A FIELD GUIDE TO THE LITERATURE FOR ENTREPRENEURIAL LEADERS

A review of the latest thinking on entrepreneurial universities and leadership

The National Centre for Entrepreneurship in Education

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1 Entrepreneurial leadership

"Entrepreneurial leadership is an approach to leadership that embraces the need for passion, vision, focus and the ability to inspire others, along with the mindset and abilities to develop new ideas, explore new opportunities, face challenges and crises and influence others to foster innovation and change.

Entrepreneurial leaders are able to solve problems creatively and use resources effectively and are, therefore, more likely to be better able to deal with the challenges and crises thrown up in the current turbulent higher education environment." – Lesley Dobrée, Executive Coach/Director of NCEE Leadership Programmes (read full article)

"If you want to be an entrepreneurial leader, you need to be a transformational leader who has the ability to discover new opportunities and to inspire and lead others to deliver these. So in assessing your own profile, are you able to identify your capacities to seek new opportunities and to develop innovative ideas? Are you also able to implement these new ideas so that your university's performance is improved and it is better able to face challenges? Within your sphere of influence and beyond are you able to inspire and enable other people to be innovative? As if this did not present enough of a challenge the next step is to consider the impacts of context to the mix." – Lynn Martin, Anglia Ruskin University (read full article)

Defining entrepreneurial leadership

A entrepreneurial leader encourages and directs their team to identify and exploit entrepreneurial opportunities with the aim of creating value (Renko 2018). Lee et al. (2020, 10) draw widely on the literature to identify two further traits of entrepreneurial leaders: they role model entrepreneurial behaviours, and they provide opportunities for their staff to be entrepreneurial. These traits help provide the conditions for creative work.

The benefits of entrepreneurial leadership

Studies have shown that investing in university leadership capabilities pays off: by combining strategic thinking and capabilities development, universities are more likely to be able to support innovative and entrepreneurial objectives over the long-term (Leih and Teece 2016 in Klofsten et al. 2019, 154).

Lin and Yi (2021) conducted a systematic meta-analysis and found that entrepreneurial leadership can improve effectiveness at both team and individual level, although the cultural context can affect the strength of this relationship.

Finally, entrepreneurial leadership is particularly effective in enhancing the performance of organisations in competitive and turbulent environments (Harrison, Paul, and Burnard 2016, 255).

Entrepreneurial leadership can foster creativity in staff

In a meta-analysis of 266 studies, Lee et al. (2020) examined 13 leadership variables – transformational, transactional, ethical, humble, leader-member exchange, benevolent, authoritarian, entrepreneurial, authentic, servant, empowering, supportive, and destructive – and found that entrepreneurial leadership was strongly related with creative performance of employees (together with authentic and empowering leadership). Lee et al also note that entrepreneurial leaders are often creative themselves, with a tendency to challenge the status quo – and encourage others to do so too.

So-called transactional leadership (the provision of incentives following successful performance) and supportive leadership were more strongly correlated with innovative performance of followers, although an entrepreneurial-style leader who engages in innovative activities is likely to also encourage employees to be innovative (Lee et al. 2020, 36). In short: an entrepreneurial leadership style can be effective in inculcating positive traits in staff (and presumably negative ones too!).

What are the traits of an entrepreneurial leader?

There is a burgeoning academic literature on the traits of entrepreneurial leadership, and although there are many common traits identified – vision, effective communication, risk taking and creativity – it is at times unclear the extent to which these apply in different contexts. There is no consensus on the theoretical underpinnings of entrepreneurial leadership, hindered in part by a lack of tools to measure entrepreneurial characteristics (Harrison, Paul, and Burnard 2016, 255–56).

However, the following table provides a useful summary of the attributes of an entrepreneurial leader, drawn from 35 papers. Note that these studies draw on research across many private and public sector organisations, and are not specific to universities.

Table 1: Leadership attributes identified in the literature

Attributes	Various Descriptions
Accepts responsibility for action	Internal locus of control expects and creatively copes with internal and external confrontation
Achievement orientation	Performance oriented, improvement oriented
Ambitious	Goal oriented
Challenges the status quo	Love for challenges, questions assumptions
Charisma	Candour, unique gift of charisma
Creativity/innovation	Skilful setting of agenda, popularisation of issues, adept in developing innovative policies, making deals that enhances support
Decision making	Sharp focus, decisive
Effective communication	Connection, clarity, persuasion, empathy, avoiding destructive conflict, active listening, inspiring confidence, participation, recognising others' emotions
Emotional stability	Unattached by social distractions, not distracted by curiosity, positive, controlled feelings, self-evaluation
Encouraging	Caring, thoughtful about associates, transfer of positive feelings, having a sense of fun, coaching
Ethical	Integrity, consistency
Flexibility	Versatility, diplomatic, open minded
Influence	Convincing, motivation, inspirational, self-confidence, making constant progress

Knowledge	Operations, marketing, HR, financial, quality and management skills, intellectual stimulation and integrity, informed, knowledge of the political landscape, economic orientation, impact of multiple stakeholders, intelligence, ingenuity, understanding how technology is used
Modesty	
Need for power	Desire for control
Passion	Enthusiastic
Patience	
Perseverance	Persistence
Physical stamina	Hard work, hyperactivity
Planning	Create a sustainable organisation, effective bargainer, develop venture teams, entrepreneurial climate and culture, leverage human and social capital, develop a global mind-set, negotiator, capability to use external contacts and acquisition of resources
Proactiveness	Opportunity identification and exploitation, action, assertiveness
Risk taking	Calculated risk taking, rational 'bet-the company' risk taking
Role modelling	
Strategic thinker	Intuition, extra insight
Team builder	Move from me to we
Tough minded	Discipline, tenacity, dominance
Trust	Capacity to win and hold trust, trust through positioning

| Vision | Vivid imagination, foresight |

Source: Harrison, Paul, and Burnard (2016, 255)

Managing change as an entrepreneurial leader

Kotter's eight-stage model provides a useful guide that can be adapted to the university context. Although the model is designed to be agnostic to the cause of the change, the ultimate aim is usually to adapt to a new environment. The eight stages are to create a sense of urgency, assemble a group of powerful change leaders, build a vision and then effectively communicate it, empower others and remove obstacles, create quick wins, build on momentum to produce yet more change, and finally to institutionalise new approaches (Kotter 2012). We will explore this model further in the programme.

Challenges facing the entrepreneurial leader

For entrepreneurial leadership more generally (i.e. beyond the higher education sector) Harrison, Paul, and Burnard (2016, 276) found effectively formulating a vision, developing persistence, and executing through chaos to be important challenges facing the entrepreneurial leader – and particularly helpful ones for developing the necessary traits to become truly effective. They can perhaps be seen as the rite of passage by which an entrepreneurial leader is forged.

The changing preferences of clients or customers, new technology, and a complex and unpredictable economic and political climate are further identified challenges – although these are far from unique to entrepreneurial leaders.

Later we will explore some of the internal challenges facing entrepreneurial leaders in *Obstacles to developing an entrepreneurial culture* (in the *Building blocks of the entrepreneurial university* section).

The evolving role of an entrepreneurial leader

Interpretations of entrepreneurial leadership include both an entrepreneurial style of leadership, and leadership of entrepreneurial ventures (Leitch and Volery 2017, 148). In either case, entrepreneurial

leadership can apply to a wide range of organisations – including universities.

Over time, definitions of entrepreneurial leadership have evolved to become more outward-looking, reflecting the role of institutions within a broader system of decision-makers and stakeholders. The focus has shifted from individuals to groups, and from traits and characteristics to context. The importance of social capital, including trust-building and social interaction, has greatly increased (Leitch and Volery 2017, 152). And a common theme has emerged: the capacity to effectively identify and capture opportunities (Currie et al 2008 and Greenberg et al. 2013 in Harrison, Paul, and Burnard 2016, 271).

Take, for example, this definition from 1991:

> *Entrepreneurial leadership involves setting clear goals, creating opportunities, empowering people, preserving organisational intimacy, and developing a human resource system. (Cunningham and Lischeron 1991 in Leitch and Volery 2017, 149)*

And this definition from 2015:

> *Entrepreneurial leadership entails influencing and directing the performance of group members towards the achievement of organisational goals that involve recognising and exploiting entrepreneurial opportunities. (Renko et al. 2015 in Leitch and Volery 2017, 149)*

2 Leadership within the university context

"There is an expectation that leaders will always be ready with new ideas, that they can pick up countless projects and deliver quick changes. But there is an unspoken challenge for university leaders of how to maintain personal wellbeing whilst dealing with these challenging situations. It is imperative that leaders look after themselves and strike a good work/life balance. Our energy and capacity to be entrepreneurial is like a battery which slowly runs down and needs to be regularly recharged." – Pauline Miller-Judd, Edinburgh Napier University (read full article)

What are the traits of an effective university leader? (At departmental level)

Bryman (2007) reviewed studies on departmental leader effectiveness in UK, US and Australian universities. 13 forms of behaviour were identified (p.6):

- Clear sense of direction/strategic vision
- Preparing department arrangements to facilitate the direction set
- Being considerate
- Treating academic staff fairly and with integrity
- Being trustworthy and having personal integrity
- Allowing the opportunity to participate in key decisions/ encouraging open communication
- Communicating well about the direction the department is going
- Acting as a role model/having credibility
- Creating a positive/collegial work atmosphere in the department
- Advancing the department's cause with respect to constituencies internal and external to the university and being proactive in doing so
- Providing feedback on performance
- Providing resources for and adjusting workloads to stimulate scholarship and research
- Making academic appointments that enhance department's reputation.

Bryman emphasises the advocacy role of leaders: staff perceive effective leaders to be those who are proactive in promoting their department within the university and beyond (p.11). He also adds that undue focus on developing leadership at the expense of recognising the professionalism of academic staff can greatly undermine trust, citing the example of 'new public management' – in other words, professionalism can act as a substitute for leadership within academic departments (p.16).

A natural follow-up question is how closely do Bryman's 13 traits of effective higher education leaders map onto the traits of an entrepreneurial leader?

Leaders as boundary spanners

Given the complexities facing higher education a 'boundary spanning' approach has been advocated to enable leaders to engage across internal and external boundaries (Prysor and Henley 2018). The field of Boundary Spanning Leadership (BSL) presents a 'nexus' of three phases of activity, each building on the previous: managing boundaries, forging common ground, and discovering new frontiers. The aim is collective solutions to complex problems. The table below presents these phases in more detail including indicative examples of application within higher education institutions.

Table 2: The stages of boundary spanning in higher education

Nexus stage	Managing boundaries		Forging common ground		Discovering new frontiers	
BSL Practice	Buffering	Reflecting	Connecting	Mobilizing	Weaving	Transforming
Summary	To clarify group identity in order to create a sense of safe space	To observe across boundaries and create space for others	To create 'third space' where two or more groups can engage on neutral ground	To move separate groups within a new shared boundary space	To promote interdependence and creative thinking within shared space	To reimagine current realities and future possibilities within share space
Key questions	What defines the boundary of our grouping? What is important to us?	What defines the boundaries of other groupings? What is important to them?	Where and how can we meet to explore safely what is important to each other?	How can we reframe a new, inclusive sense of direction and purpose?	What new projects and ventures can we identify that realistically we can achieve in partnership?	What might a new future look like in which we are able to engage in embedded, medium- to long-term collaboration?
Context	When alleviating intergroup conflict by clarifying boundaries between groups, for example, where competing agendas detract. When defining boundaries for a grouping after rationalization or merger, and/or where identity and security feels threatened	Where groups on either side of a boundary need to acquire mutual respect. When seeking to understand the needs of various stakeholder groups and develop a encompassing mind-set.	When breaking down functional/disciplinary 'silos', or building closer relationships with stakeholders. When seeking to flatten internal hierarchies, or recombine into a matrix structures for particular 'task and finish' activity	When reframing a new sense of community following merger or integration, creating a more inclusive organization for diverse groups. When need to find ways to engage disparate groups and build community to collectively solve or achieve goal.	When seeking to develop and pursue 'way-finding' strategic change projects, perhaps involving internal reconfiguration or significant external partnership When developing joint venture activity to deliver particular goals.	When seeking to reframe collective identity and/or open perspectives to significant medium-to-long-term opportunity discovery and change. Where there is a need to focus on creating a new future or where a goal is reinvented.
Tactics	Discuss and define shared values Clarify roles and responsibilities Establish rules of engagement with other groups	Establish shared time to reflect on other group perspectives Extend Invitations to others (horizontally or vertically) to attend meetings, or socialize Allow periods of role swapping or shadowing, along with subsequent opportunities for review and reflection	Identify and establish 'third' spaces Establish 'buddying', mentoring or other cross-group partnering arrangements Create diary space for cross-group relationship building	Identify common, core values Establish a unifying cross-group 'branding' or identity Establish a narrative or storyline to clarify cross-group objectives or identity	Join with a group from a different sector to tackle a shared problem Promote 'open-table' activity to allow volunteering for multi-lateral conversation/activity under a shared goal Establish innovative, flexible secondment arrangements in support of a particular task	Create cross-functional teams to navigate strategic change, or establish 'alternative futures' Question and target removal of 'legacy' boundaries Explore new collaborative frontiers with former competitors

(Continued)

Nexus stage	Managing boundaries		Forging common ground		Discovering new frontiers	
BSL Practice	Buffering	Reflecting	Connecting	Mobilizing	Weaving	Transforming
	Establish a sense of community of practice on the basis of expertise or knowledge	Decode and translate group jargon and processes for others	Use social media space to share profiling information	Identify an achievable objective or strategic outcome to create common success	Promote and support low-risk 'low hanging fruit' collaborations	Attend and support events outside the 'sector'
	Celebrate group objectives met and achievements	Shared 'outside group' experiences with other group members to further understanding of other group cultures	Establish a repertoire of cross-group knowledge sharing or social activity	Launch a cross-group sub-team or venture team to achieve a particular deliverable	Establish joint evaluation and review mechanisms	Send mixed teams of leaders to explore opportunities in new fields of activity
Illustrative HE examples	Use of various forms of 'away day' type activities; induction activity for new academics/managers, regular internal awards and prizes under various guises, internal communications activity	Use of internal secondment and career development activity, sabbatical leave programmes, internal cross subject research briefings; 'breakfast-briefings' for local businesses, various forms of student leader representation on academic bodies	Cross-departmental/ subject coaching schemes; use of 'sand-pit' or 'town-hall' meetings in support of achieving larger scale research funding / new academic programme delivery; internal project/ ideas discussion boards	Promotion of named multi-disciplinary research and programme groupings; establishment of cross-functional task and finish groups; use of discretionary budgets/ funding to promote external research engagement	University leadership representation on local economic development bodies; involvement in external engagement projects; establishment of academic advisory/steering groups with external involvement; cross-university consortia to procure management information/academic records systems; establishment of international student programme articulations	HE leadership of EU-funded regional development activity; knowledge-exchange activities and projects with commercial partners; launch of new learning and programme delivery projects with other public or private sector institutions, such as international branch campuses
Outcomes	Intergroup safety – psychological security developed when intergroup boundaries are defined and maintained.	Intergroup respect – understanding difference and similarities develops awareness and positive regard for others.	Intergroup trust – suspending boundaries enables new relationships built on mutual confidence and integrity	Intergroup community: Groups set aside differences to work towards achieving a higher shared purpose.	Intergroup interdependence: intergroup boundaries are woven into the larger whole, reflecting mutual interdependence	Intergroup reinvention where boundaries cross-cut in new directions, to allow emergent possibilities and alternative futures

Source: Adapted from Ernst and Chrobot-Mason (2011), Lee, Magellen Horth, and Ernst (2014), Cross, Ernst, and Pasmore (2013).

Source: Prysor and Henley (2018, 2215–6)

Prysor and Henley (2018, 2211) argue the model has particular resonance for universities owing to the 'perfect storm' of challenges and pressures they face – and they were writing before the COVID-19 pandemic. However, they conclude that higher education leadership seldom reaches beyond the 'managing boundaries' stage of BSL, at least within their case study institution.[1]

> *I have seen people chatting in a corner who probably would not have had anything in common to speak about a few years ago. It's getting there. (Higher education leader reflecting on boundary spanning, quoted in Prysor and Henley 2018, 2221)*

Boundary spanning beyond the senior leadership team

Looking below the senior leadership team, Martin and Ibbotson (2019) explore boundary spanning in university business engagement roles. Given the multiple contexts and institutional positioning of people in these roles, boundary spanning work is closely intertwined with processes of identity formation, often distinct from others in the university outside of their teams. Interviewees saw themselves as 'occupying middle ground, fulfilling an uncertain role situated between different levels and types of staff within their own institutions, and continually in search of the elusive recognition and approval of senior managers and other stakeholders' (Martin and Ibbotson 2019, 10).

Such hybrid roles, sitting simultaneously in and out of a university, need to be nurtured and supported as they sit on the frontier of the changing roles of a university in society (see *A shift to the university for the entrepreneurial society?* in *The entrepreneurial university*, below). Those in senior positions need to be aware of the issues facing, and avoid a disconnect with, leaders further down the university hierarchy (see also Martin, Lord, and Warren-Smith (2020)).

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[1] For more on the mechanics of boundary spanning between sectors and institutions, see Stubbs, Dickson, and Husbands (2020) and Ransom (2019).

Women in leadership roles

Women make up 55 percent of the total staff population in UK universities, but less than a third of Vice-Chancellors and only 37 percent of senior leadership teams. The gender pay gap of staff in universities is nearly 16 percent, compared to under ten percent in other sectors. These disparities widen when ethnicity, sexual orientation and disability intersect (Hewitt 2020).

In addition to issues of equity and inclusion, there are consequences for organisational capacity and strength by excluding the experience and knowledge of key individuals. Martin, Lord, and Warren-Smith (2018) found that gender is a barrier to effective organisational learning with women's knowledge and experience often unseen and unheard. They show that organisational learning is not gender neutral, and barriers and obstacles facing 'invisible groups' need to be considered by leaders.

Critical corridor talk as informal university leadership

Drawing on experiences of dysfunctional settings in UK higher education, Jameson (2018) describes a system of informal leadership emerging through 'quiet critical corridor talk' amongst staff. She describes this phenomenon taking place 'in the corridors and subterranean basements of higher education organisations… often quietly and almost always invisibly, out of earshot of top positional authorities' (p.385). Needless to say, this is not a symptom of a healthy institution, but a product of poor management and ineffective leadership.

We might ask: how can such situations be improved? And how could informal leadership (so-called corridor talk) be effectively harnessed?

Figure 1: Critical corridor talk
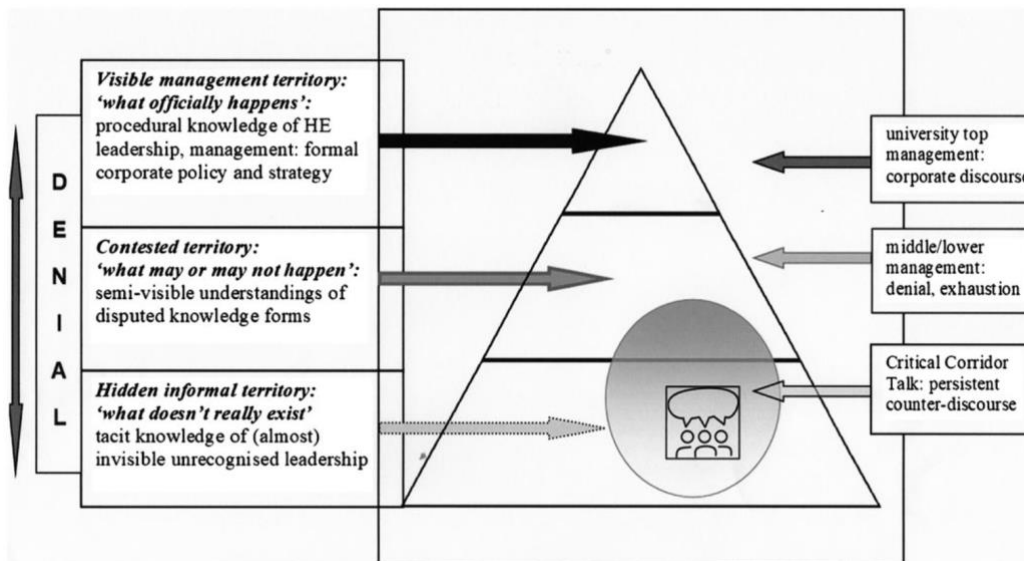
Denial is not a leadership strategy. Source: Jameson (2018, 384)

The 'slow swimming club'

Jones and Patton (2020) presents a fascinating study of a group of academics resisting the perceived corporatisation of the academy by establishing a 'playful space', outside the university, to reconnect with their work and colleagues. Following a critique of their experience of the entrepreneurial model (it was 'underpinned by a managerialist discourse'), the group of academics conclude that 'entrepreneurship needs to move away from being framed as an economic activity with possible social change outcomes to entrepreneurship as a social change activity with a variety of possible outcomes' (Jones and Patton (2020), 377, quoting Calás et al. 2009].

Perhaps most interesting, however, is the act of removing staff from their place of work, and the unscripted, free-flowing idea-sharing that resulted – a form of spontaneous entrepreneurialism. The group firmly pushed back against meeting on university grounds:

> *Although my own campus provided several designed separate research spaces, such as writing workshops, sandpits, research away-days etc., they all were managed with the use of incentives towards specific outcomes in mind. This bounded form of time and space did not offer the escape many colleagues needed to be openly productive. (Jones and Patton 2020, 383)*

Instead they met at a local swimming club. Not all university staff, of course, will feel the need to escape the 'managerialism which sucks you up and spits you out', as one participant put it (p.384). Yet the benefits suggest a wider applicability of such an unconstrained space:

> *[As a result of the 'slow swimming club'] I am not thinking so much about how to fit into research projects in my school with an immediate pay-off. Instead I am focusing more around how I can build research projects across the university, which I am passionate about – this may hit my career as it is much harder and take more time but it is much more satisfying and hopefully will pay-off in the longer term. (Participant quoted in Jones and Patton 2020, 388)*

3 The entrepreneurial university

"Survival and future development will depend on how well universities adapt to unpredictable environments that are becoming global, instead of isolationist; international, instead of domestic; and competitive, instead of regulated... [the] entrepreneurial skills of individuals may possibly be increasingly indispensable for navigating such environments." – Klofsten et al. (2019, 152)

Defining the entrepreneurial university

Entrepreneurial universities are 'those that aim to maximise the potential of commercialising their knowledge while also creating value for society, without considering this as a threat to their academic values and traditional functions' (Gibb and Hannon 2006 in Cerver Romero, Ferreira, and Fernandes 2020, 3). Clark (1998, in Centobelli et al. 2019, 172) describes an entrepreneurial university as one which 'actively seeks to innovate in how it goes about its business, to work out a substantial shift in organisational character so as to arrive at a more promising posture for the future'.

Multiple 'faces' of the entrepreneurial university are reflected in the literature

In a review of the literature on the entrepreneurial university, Cerver Romero, Ferreira, and Fernandes (2020) identified six groups of studies. Although these primarily reflect the nature of the literature, they do in turn shed light on the multiple 'faces' of the entrepreneurial university.

The first group has a traditional focus on the triple helix model of innovation – interactions between academia, industry and government. The second explores how entrepreneurial universities contribute to a knowledge society through regional and national development. The third emphasises the transforming effects of globalisation and the forces of marketisation, internationalisation, the search for new forms of funding, and the adoption of practices from the world of business. The fourth narrows the focus to the researcher, and explores the attitudes, tensions and motivations associated with entrepreneurial activities. The fifth describes how a 'dual personality' emerges as a university moves towards an entrepreneurial model, and expands on the tension between research and

entrepreneurship seen with the researcher to the entire organisation. Many of these changes are part of broader changes in the structure of higher education systems and the role of universities in society. Finally, Cerver Romero et al label the sixth group 'frenzy' (the reason isn't entirely clear), in which studies take the perspective of industry or particular academic departments, or view the entrepreneurial university through a gender or age lens. These uncover deep complexities that challenge the notion of whether we can truly have a unified entrepreneurial university.

Is there a single model of the entrepreneurial university?

Henry Etzkowitz, one of the fathers of the entrepreneurial university concept, stated that 'the entrepreneurial university is a global phenomenon with an isomorphic developmental path, despite different starting points and modes of expression' (Etzkowitz et al. 2000, 313).

A more nuanced view has emerged in the 20-plus years since. Whilst some scholars maintain that a single path does indeed dominate, others suggest that individual university responses differ owing to the unique context of each – with varying funding models, organisational capabilities, institutional histories, cultures, local economic and social conditions, national policies, and leadership priorities (Cerver Romero, Ferreira, and Fernandes 2020, 19). A common policy prescription (e.g. Sánchez-Barrioluengo and Benneworth 2019, 215) is that leaders and policymakers need to recognise that a one-size-all fits approach to maximising the contribution of universities is simply incompatible with the broad diversity of higher education institutions and their individual missions and capabilities.

However, the extent to which external policy and financial imperatives constrain the autonomy of universities to determine their own path will likely continue to be a topic of debate.

Applying 'organisational ambidexterity' to the entrepreneurial university model

Centobelli et al. (2019) suggest that *exploration* and *exploitation* are critical learning processes in the development of entrepreneurial universities. *Exploration* refers to interaction with external resources and the external

environment, and *exploitation* is the management of internal resources, knowledge and capabilities (p.182). Entrepreneurial universities alternate periods of exploration and exploitation, and over time 'university ambidexterity' is developed – the ability to balance exploration and exploitation processes over time to maximum effect. It may, they add, be better to alternate between the two processes rather than trying to do both simultaneously. The result is a 'twisting learning path' on the way to becoming an entrepreneurial university.

Becoming an entrepreneurial university through experimentation

Stolze (2021) takes these developments further in an analysis of the transformation journeys of 36 universities across 18 countries to becoming an entrepreneurial university. Instead of Centobelli et al's (2019) focus on proactive internal and external processes, Stolze emphasises the exogenous and endogenous forces that constantly influence universities. In turn, these forces 'ignite' experiments within universities, which then require sensitisation, consolidation, and institutionalisation. This is, she concludes, an 'endless, long and rather slow process' (Stolze 2021, 14).

We might, therefore, be better off viewing the entrepreneurial university as a journey rather than a destination.

The concept of the entrepreneurial university has worldwide relevance…

Although the concept of the entrepreneurial university emerged in Europe and North America, recent studies have examined the phenomenon in Rwanda, Pakistan and Saudi Arabia, for example. In Rwanda, the entrepreneurial university has a role in the evolution of a post-conflict entrepreneurial ecosystem, in particular through teaching and capacity building (Nkusi et al. 2020). In Pakistan, a study found that entrepreneurial leadership traits positively affected job performance in public university leaders (Wahab and Tyasari 2020). And in Saudi Arabia, universities are seen as playing an important role in cultivating entrepreneurial leadership in students as part of broader economic development efforts (Almahdi 2019).

...but not all universities are necessarily able to become fully fledged entrepreneurial universities

Individual context determines the extent to which this is feasible or desirable. As (Stolze 2021, 24) suggests, a smart specialisation approach may better suit some universities. Yet the pressure to contribute more to society, and to demonstrate relevance, means that – for most universities – engaging with the entrepreneurial agenda is a must. However, as Stolze adds, this does not mean blindly emulating Stanford University and trying to replicate Silicon Valley![2]

Critiques of entrepreneurial universities

Entrepreneurial universities are often conflated in the literature with 'third-mission' activity in general, or efforts to generate or diversify revenue or resources for the university (Audretsch 2014; Gianiodis and Meek 2020). The concept has been accused of being vague (Jones and Patton 2020), and the definition of an entrepreneurial university can have many meanings depending on the academic context – underlining the need for clear communication from university leaders as to what they mean by the concept of the entrepreneurial university and the cultural and behavioural changes this may entail (Klofsten et al. 2019, 163).

As such, entrepreneurial universities have been accused of encouraging a negative shift towards commercialisation and managerialism (several case studies are cited in Stolze (2021)). Others (such as Pinheiro et al 2012 in Sánchez-Barrioluengo and Benneworth 2019, 207) criticise the entrepreneurial university literature for focusing too much on spin-offs and other specific outcomes rather than broader understandings of the model (which may give rise to misconceptions about the entrepreneurial university more broadly).

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[2] For more on why the perennial calls for universities to emulate Stanford and MIT are misguided, see Nelsen and Ku (2016). For a review of the processes by which so-called clusters develop and the role of universities, see Society (2020).

A shift to the university for the entrepreneurial society?

Expectations of the roles of universities have always shifted in line with society, from the founding of the civic-focused red brick universities in the industrial revolution and Land Grant universities in the US, to the wave of 'plate glass' universities in the 1960s and post-92 institutions a few decades later.

Audretsch (2014) contends that the *entrepreneurial university* is shifting to the *university for the entrepreneurial society*.[3] Much of how he describes this model is in line with our thinking of the entrepreneurial university today:

> *The role of the university in the entrepreneurial society is broader than just to generate technology transfer in the form of patents… and university-sanctioned startups. Rather, the mandate of the university in the entrepreneurial society is to contribute and provide leadership for creating entrepreneurial thinking, actions, institutions, and… entrepreneurship capital. (Audretsch 2014, 319)*

But it is worth reflecting on how this trajectory and the role of universities may change as a renewed focus on recovery, 'building back better', and a fairer society emerges post-pandemic. An entrepreneurial university is one which can anticipate these developments and challenges, and helps to meet them in new and creative ways.

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[3] Gianiodis and Meek (2020) make a similar argument, stating that entrepreneurial education needs to form a stronger part of the entrepreneurial university. However, many UK universities can convincingly argue that entrepreneurial (and enterprise) education is at the core of their approach to being an entrepreneurial university – see, for example, NCEE's Enterprise Survey Report 2020 (NCEE 2020).

4 Building blocks of the entrepreneurial university

"As the Finnish innovators Tuomo Kuosa and Jari Koskinen state the "adventure (is) in the in-betweens and the search for what is bubbling under opens up fascinating new views". This requires a far longer and more open tolerance for necessary ambiguities, demanding a strategy agile enough to capitalise on the contingent, whilst able to recognise profounder constants. In more mundane terms it demands a need to keep focused on concrete outcomes, countenance rapid real change, communicate widely with utmost clarity, understand core drivers and out of them fashion visionary shared strategy – all things that universities are not universally good at. Paradoxically, we need to be deep structure educators of students and ourselves." – Andy Salmon, Bath Spa University (read full article)

Understanding the entrepreneurial architecture of universities

Nelles and Vorley (2010) developed the concept of entrepreneurial architecture to describe the five institutional elements of universities: structures, strategies, systems, leadership, and culture (see table 3). They emphasise the interdependence of the factors, and that all five need to be developed in a balanced way to build the entrepreneurial capacity of the university.

Martin, Warren-Smith, and Lord (2019) have assessed the extent to which entrepreneurial architecture is developed in UK universities. They find that the physical components – structures, strategies, systems – are relatively well embedded, but greater attention needs to be given to the social architecture of leadership and culture. Without a culture of trust and shared understanding, the time and money spent developing the physical elements is a poor investment.

Context and environment are also vital considerations (see *The more turbulent the environment, the greater the need for collaboration* later in this section).

Table 3: The five elements of entrepreneurial architecture

Entrepreneurial element	Defined as:
Structures	Entrepreneurial infrastructure including TTOs, incubators, tech parks, business portals, etc.
Systems	Networks of communication and the configuration of linkages between structures and departments, admin, etc.
Strategies	Institutional goals elaborated in planning documents; includes internally determined formal incentive structures
Leadership	Qualification and orientation of key leaders (administration, board of directors, department heads, star 'scientists') towards the Third Mission
Culture	Institutional, departmental and individual attitudes and norms towards the third stream

Source: Nelles and Vorley (2010, 169)

How internal university structure shapes an entrepreneurial orientation (and regional engagement)
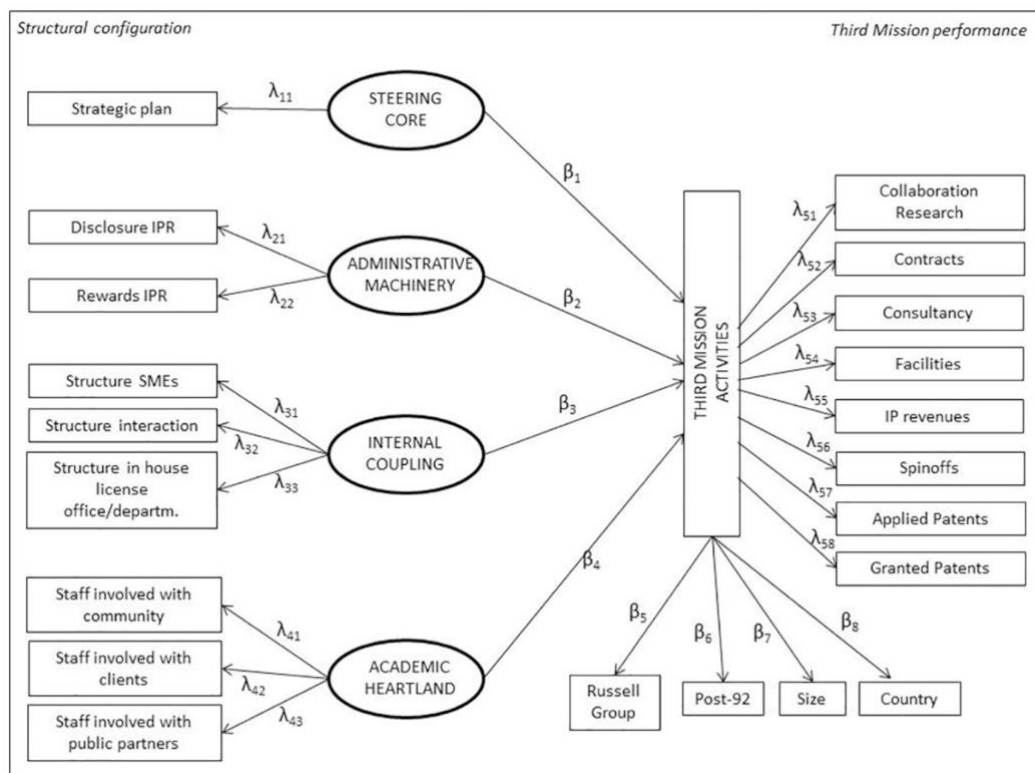
Sánchez-Barrioluengo and Benneworth (2019, 208) draw on Clark (1998) to describe internal university structure in four parts, each influencing the entrepreneurial activity of the institution – and each necessary for a unified and effective approach.

First, the 'central steering core' articulates a shared vision and develops strategic plans and policy documents. Second, a supportive administrative apparatus to roll this out throughout the institution, at different levels and to decentralised departments and faculties, as appropriate. This gives legitimacy. Third, the efforts and commitment of 'key individuals across the academic heartland'. This set of engaged academics, who in turn are respected by their peers, need to see an entrepreneurial approach as having academic validity. Fourth is the 'degree of internal coupling between core and peripheral structures and activities, ensuring spillover effects and mutually reinforcing synergies'. In other words, activities are interlinked and

embedded, rather than an add-on which can easily be discarded or overlooked. For a somewhat complex representation of this internal university structure, see figure 2.

This model applies equally to understanding how a university approaches regional engagement, for example. Sánchez-Barrioluengo and Benneworth (2019) contend that an entrepreneurial university can also be regionally engaged, so long as the these four internal parts are appropriately balanced. They argue that most entrepreneurial universities tend to focus on either specific knowledge transfer outcomes, or on more general contributions to regional economic development (p.214).

Figure 2: Theoretical model of internal university structure

Source: Sánchez-Barrioluengo and Benneworth (2019, 5). (IPR is Intellectual Property Rights)

Obstacles to developing an entrepreneurial culture

Coyle (2014, 263) identifies several common obstacles facing leaders wishing to instil entrepreneurial values in their institution: a disconnect

between high-level strategy and the day-to-day responsibilities of staff; perceptions that entrepreneurship is predominantly spin-offs, patents and commercialisation, and as such only relevant to some staff members; the refusal of some staff members to engage (in part due to the relatively high levels of autonomy within universities); and a lack of understanding as to how even committed staff can help contribute to the agenda. Connecting these is the need to build a shared entrepreneurial culture, and Coyle describes how the University of Wales, Newport (now part of the University of South Wales) devised a framework of entrepreneurial attributes that could be applied to all staff, tailored to the institution and its role and mission, and used to bridge an entrepreneurial strategy with daily work.[4]

Entrepreneurship departments can play an important role in developing the entrepreneurial university

Some universities have an academic entrepreneurship department, where research, teaching and knowledge exchange around entrepreneurship takes place. These departments are often overlooked in broader conceptualisations of the entrepreneurial university, but they have a dual role: developing, working within and promoting a university-wide entrepreneurial mission, and acting as a regional actor by themselves through both informal and formal engagement activities (Pugh et al. 2018).

Don't be distracted by patents...

We have seen how the entrepreneurial university concept is broader than commercialisation, and experts have persuasively argued that patents are a poor proxy for innovation (they better capture the number of inventions – most of which will have little significance) (Smith 2005, 160).

In addition, Rivezzo et al (in Klofsten et al. 2019, 162) found a negative association between the number of patents and the entrepreneurial orientation of a university department. Leydesdorff and Meyer (2010, in Klofsten et al. 2019, 16) found that the number of university patents has

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[4] The four attributes were Professional, Passionate, Partnering and Prized, each with three explanations of how they can be applied (Coyle 2014, 269).

declined in most Western economies – they attributed this to the incentives presented by university league tables.

...or technology transfer offices

Technology transfer offices (TTOs) can be highly effective for knowledge transfer activities, and are commonly associated in the literature with entrepreneurial university efforts. However, Sánchez-Barrioluengo and Benneworth (2019, 214) echo previous studies that show TTOs are not a panacea in themselves, but need to fit with wider institutional structures, goals and cultures. On their own, TTOs do not greatly boost the delivery of entrepreneurial activities.

The more turbulent the environment, the greater the need for collaboration

We have seen the importance of boundary spanners (*Leaders as boundary spanners* in *Leadership within the university context*). But an entrepreneurial university works together with other organisations, including those beyond the traditional partners of a higher education institution and outside its immediate sphere of influence. Gosselin and Tindemans (2016, 90–91) set out five types of environment, and the possibilities for adapting and thriving in each. The most complex and the most difficult to adapt to changes is the *turbulent environment*. Conditions are unstable and unpredictable; circumstances are moving fast and bring sweeping changes. Continuing as before makes the situation worse.

Gosselin and Tindemans caution that an institution will never be able to adapt to such a situation on its own. Stability requires working with other organisations who are different, but whose fates are intertwined. They call this *networking to reduce uncertainty.* Clever tactics, new strategies, or strong internally-focused leadership are not enough. Instead, cooperation through initiatives such as open innovation can reduce this uncertainty, charting a path through building common values, sharing knowledge and working together. Open innovation, of course, is a model well suited to universities and the systems and structures of innovation that surround them.

Questions, comments, feedback? Please contact James Ransom, Head of Research at NCEE: james.ransom@ncee.org.uk

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