undertaking collaboration with students and teachers on scientific issues</li> </ul>

### **Follow-up and monitoring activities**

On 4 October 2019, the European Commission granted Sofia University the “HR excellence in research” award. This success was the result of an inclusive and participative approach involving top management, the administrative and support staff, and the whole SU research community. The approach combined leadership push and bottom-up efforts of the EURAXESS staff and some front-runners among researchers (champions). Many measures for awareness raising, for motivation and involvement of the academic staff combined with specialised training and discussions at various levels at the University facilitated the change process.

Before the finalisation of the process of the HRS4R, at the beginning of July 2019, the Rector appointed three working groups and assigned them tasks related to the Action Plan implementation and all follow-up and monitoring activities:

1. *Administrative working group*: to coordinate the implementation of the Action Plan. It is chaired by the Deputy Rector of Information Activities, Academic Staff and Administration, and is composed of 10 members (mainly administrative staff). The Group allocates specific tasks to the respective administrative units, including the Career Development Sector, the Technology Transfer Office, the Legal unit, etc. The Administrative working group meets regularly (at least 4 times annually) to evaluate the progress achieved and to consider the next activities for implementation of the Action Plan.
2. The *Steering Group* is in charge of monitoring of the Action Plan results and taking strategic decisions on the implementation of the HRS4R at SU. The Group is co-chaired by the Deputy Rector of Research and Project Affairs, the Deputy Rector of Information Activities, Academic Staff and Administration and the Deputy Rector of Education - PhD Students and Continuing Education. It is composed of all deputy deans responsible for research at the University faculties and meets at least once a year.
3. In order to involve the research community in the process, a specific *Researchers Focus Group* was set. It is co-chaired by the Functional deputy Rector of PhD school and International Relations, the Deputy Rector of Information Activities, Academic Staff and Administration and the Deputy Rector of Education - PhD Students and Continuing Education. The Group is composed of 10 members, and a gender balance and representation of different categories of researchers is ensured (6 female/4 male; 1 Professor; 2 Associate Professors; 2 Assistant Professors; 3 PhD students). The main task of the Researchers focus group is to regularly consult with researchers on the changes proposed during the Action plan implementation and to evaluate their perceptions. The

feedback of researchers provides a sound base for strategic planning and decision making by the Steering Group, as well as Action Plan implementation by the administrative working group.

The Administrative working group initially discusses with the Researchers focus group all changes in the internal documents and procedures, specified in the Action Plan. The draft documents are adopted by the Steering Group before presenting them for the approval of the SU governing bodies. The latter are informed regularly, and all documents prepared by the Administrative working group are approved by them following the internal rules and procedures.

Some updates of the Action Plan were made in 2020 due to changes in the SU internal environment and procedures, and the COVID-19 crisis. The follow-up activities include:

1. Increase of the basic salaries of SU researchers and changes in the internal rules and methodology for remuneration of the academic staff
2. Amendment of the internal rules so as to facilitate the mobility of researchers from other universities, as well as to provide opportunity for electronic submission of documents for academic positions
3. Regular training of researchers for improving their digital skills, and using the available electronic systems for online or hybrid teaching
4. Regular training of young researchers and PhD students for gaining “soft skills” required for research communication
5. Launching a seminar for research supervisors and mentors
6. Preparation of a draft Gender Action Plan following the Horizon Europe requirements, already discussed by all deans and disseminated to faculty members for consideration.

The most important document developed recently is the new SU *Human resources strategy*. In February 2021, its draft version was disseminated to a wide audience of SU researchers in order to obtain feedback on the priorities and activities proposed. The Human resources strategy was the main point of discussion at a dedicated meeting of the senior university management, including all Faculty Deans, Deputy Rectors and the Rector. The revision after all consultations was presented to the Academic Council which took the final decision on June 30, 2021 and accepted the new SU Human resources strategy 2021-2030.

Another achievement and essential follow-up action is related to the *Ethical Commission* (established at SU according to the Law for development of academic staff). Its working rules and procedures were adopted, and it became fully operational. The Commission has prepared several internal guidelines regarding research integrity and scientific ethics. The usage of a system for plagiarism checking became routine, not only for research work, but also for students' thesis and course work. The Ethical Commission became a specialised body in the areas of research integrity and scientific ethics and provides reports annually to the Academic Council.

In 2020, SU became a member of the European Open Science Alliance and started its preparation for implementing the European vision for *Open Science and Open Innovation*. Some internal discussions are ongoing concerning the

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development of Citizen Science, and the involvement of non-specialists in scientific activities. The University is aware of the new challenges and the required transformation to align its rules and practice to the requirements of responsible research, Open Data and Open Access. Some initiatives are underway for building new competences related to data science and open access, guided by the experts of the Centres of Excellence in Information and Communication Technologies.

Last, but not least, it should be noted that a significant change took pace during the COVID-19 crisis, which was influenced by the need for remote working of SU academic and administrative staff. A change in the internal environment was made to ensure the necessary tools for the continuation of research and higher education, and all administrative and support services. New internal rules and guidelines were prepared, and several training courses were offered to staff. All administrative processes were carried out using electronic systems, and the academic staff and the whole administration obtained e-certificates for signing documents. This step paves the way for the implementation of the toolkit for open, transparent, merit-based recruitment of researchers.

### **Conclusions**

Sofia University became the third Bulgarian research organisation to be awarded the HR award. This is an acknowledgement of the long-term efforts of the University to change and adapt to the European standards for higher education and research, and shows its readiness for deeper integration into the ERA and the European Education Area.

While the HRS4R is described as a clear process, its implementation requires many efforts to identify the gaps, and then to launch the whole change process. The case described in this chapter provides an insight into the experience of the SU team in designing, managing or implementing various activities at SU, and involving a large number of researchers, managers and administrative staff. The success is based on a combination of several factors:

1. Changes in the University environment – legislative and funding requirements
2. Strong management push and efficient leadership
3. Availability of knowledgeable and committed experts
4. Consultative and participative change management approach
5. Appropriate measures to raise awareness and commit the academic staff to the expected changes
6. Timely measures to prepare the administrative staff for the implementation of the planned activities.

A trigger for the changes at SU was the OP SESG, and the willingness of the academic staff involved in the Centres of Excellence and Centres of Competence to facilitate their integration into the ERA. It should be stressed also the role of SU EURAXESS staff, and their long-term efforts, expertise and access to the available good practices in Europe.

Sofia University management is aware that the success requires further efforts to preserve the HR award, and to be in line with the upcoming challenges in Europe and on a global scale. The University should adapt to the new paradigm

and the requirements for research universities in Bulgaria, and European universities. It should become more innovative and flexible, ensure well-structured partnership with industry, not only in higher education, but also in research commercialisation and start-up creation. Whereas research excellence is ensured at national level, the deeper integration into ERA requires further efforts. The new research infrastructures that have been put in place by the Centres of Excellence and Centres of Competence funded under the OP SESG will in the long-term increase the attractiveness of Sofia University for students and researchers and will foster its HR excellence.

### **Acknowledgement**

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**Albena Antonova** is lecturer and PhD student at Sofia University, Faculty of Mathematics and Informatics. She takes part in numerous projects in the field of new technologies implementation. Her research interests cover topics such as smart services, game-based learning, knowledge management and others. She has more than 60 publications in the field.

# A Short Note on the Case Histories

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## Introduction

This short note provides a brief overview of the case histories.

### The origins and themes of the case histories

Table 1 presents a regional distribution of the case histories in alphabetical order by country.

**Table 1.** Regional distribution

COUNTRY	COUNT
Brazil	1
Bulgaria	1
Canada	2
Finland	1
Norway	1
Sweden	2
Switzerland	1
United Kingdom	4
USA	3
TOTAL	16

Thus there were 10 contributions from Europe and 6 from the Americas.

The themes addressed in the case studies, summarized from a high level point of view, are presented in Table 2.

**Table 2.** Themes

AUTHOR(S)	UNIVERSITY	RELATIVE EMPHASIS
Barnes, S. J.	University of Suffolk Ipswich, Suffolk, England	<ul style="list-style-type: none"><li>• Take a business orientation</li><li>• Resolve management style</li><li>• Determine success metrics</li></ul>
Dommett, D. et al	Hult International Business School United Kingdom	<ul style="list-style-type: none"><li>• Develop a business school</li><li>• Combine two academic entities</li><li>• Relate to current student requirements</li></ul>



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<b>AUTHOR(S)</b>	<b>UNIVERSITY</b>	<b>RELATIVE EMPHASIS</b>
De Geus, K and Shima, W. T.	University Federal do Parma, Brazil	<ul style="list-style-type: none"> <li>• Build a bridge between academia and industry</li> <li>• Focus on training of critical activities in industry</li> </ul>
Fletcher, G. et al	University of Salford England	<ul style="list-style-type: none"> <li>• Focus on knowledge exchange</li> <li>• Move towards external engagement</li> </ul>
Gourova, E. et al	Sofia University, Bulgaria	<ul style="list-style-type: none"> <li>• Excellence in Research</li> <li>• Organizational change</li> <li>• Government policy</li> </ul>
Grant, K. A. and MacRitchie, J.	Ryerson University, Toronto, Canada	<ul style="list-style-type: none"> <li>• Applied and practical education</li> <li>• Entrepreneurial</li> <li>• Indigenous studies</li> </ul>
Hohmann, C. et al	Lucerne University of Applied Sciences and Arts Switzerland	<ul style="list-style-type: none"> <li>• Developing entrepreneurial competencies</li> </ul>
Karhapaa, S.	University of Eastern Finland	<ul style="list-style-type: none"> <li>• Restructure university sector</li> <li>• University mergers</li> </ul>
Kirsch, L. J. and Golden, C.	University of Pittsburgh, Pittsburgh, Pennsylvania, USA	<ul style="list-style-type: none"> <li>• Adapting a teaching centre</li> <li>• Transition to remote teaching and learning</li> </ul>
Moon, C. J.	Middlesex University England	<ul style="list-style-type: none"> <li>• Managerial strategy</li> <li>• Environmental sustainability</li> <li>• Entrepreneurial perspective</li> </ul>
Mozelius, P.	Mid Sweden University Sweden	<ul style="list-style-type: none"> <li>• Lifelong learning</li> <li>• Work integrated learning</li> <li>• Virtual learning environment</li> </ul>
Roberge, I and Mezin, E.	Glendon Campus, York University, Toronto, Canada	<ul style="list-style-type: none"> <li>• Focus on student experience</li> <li>• Online group learning</li> </ul>
Ruben, B. D. et al	Rutgers University New Jersey, USA	<ul style="list-style-type: none"> <li>• Focus on health professionals</li> <li>• Revised instruction methods and processes</li> <li>• Leadership and organizational effectiveness</li> </ul>
Saldivar, M. G. and Saldivar, J.	University of Texas, Rio Grande Valley, Texas, USA	<ul style="list-style-type: none"> <li>• Efforts to increase student retention</li> <li>• Address low graduation rate</li> <li>• Promote student success</li> </ul>
Sutherland, I. and Burgess, M.	Noroff University College, Kristiansand, Norway	<ul style="list-style-type: none"> <li>• Establish strategies for a new university</li> <li>• Management of limited resources</li> </ul>

Six of the above case histories focus on an academic administration function at a university level strategy. The other ten address a lecturer function perspective and thus describe various teaching strategies. This is especially interesting as it

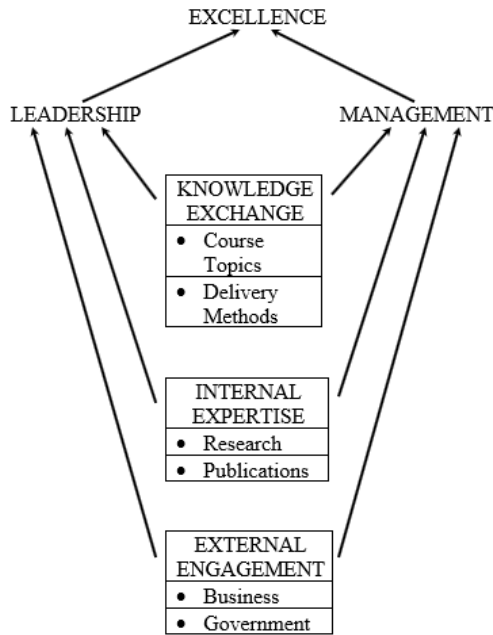
suggests that there is a considerable amount of *bottoms-up* activity in the university sector aimed at introducing innovation into the organisation.

### **Excellence, leadership and management**

The themes described in Table 2 can be considered in terms of three categories:

- Knowledge Exchange
- Internal Expertise
- External Engagement

And these three categories may be expressed diagrammatically in the following model.



**Figure 1.** Components of excellence

#### **Exchange of knowledge**

The exchange of knowledge category involves themes related to course topics and delivery methods which are intended to improve the learning experience.

#### **Course topics**

The content of courses varied. For undergraduate programmes there was an investigation of virtual reality where Artificial Intelligence would be employed to study through simulated experiences. Further, courses were developed for students to learn about their environments upon graduation. These courses involved identifying critical activities which created success in industry and developed entrepreneurial competencies. PhD programmes were developed based upon a

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more applied industry focus, which developed both students and young faculty members experience.

### **Delivery methods**

Novel methods were described regarding the delivery of course topics. Many virtual learning environments were created as necessitated by the COVID-19 pandemic. These environments may or may not continue after the pandemic. Gamification was adopted to enhance the delivery process and stimulate learning. Both on-line and off-line games, with teams, were created. The teams concept stimulated group environments for learning. In association with gamification, digital and e-learning concepts were adopted. All the above initiatives facilitated both the adoption of remote teaching and learning, and the incorporation of international delivery opportunities.

### **Internal expertise**

The internal expertise category involved themes related to research and publications as described as follows:

#### **Research**

The fostering of a research culture has troubled universities for decades and its importance is again reinforced by the case histories. And of course the research culture must be seen in terms of the priorities imposed on academics by increased academic and administrative responsibilities which have resulted from the challenges caused by the COVID-19 pandemic. Few universities have, in living memory, ever been so abruptly closed by administrative dictates as have recently been experienced.

With regards to research, universities continued with developing and expanding a research culture. Attempts were made to allow faculty members time to conduct research. Funding, in some cases, was presented to facilitate certain investigations related to the planned direction of the university. Projects involving external entities in industry were preferred. Internally there was interest in developing research communities across academic departments. Whether the perspective was internal or external the effort was directed at developing a research-oriented culture. In all cases excellence in research was promoted.

#### **Publications**

As a result of the research initiatives there was an emphasis placed on publications. Highly ranked journals and conferences were identified. The publication of books related to acceptable course topics were encouraged. In all cases faculty members were given credit for their publications in the appropriate department of the university level website.

#### **External engagement**

The external engagement category involves themes related to the further development of relationships within the business and government sectors.

### **Business (University opportunities and finances)**

From a business perspective two considerations emerged from a review of the submitted case histories.

One emphasis related to students. Initiatives were implemented to attract local students. Also, international students were recruited because of the higher tuition fees paid to the university. With regards domestic and international students the business case to increase enrolment and retention was developed and implemented which would deliver financial returns. It was further documented that students should realize that university education was considered an expensive investment worth the time and money.

The other emphasis involved initiatives related to faculty involvement. From this perspective faculty members were encouraged to focus on external engagement and industrial collaboration. Faculty members could thus build a bridge between academia and industry. They could establish funding relationships with key industrial partners. Overall, the university would develop an entrepreneurial emphasis. Along with this external engagement faculty members were encouraged to address university Board, Societal, and industrial challenges.

### **Government**

It was observed that universities should interact well with government. The emphasis with this interaction focused upon faculty members. Improved research and publications could facilitate increased funding from government related research institutes. Improved funding could also be facilitated by responding to government accreditation initiatives for journal publications and conference presentations.

### **Conclusion**

This short summary describes an overview of the categories identified in the case histories. The focus of the exchange of knowledge category was on the relationship between students and faculty members through their involvement in courses. The development of internal expertise involved appropriate types of research and publication of the results. The focus on external engagement included both industry and government. It was emphasized that the interaction would result in increased accreditation and research funding.

Universities largely supply the flow of professional individuals who are equipped with the potential to offer the requisite expertise and skills to sustain the highly complex societies we have created. This is not a trivial matter for a number of reasons including the fact that our societies continue to develop and change our social, economic and political structure in response to contemporary developments and challenges and these occur at greater speeds than ever before.

Universities have traditionally performed well at this but today there is increasing concern that universities need a significant level of transformation if they are to fulfil their promise for the future. Transformation does not come easily to universities. In the DNA of these organisations there is a heavy reliance on traditions which have served them so well in the past.

This book provides 16 Case Histories from universities which have been successful in facing up to the challenges of the 21st Century. The initiatives described here vary enormously as do the institutions and countries from where they come, and this gives the reader an idea of the wide range of issues which require addressing.



Dan Remenyi has had a lifelong interest in universities and academe and has taught in more than 20 countries around the world. Originally his subject was information and communications technology management but for the past few decades he has specialised in research methodology and the sociology of research. He recently edited two volumes on the subject of the University of the Future. He has authored or co-authored some 30 books as well as a number of peer reviewed academic papers. He holds a BSocSc, MBA and PhD.



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