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Why do universities have little systemic impact with social innovation? An institutional logics perspective

Ridvan Cinar[1] | Paul Benneworth[2,3]

[1]Department of Social Political and Territorial Sciences, University of Aveiro, Aveiro, Portugal

[2]Department of Business Administration and Social Sciences, Western Norway University of Applied Sciences, Bergen, Norway

[3]Center for Higher Education Policy Studies, University of Twente, Enschede, the Netherlands

Correspondence
Ridvan Cinar, Department of Social Political and Territorial Sciences, University of Aveiro, Aveiro, Portugal.
Email: rcinar@ua.pt

Abstract

Social innovation has been increasingly regarded as an instrument through which transformative structural change, necessary to address grand societal challenges can be achieved. Social innovations are encouraged by the emergence of innovation systems that support changes not exclusively driven by a techno-economic rationality. In the context of this special issue, there has been both little understanding of social innovation systems within mainstream innovation ecosystem approaches and little analysis of the roles played by universities in social innovation systems. We here focus on the institutional complexity of universities and their field-level dynamics as serving as a potential break on the institutionalisation of social innovation. To deepen our understanding of this, we utilise a literature around institutional logics to foreground characteristics of organisational fields with regard to social innovation. Drawing on empirical data gathered in two public universities located in different countries, we show that in one case the potential of social innovation is undermined by two dominant institutional logics, in the other its permeation across the organisational field is seriously challenged by a more powerful dominant logic. The institutional logic approach is useful to highlighting the barriers to building productive innovation ecosystems incorporating social considerations, and helps to explain the persistent difficulties in reframing ecosystems approaches to reflect wider societal dynamics.

1 | INTRODUCTION

Societies globally face pressing problems including climate change, income inequality, and demographic changes commonly referred as "grand challenges" and now subsumed within the United Nations Sustainable Development Goals (SDGs). These challenges are highly complex and solving them requires new collaborative approaches, organisational forms and perspectives to resource use (Ackoff, 1999). Solutions demand structural changes in societal systems at the level of organisations (related to products or markets) and regulatory frameworks (for processes and services). Social innovation is a recent approach to ensure new products, markets, processes, and services can drive structural change (Avelino et al., 2017; Mulgan, 2007). Academic and policy research has thus become increasingly interested in social innovation (Moulaert, Mehmood, MacCallum, & Leubolt, 2017). Policy makers, particularly in Europe, have made social innovation a central demand in their calls for universities to better contribute to society:

> *Universities are transformative spaces and have a particularly important role to play in social innovation development producing new knowledge or skills development in the disruptive social innovation domain…. Against a general commitment to social responsibility, proactive measures can be undertaken such as creation of Social Innovation Chairs, explicit rewarding of contributions to social innovation in academic promotion….*
> *(European Commission, 2018, p. 9)*

However, university engagement often focuses on creating new technologies (Göransson, 2017), partly because universities do not understand particularities of social innovation systems sufficiently. Universities may not distinguish different innovation mechanisms, and create policies (such as technology transfer offices) that prioritise technological innovation over social innovation. The assumption that social innovation systems are similar to regional innovation systems has increasingly been critiqued (Asheim & Isaksen, 1997; Barkley, Henry, & Nair, 2006; Kleverbeck, Mildenberger, Schröer & Terstriep, 2019). This paper contributes to these debates by creating a framework for understanding university engagement with social innovation systems in the context of increasing pressures to address societal challenges.

We consider social innovation system as an interesting manifestation of non-technological innovation systems. Fulgencio and Lefever (2016, p. 12) define it as "an inter-connection of things or actors in developing, diffusing and utilising innovation targeting social issues or needs … on an institutional, organizational or societal level." Universities could potentially be significant within social innovation systems, but the evidence suggests that they have not yet systematically engaged in supporting social innovation (McKelvey & Zaring, 2018). Howaldt, Kaletka, Schröder, Rehfeld, and Terstriep (2016) found that out of 1,005 social innovation cases, universities participated in just 15% and primarily as partner (rather than leader). Universities are not development agencies primarily mandated to support innovation systems, but rather organisations with knowledge potentially relevant to innovation activities (Arbo & Benneworth, 2007; Benneworth & Cunha, 2015; Perkman et al., 2013).

Given universities have mainly focused upon supporting technological innovation in recent decades, this paper explores the conditions under which universities may support social innovation. This is essential in this special issue's context to understand the full range of universities' contributions to innovation systems, incorporating both technological and social innovation dimensions. We draw on universities' property of being institutions comprised of very diverse knowledge communities held together by common norms, values and practices, stable over the long-term and resistant to short-term demands for change (Weick, 1976). We ask following research question: to what extent can we characterise universities' responses to external demands to support social innovation using existing

frameworks developed for technological innovation systems? We conceptualise this via organisational dynamics and institutional logics literatures (Thornton & Ocasio, 2008), highlighting the potential for clashes of institutional logics either encouraging or hindering (individual) embedded agency within institutions (Section 2). We present case studies of two public universities' involvement in social innovation (Section 3), identifying the two universities' dominant institutional logics (Section 4) and the institutional challenges for individual social innovators raised by putatively mismatching institutional logics (Sections 5 and 6). The analysis highlights two mechanisms by which institutional logics may constrain social innovation, firstly excluding social innovation as an acceptable institutional logic, and secondly damping the effects social innovation may achieve when mobilised as an institutional logic (Section 7). Section 8 reflects on the ways these "exclusion" and "damping" mechanisms constrain how universities may contribute to social innovation systems. We conclude by arguing that system approaches to innovation should "move outside of their comfort zone" to better differentiate social innovation systems from technological and regional innovation systems and thereby better capture university contributions in the round.

2 | SOCIAL INNOVATION'S PLACE IN HIGHER EDUCATION INSTITUTIONS: AN INSTITUTIONAL LOGIC PERSPECTIVE

2.1 | Social innovation as a response to grand challenges

Social innovation fits with Schumpeter's (1931) notion that innovation involves identifying both an unmet need and a change pathway to satisfy that need, with Schumpeterian entrepreneurs mobilising resources to make new combinations that deliver those changes. Although Schumpeter did not specify that innovations need exclusively be economic, since the 1970s, ideas of innovation and entrepreneurship have become increasingly restrictively defined, around technological innovation driven by commercial entrepreneurship (Benneworth & Cunha, 2015). Innovation systems arise when networks of users and producers become formalised to acquire systemic properties in particular territories (Asheim & Isaksen, 1997; Lundvall, 1988). Cooke (2005) characterised universities' roles within innovation systems as contributing to the knowledge production subsystem then used by the knowledge exploitation sub-system (firms). Universities have since the 1980s developed infrastructures and mechanisms to support these efforts (Popp Berman, 2012), and creating technology transfer offices helped to institutionalise university innovation system input around technological innovations (Benneworth & Cunha, 2015).

Social innovation emerged as a distinct academic and policy interest in the 1980s (Moulaert et al., 2017). The increasing visibility of societal challenges demanded multi-institutional and multi-actor solutions, which further increased the centrality of social innovation within innovation policy (Kuhlman & Rip, 2018). The European Commission responded quickly, accelerating research resources made available to study and expand social innovation research and practice since 2007 (Van der Have & Rubalcaba, 2016). Social innovations are "innovative activities and services … motivated by the goal of meeting a social need and … predominantly developed and diffused through organizations whose primary purposes are social" (Mulgan, 2007, p. 11). It is not easy to produce a singular definition of social innovation (Benneworth et al., 2015), but Caulier-Grice et al.'s (2012) typology is useful in clarifying the concept's main elements (see Table 1).

TABLE 1 Types and examples of social innovation

Types	Examples
New products	Assistive technologies developed for people with disabilities
New services	Mobile banking
New processes	Peer-to-peer collaboration and crowdsourcing
New markets	Fair trade or time banking
New platforms	New legal or regulatory frameworks or platforms for care
New organisational forms	Community interest companies
New business models	Social franchising, or just in-time models applied to social challenges

Source: Caulier-Grice et al. (2012).

2.2 | Universities' societal contributions

Universities contribute to societal development in various ways, reflecting different modes of internal organisation but also different visions of universities' roles and the place of societal contributions in these. Uyarra (2010) outlines five archetypes of university societal engagement; distinguishing knowledge factories (focused on technology knowledge for industry), relational universities (working interactively with industry), entrepreneurial universities (exploiting their knowledge via patents and spin-offs), systemic universities (building collective innovation assets) and engaged universities (improving regional policy frameworks). Each orientation allows social innovation a different institutional freedom; engaged and entrepreneurial university approaches are potentially supportive of social innovation (at least not indifferent to it), whilst the other models frame university knowledge in ways that potentially makes social innovation invisible. Uyarra's typology reflects institutional autonomy to determine regional mission, but this implies that universities' regional missions in turn are shaped by the role played by regional partners in their regional knowledge activities.

The regional innovation system literature is increasingly recognising the shortcomings of conceiving universities as knowledge producers for technological innovation. But an alternative critique is this notion that universities are centralised institutions within singular missions and goals, endowed with strategic actorhood, typically deployed by senior managers. Universities' regional roles are determined by these managers, which are then executed uncritically by their employees (Goddard & Vallance, 2013). This ignores the fact that universities' RIS agency typically comes through operational staff (Van den Broek, Benneworth, & Rutten, 2019) and does not always straightforwardly correspond with senior managers' strategic promises (Benneworth, Pinheiro, & Karlsen, 2017). Foregrounding university agency in RIS processes misframes the locus of university agency, and the importance of academic staff in determining universities' contributions (cf. Uyarra, Flanagan, Magro, Wilson, & Sotarauta, 2017).

A related problem is that social innovation is seldom a university's most urgent mission. Universities face intense pressure to improve teaching and research quality, to internationalise and create excellence, facing what Enders and de Boer (2009, p. 173) characterize as "mission overload." Different missions may interfere with each other. Universities' strategic choices reflect simply what is achievable given those pressures and restrictions. Universities are knowledge communities, creating societal contributions through their core teaching and research activities. Universities do have some strategic

autonomy to choose their own priorities, and Hazelkorn (2011) notes the roles played by rankings in shaping university missions and priorities. Rankings have singularly failed to capture universities social contributions thoroughly including the recent Times Higher Education's University Impact Rankings by SDGs (Greatrix, 2019).

2.3 | University strategic management, institutional logics and embedded agency

There suggests a clear prima facie case that universities might either strategically or operationally find social innovation not a "useful" activity, leading to its exclusion in practice as an institutional goal. Universities reflect diverse socio-economic and political environments. Even within one university, different forms of behaviour reflect disciplinary heterogeneity such as epistemological scientific traditions and external engagement (Pinheiro, Langa, & Pausits, 2015). Different units may seek to achieve very different overall goals (Thornton & Ocasio, 2008) reflecting material differences in the knowledge communities' knowledge practices (such as teaching, research, and public engagement) most relevant to these disciplines.

This significance of contradictory practices and different belief systems within institutions is addressed by Friedland and Alford's (1991) "institutional logics" approach. Institutional logics are "socially constructed, historical patterns of material practices, assumptions, values, beliefs and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality" (Thornton & Ocasio, 1999, p. 804). An organisational field may be constructed by a dominant institutional logic (Scott, 2008; Thornton, Ocasio, & Lounsbury, 2012), but two or more institutional logics may also co-exist within a single institution for lengthy periods (Reay & Hinings, 2009). Reay and Hinings (2009, p. 646) posit that "when competing logics co-exist in an organisational field, actors guided by different logics may maintain strong separate identities and engage in collaborations that result in mutually desirable outcomes and thus sustain the co-existing logics." How these logics play out and interact strongly shapes institutional performance.

An institutional logic approach thus provides a possible means to understand the conditions under which universities might contribute to social innovation. Institutional logics perspective contends that individuals' values, norms, beliefs and interests are shaped by their wider institutional context, reflecting both individual intensions and decisions alongside what is possible within the institutional context (Friedland & Alford, 1991; Thornton & Ocasio, 2008). Institutional logics shape which individuals and organisations achieve status, prestige, and competitive advantage (Sewell, 1992), and those who are able to exercise initiative and achieve change, something termed as "embedded agency." Embedded agency reflects three elements. Individuals, organisations and institutions possess partial autonomy in their actions (Battilana, 2006; Friedland & Alford, 1991); individuals engage in contests and mediation, while organisations and institutions are fields of conflicts and contradictory practices (Thornton & Ocasio, 2008). All three are mutually interdependent, and this interplay both constrains and enables individual/organisational action; these interplays determine institutional outcomes and provide a lens for exploring universities' limited engagement with social innovation.

Universities have since the 1970s experienced demands to be more societally useful, driving mission differentiation and organisational branding as "entrepreneurial universities" or "innovative universities". Most recently, civic and socially oriented regional contributions have been added to these expectations (Goddard, Hazelkorn, & Vallance, 2016; Uyarra, 2010). Imposing social innovation missions onto universities represents imposing new expectations and goals onto institutions. But

universities have existing (deeply embedded) logics, in the case of external engagement often focused around economic and technological engagement. This risks turbulence between these different logics, disrupting and thwarting efforts to deliver social innovation. This suggests a heuristic for the weak uptake of social innovation, namely that deeply embedded techno-economic logics has exerted agency which hinders efforts to undertake social innovation. We propose three kinds of dominant beliefs that may correspond with that embedded agency, namely:

1. university engagement should exclusively relate to industry collaboration (Lendel & Qian, 2017; Motoyama & Mayer, 2017),
2. to professional and academic identities that regard social innovation negatively, as inferior or as a threat (Brundenius, Göransson, & Mello, 2017) or indeed,
3. a reliance upon commercial income generated by technological innovation and commercialisation activity (McKelvey & Zaring, 2018; Perkman et al., 2013).

This in turn prevents social innovation from building up its own institutional logic, leaving it fragmented and not sufficiently institutionalised rather than systematically embedded within universities.

3 | METHODOLOGY

To address the research question with this framework, we adopted an exploratory research design using multiple case studies. A case study methodology is premised upon emphasising a deeper understanding of context and allows exploring causation (Yin, 2003). We explore universities' engagement with social innovation to reveal challenges faced by individual academics, an under-researched topic in the literature despite the growing popularity of universities' societal contributions as a research theme (Benneworth & Fitjar, 2019). We selected universities in national systems where universities have a duty to make some kind of socio-economic contribution. We chose two universities that actively promoted themselves as being outwardly oriented, stimulating entrepreneurship and innovation and claiming to generate social innovations, but where social innovation was weakly institutionalised at the organisational level compared to technological innovation. They are both universities where societal engagement features as an important strategic institutional mission: the University of Twente (UT, the Netherlands) and the University of Aveiro (UA, Portugal). Both are relatively young, technical universities in declining industrial regions, facing strong regional stakeholder pressure to actively engage in regional development.

Our approach involved key actor interviews with university members (faculty, rectors, administrative personnel, and practitioners) who had either contributed to a social innovation initiative or had academic and practical expertise on social innovation and/or higher education research. Relevant informants were selected by a combination of criterion and snowball sampling, yielding in 36 semi-structured interviews (19 in UT and 17 in UA). Descriptive information regarding the interviews and informants is presented in the Table 2. The data were transcribed and coded inductively and analysed thematically (Fereday & Muir-Cochrane, 2006).

The analysis explores how institutional logics operated, and whether dominant institutional logics could exert embedded agency that restricted social innovation activities and creating a stable social innovation logic. We sought to identify potential obstacles hindering the emergence of social innovation around three mechanisms; (a) a belief in the importance of commercialisation, (b) professional identities being threatened by social innovation, and (c) economic models demanding rates of return that excluded social innovation activities. The case studies firstly set out the two institutions' dominant

TABLE 2 Descriptive information regarding interviews and informants

Universities	Interview period	Interview duration	Expertise	Gender information
University of Twente	First: 11/2017 Last: 04/2018	Minimum: 33 min Maximum: 76 min	12 Social innovation 7 Higher education	14 Male 5 Female
University of Aveiro	First: 05/2018 Last: 10/2018	Minimum: 42 min Maximum: 80 min	13 Social innovation 4 Higher education	6 Male 11 Female

institutional logics with regard to social innovation, and then explore how these three mechanisms affected social innovation's institutionalisation.

4 | THE DOMINANT INSTITUTIONAL LOGICS OF UT AND UA

4.1 | UT, "high technology" and "global excellence"

The Twente region, in the eastern Netherlands, is part of Overijsel Province, bordering Germany to the east with a population of some 630,000. Its dominant textile industry declined in the 1960s, leaving regional unemployment rate exceeding the national average. More recently challenges included: (a) a loss of population and relative loss of tax base and services, (b) arrival of Syrian refugees and their socio-economic integration, and (c) an ageing population. Regional residents already have a long tradition of self-organisation known locally as "noaberschap," derived from high levels of historical interdependence of village residents in this agriculturally infertile region, a kind of social innovation *avant-la-lettre*. Noaberschap manifested itself institutionally as a willingness by organisations to work constructively together to solve these regional problems.

The UT is a technical university located in Enschede, the Netherlands, founded in 1961. It was created to revive regional fortunes firstly by working with textiles, subsequently stimulating entrepreneurship, creating many high-technology start-up companies, profiling itself as the Netherlands' most entrepreneurial university (cf. Benneworth & Hospers, 2007), and more recently claiming that it is contributing to social development. From 2010, a distinct institutional logic emerged around the slogan "high tech, human touch" (HTHT), reflecting UT's two disciplinary cores, technology and social sciences. The HTHT slogan became institutionalised: proposed activities were required to be justified in terms of how they conformed with HTHT. But at the same time, the emphasis on high technology was much stronger than human touch requirement reflecting the relative dominance of technological over social sciences faculties. One manager noted: "It is very important for us to brand ourselves as 'high tech-human touch'. We consider this as something that differentiates us from others" (Administrative staff, 14).

Regional partners supported this high technology logic as part of their efforts to promote region's "high-tech" profile to attract new investment. Another UT administrator noted: "I think the high tech profile of this region is important. This region used to have a tech profile (textile) and production industry. It is still technical but transitioning to high-tech image and identity" (Administrative staff, 2).

A parallel logic emerged alongside HTHT, "global excellence," driven by the rise of rankings and increasing pressures for excellence in research funding regimes. The UT had a number of extremely expensive scientific infrastructures (such as a nanotech laboratory) whose viability depended on global excellence. Employees were pressured to generate large-scale research grants to support those technological infrastructures, and this led to a hardening of the UT's attitude towards external engagement, one academic noting:

> *This university says it is innovative, says it contributes to the region which it does but it is less successful now as far as I see, than 20 years ago. The university now sees itself, in geographical sense, as an engine for development of larger area than only the region, with a global attitude, which is due to global competition.*
>
> *(Academic staff, 4)*

One academic described a situation where "we have so much pressure to publish and go up in the rankings that I cannot see how a university can do that without focusing on excellent research and turn global" (Academic staff, 15). The global excellence logic was particularly popular amongst the more technological disciplines such as nanotech with high potential to generate external funding, and where it easily elided with the HTHT logic.

UT did create a DesignLab to stimulate a design thinking form of social innovation, but the DesignLab infrastructure was so expensive that it became dependent on the presence of willing sponsors (such as municipalities, companies, foundations or the Province) to cover those costs. At the time of writing, it had become a site where technical research projects sought to drive acceptation of their inventions rather than sites of social innovation.

4.2 | UA, competing logics of "engineering" and "design"

The Aveiro region, in central-coastal Portugal, includes 11 municipalities with approximately 370.000 inhabitants. The region historically depended on agriculture, fisheries, forestry, and clay industries until the early 1970s: currently 60% of the economy comprises chemical, non-metallic minerals, agro-food, metallurgical, ceramics and advanced forestry sectors (Rodrigues & Teles, 2017). Aveiro's key regional challenges include population decline, particularly in rural areas, post-crisis austerity (particularly for public services) and demographic ageing. Aveiro's policy makers expect social innovation to address these challenges.

The University of Aveiro (UA) was established in 1973, a time of Portuguese higher education expansion. Since its creation, several roles have been casted mainly for sciences and engineering staff to contribute to the region via increased industrial collaboration, and tackling the long-contaminated Aveiro Lagoon's environmental problems (Dias, Lopes, & Dekeyser, 1999; Rodrigues & Teles, 2017). Science and engineering departments have always played significant roles in shaping UA's regional engagement. 9 of UA's 16 departments offer engineering degrees at bachelor, master or doctoral level, and many academic staff in non-engineering departments (including social, political & territorial sciences, and communication sciences) have an undergraduate or postgraduate education in engineering. These academic staff with an engineering background (admittedly a heterogeneous group due to sub-disciplines) has held many of UA's most senior management positions. The Rectory team at the time of writing (12 vice-rectors/pro-rectors in total) has 5 engineers, and one each from sciences, mathematics, educational sciences and psychology, accounting, and health sciences. UA has had 8 rectors and 6 had a background in sciences, 1 in humanities and 1 from the engineering.

UA's "engineering logic" mostly manifested itself in terms of UA understanding "societal contributions" as involving contract research, industrial collaboration, and student internships, kind of tasks many engineers feel to be appropriate to a university. This logic frames how UA has focused on more recent challenges. One academic interviewee noted: "We should be more active in [tackling the grand challenges]. We should put more effort on cooperating with firms and helping them to be competitive. Also arrange more internships for students and keep them here after graduation." (Academic staff, 7). Nevertheless, several engineers did articulate a desire to go beyond traditional commercialisation engagement (see Section 6).

The other logic originates with academic staff specialising in design and design thinking, primarily within UA's Department of Communication and Art (DECA). Their approach became visible within UA because of their claimed capacity to tackle societal challenges from 2007 and onwards. The 2008 financial crisis drove all Portuguese universities to reach out to civil society, creating an opportunity for DECA staff to introduce social innovation as a concept to UA via "design thinking" approaches. A majority of projects involved DECA staff members as leaders or partners, although several other departments did participate in social innovation.

Their design logic approach was characterised by particular set of beliefs and material practices that effectively tackling grand challenges requires designing a new structure, process, habit or state of mind that produce a systemic change. One senior academic noted:

> We (academic staff in design department) think that social innovation has great potential to solve them (grand challenges). Most of them are about changing a structure, way of doing things, people's mind etc. … The starting point for all of these is design. That is why we think design should be at the heart of every social innovation project. (Academic staff, 4)

DECA staff sought to push the design logic into UA's institutional environment, creating a research group (Design for Social Innovation and Sustainability) within the Research Institute for Design, Media and Culture, convincing the rectory team to appoint a designer to manage the Design Factory, and starting workshops on social innovation within the Design Factory. Some projects involved collaboration between engineers and designers on social innovation exemplified by a project developing furniture from cork waste products, whereby each discipline was able to follow their own approach to creating regional contributions, not challenging professional identities. Engineers could undertake traditional knowledge transfer activity, whilst designers collaborated to change UA's attitude towards the circular economy and design modules to raise students' awareness about the subject matter.

5 | THE INSTITUTIONAL SPACE FOR SOCIAL INNOVATION IN THE UNIVERSITY OF TWENTE

In Twente, the two dominant logics of high technology and global excellence appeared to undermine any social innovation activities that did not entail applying high technology solutions. An academic working on social innovation project on rural citizen empowerment inside the Netherlands and beyond noted:

> We were working with farmers in rural areas and their business ideas were about agribusiness… There was another one (idea) to establish something like a consultancy firm but for local community organizations … for the university perspective, this is not very interesting. Because, well, … nothing is high tech at all. All the innovation related to social organization and how they organize business models in such a way that this business

creates social and environmental value is not a topic that is relevant to the university. (Academic staff, 8)

This illustrates the multiple mechanisms by which the high technology logic restricted social innovation activities. Firstly, the team were repeatedly asked whether the social innovation initiative fitted with high technology, and when the team responded that they neither had nor needed a high technology dimension, their departmental head and several colleagues reminded them of the UT's "HTHT" organisational identity. The team took those comments to mean that despite the project's intrinsic merits, their project was not legitimate in terms of UT's desired culture. Another team member added:

They (head of departments and vice rectors) do not go as far as to forbid you engaging with the initiative. They just do not support you, stay neutral and leave you alone. What happens then is that you realize a single person or a couple of academics cannot initiate a social innovation without organizational support, and the initiative fades away. (Academic staff, 13)

The HTHT identity did fit well with the UT's older notion of commercialisation as creating new high-technology spin-offs using university intellectual property and with an obvious UT technological input. What this effectively meant was that individual academics within UT faced a whole set of unwritten criteria related to these organisational identity perceptions that had to be met for their social innovation to be deemed legitimate. The individual agency was constrained by the embedded agency produced by the institutional logic of "high tech." The dominant high tech logic did not *block* the social innovation but rather generated resistance via an illegitimating critique experienced by those engaged in social innovation.

The interviews revealed less direct embedded agency exerted by global excellence, although we here highlight three issues (a) the social sciences had lost their own research institution to facilitate a drive for excellent science (b) English has become the almost exclusive medium of education (c) internal promotion emphasised winning large-scale research funding from a very limited set of sources. Interviewees reported feeling that "excellence" was regarded as being exclusively reserved to the technical faculties, partly because technical faculties could attract substantial external funding but also the technological sciences publication patterns (many multi-authored journal articles) looked more impressive than the social sciences. Interviewees expressed discontent regarding the instrumental treatment of social sciences:

If technological faculties here even consider working with us, they do so in a very very instrumental fashion by saying we got new technologies and we all the time discover there is societal resistance. Can you come up with the tools to persuade these people? That is very much the dominant type of thing whereas our impact on society would be far greater if we did not start with technological knowledge but we start with societal challenges in this region.

(Academic staff, 19)

Another faculty member observed:

It is not really like a rule or regulation. When you start working here, you slowly realise this (developing social innovation initiatives) is not a culture here and other things like external funding, publications and start-ups are more important.

(Academic staff, 11)

The high technology and global excellence logics did intertwine: global excellence presupposes greater deployment of resources for publications and pure excellent research, channelling resources to technological sciences which in turn delivers the high tech logic via commercialisation. These two strong logics marginalise social innovation, which can only contribute to legitimate institutional goals in a limited way. Social innovation thus cannot find a mechanism for its own logics to be institutionally embedded.

6 | THE INSTITUTIONAL SPACE FOR SOCIAL INNOVATION IN THE UNIVERSITY OF AVEIRO

The institutional space for social innovation at UA was determined by competing logics between academic staff with engineering background and the designers, around the value of design and social innovation and the appropriate methods to tackle grand challenges. Engineers and their belief system were long established within UA and their logic remained dominant as design logic emerged in parallel in contributing social innovation through the 2010s. Designers' international collaborations with other partners was important in supporting and sustaining the design logic, as was noted around one critical juncture:

> *We knew that they (the management) always wanted to appoint an engineer for the Design Factory. We invited designers from very prestigious universities in Europe for a very important meeting here. In their conversation, I think one of them told "I can not imagine of an engineer becoming head of the Design Factory." I think it was that moment when they (rectory team) realized it would be very awkward to assign an engineer instead of a designer.*
>
> *(Academic staff, 5)*

Designers acknowledged engineering's contribution for both the region and UA, identifying opportunities to initiate interdisciplinary collaboration with them to contribute social innovation for regional benefit. However, they regarded design skills and their capacity to tackle social challenges was undervalued in UA as a result of the engineers' organisational domination. An academic employee noted, "I think they (engineers) do not realize the importance of design. The entire university actually does not realize it" (Academic staff, 16). Another designer added "we are seen as crazy people, crazy department with unrealistic solutions" (Academic staff, 9). These ideas resonated with another academic:

> *If we want to create a course like engineering and design, they do not allow us to use the word engineering. Why? Because apparently we are not engineers. But if you want to create this course or another course like design and engineering in an engineering department, they will let you do that. They will not consider that they are not designers.*
>
> *(Academic staff, 14)*

A fourth academic reflected on their recent dialogue with the rectory team:

> *One of [the rectory team] told me that a company contacted and asked for guidance because they wanted to create an environment friendly oven. They sent the company to the mechanical engineering department. I asked why. They told me because it is engineering's job. I said no, we have just collaborated with another company in creating an oven.*

> *They were very surprised … I really have big struggles in convincing them what design is and how significant it is.*
>
> *(Academic staff, 6)*

Many engineers also questioned the necessity of social innovation for tackling the grand challenges. "I completely understand and accept it (academics' contribution to tackling grand challenges). I just do not understand why we have to do this with social innovation" (Academic staff, 3). Many engineers' scepticism towards the notion of social innovation appears to be related to its potential threat for their professional identity, one engineering academic arguing "We should stop stretching of our professions. We are engineers and we do engineering, not social innovators. Everyone should do what they are good at" (Academic staff, 11).

The UA's administrative apparatus also created barriers to social innovation, in particularly through two mechanisms namely (a) the career evaluation algorithm known as Padua (*Plataforma de Avaliçao dos Docentes de Universidade de Aveiro*) and (b) increasing teaching loads. Padua was a complex computer algorithm measuring academic staff outputs, scoring all staff from 1–100 based on their activities (research, teaching, administrative tasks, and society engagement) and had a very complex formula. Faculty member were overwhelmingly negative of the system because of its flaws; periods of maternity leave were still counted for the overall evaluation period, and the minimum teaching load was 40% and very high. The formula was peculiar in systematically giving higher scores to academics who only entered teaching, research and administrative loads instead of all four including societal engagement. Padua counted social innovation activities as societal engagement, which received a relatively low score loading within the overall evaluation system.

Increasing teaching loads (partly resulting from austerity) were an additional barrier to academic participation in social innovation. As two staff members noted:

> *I had lots of them (social innovation initiatives) before this period (budget cuts of 2012 and 2013). But since then, I have been teaching more and more. I had to stop them because there is very little time for social innovation, in fact even for research.*
>
> *(Academic staff, 17)*

> *I am also in the directory board and I am responsible to distribute the classes among professors and lecturers. For the next year, we will have 6 less faculty members, 4 will be retired and 2 of them has gone to the rectory team. And only one new professor will be hired while at the same time we have almost the same number of students and courses.*
>
> *(Academic staff, 15)*

6.1 | INSTITUTIONAL BARRIERS STEMMING FROM INSTITUTIONAL SPACE

We identified two institutional logic configurations for each institution, the UT's *convergence* of "high technology" and "global excellence", framing engagement as delivering innovative high-tech products with social innovation *potential*, and UA's *competing* engineering and design logics, with their own assumptions about appropriate societal contributions. We now explore how these institutional logics affected social innovation's institutionalisation as an institutional logic in terms of

creating persistent belief systems regarding identities, value systems and urgency. The UT's two strong cores of technology and excellence, resisted social innovation on its own terms from within the institution. In UA, where the design logic was relatively strong and legitimate, there was a tempering of its capacity to achieve change by a preference for the engineering logic.

The first element by which institutional logics exert embedded agency is an *identity effect*. In both cases the core institutional logics either worked to block the emergence of a strong and stable identity around delivering social innovation (UT) or decelerated the advancement of an emerging identity supportive of social innovation (UA). We decompose this destabilising effect into two elements. Firstly, in both universities, the dominant academic staff profile is technical scientists who appeared to regard social innovation as being less valuable than technological innovation. The second element is that social scientists, in particular in the UT were framed and portrayed as being marginal to the institutional identity, making those identities liminal, and undermining any basis for social scientists' self-confident behaviour.

There were differences between the two universities; UA's social scientists managed to develop stable identities relating to social innovation, which was not the case at UT. In UA, design academics developed stable identities as "design scientists," realising the implementation of designable human systems, part of a broader epistemic community within UA. That was aided by collaboration with a group of engineers who were willing to go beyond a purely engineering approach to external engagement. In addition, the national government regularly emphasised the importance of social innovation, and other external stakeholders impressed upon UA senior managers their expectations that UA should deliver meaningful societal contribution manifested through social innovation. In UT, social innovators' identities were far more liminal, reporting feeling under pressure and professionally threatened, without a capacity to find epistemic validation within their own environments. They believed there was a mismatch between what they wanted to achieve (and believed to be good behaviour), and what they believed their employer wanted them to be doing. They experienced this mismatch as a kind of continual denigration of social innovation by their employers. One academic expressed that thus:

> *The issue with them (social sciences) is that their role has been reduced to responding to criticism made by society. It is like this: The university receives criticism for not engaging with the society, and not contributing to local people. To respond these, UT invites us (social scientists) and says: 'Can you please explain to these people that our products are already benefiting them?*
>
> *(Academic staff, 3)*

The second element of embedded agency relates to the *institutional belief* in the value of a particular activity, and particularly that beliefs in the importance of engagement with social partners (a prerequisite for social innovation), was crowded out by other kinds of institutional beliefs. The first of these was the belief that the primary focus of engagement should be commercially focused and oriented towards businesses. Both institutions had strong rationales for business engagement, being created to drive regional development. Those contexts profoundly influenced both those universities' strategic relationships with external partners, as well as the professional routines and norms of those academics, notably those more senior academics that were influential in determining attitudes towards engagement. Their evolution also affected their engagement infrastructures, which shaped the contemporary possibilities. The extensive exposure of UT to expensive high-technology infrastructures have encouraged engagement activities with well-configured users able to pay for those services, and subsidise those infrastructures for academic staff. This shaped the ways that stakeholders' imprimatur legitimated certain activities; partners that could pay for services were seen as being legitimate stakeholders. Conversely, in UA, the enthusiasm of the public

sector for the promotion of social innovation helped to support the emergence of a kind of social innovation identity, which fitted with the availability of subsidies and the research center focusing on social innovation that helped legitimate social innovation.

The third element of embedded agency relates to activities' *urgency* as articulated in the university's internal allocative model economy. Both their internal models acted as embedded agency, hindering social innovation by framing it as "uneconomic" unless the activity generated income (such as from Structural Funds or other European funding grants). The UT's internal economy used an internal financial allocation model where departments and faculties generated income through teaching, research, and third mission activities, and were charged for the use of university resources (staff time, classrooms, and laboratories). The UA internal economy operated through the workload model, which created shadow prices for various kinds of university activity, with staff being managed to deliver various activities to achieve a particular price level. The price of social innovation activities was comparable to relatively light touch activities such as media appearances. Given UA's high teaching loads, and the low quantum available for social engagement activities, the price of social innovation in the internal model created real-time deficits for individuals.

These three elements, identity, institutional belief, and urgency demonstrate the relative intransigence of universities' contributions to regional development and their insufficient responsiveness to supposedly urgent pressures. Both institutions' regional missions and orientations were framed by institutional dynamics that emerged within a decade of their founding (the high-technology reindustrialisation of Twente and technology transfer to Aveiro businesses). The institutional identity and belief change at the time scale of the decade, with the determinants of these regional roles are not just regional policy but also the wider epistemic communities within which researchers are active. This is a recurrence of the problem that Cooke (2005) identified as the scalar envelope, assuming that the factors that affect regional innovation behaviours are purely regional in their scope. This suggests that improving the societal role of universities outside of this "scalar envelope" requires both funders and academic societies to adopt new identities and regulations. These would place societal contributions to innovation ecosystems as being desirable for universities (just as the desirability of academic entrepreneurship was built up over a generation, Ziman, 2002) and thereby allow this desirable but difficult element of innovative ecosystems to emerge.

7 | CONCLUSION AND DISCUSSION

In this paper, we have sought to answer the question of whether universities' failure to systematically engage with social innovation can be explained in terms of university institutional logics. In the introduction, the dominance of techno-economic perspectives on innovation was identified as a key reason why social innovation has yet to be explored within orthodox innovation studies, including here in the roles of universities in innovation. It was notable in the study that the two universities studied were not exempt from this techno-economic domination, albeit one that presented in different ways in the two institutions (either as being a secondary consideration or as one that was unaffordable).

In both universities, the institutional logic encouraged academics to construct social problems as being solvable mainly through the use of technology or traditional third mission tasks such as contract research and industry collaboration (a framing effect). There was a parallel damping effect: those activities which used university knowledge for social innovation were delegitimised and/or rendered invalid, less valuable, and prevented them becoming more important to the institution. Three university institutional processes supported these dynamics, academic identity formation processes, organisational legitimisation processes, and internal allocative models, related to the three mechanisms of

university logics; academic identities, legitimacy and urgency. We thus contend that this approach might be more generally useful for understanding how universities can contribute to a broader selection of innovation systems.

The first issue relates to the absence of stable academic identities supporting social innovation. Stable academic identities are associated with legitimate practices: thirty years ago commercial engagement suffered from the absence of a stable academic identity. The emergence of commercialisation as a legitimate mission involved constructing stable entrepreneurial academic identities (Ziman, 2002). Government, education ministries, research funders, and institutions channelled resources and recognition to engaged entrepreneurial academics. Developing stable academic identities for non-technoeconomic innovation activities (e.g., around community engagement) requires similar resources and recognition for social innovation, reaffirming, and remaking those identities' legitimacy.

The second element relates to the perceived legitimacy of social innovation by university peer communities. Social innovation is a normative concept, premised on a belief that social structures produce unfair outcomes and therefore those structures need to be changed. That normativity may sit uncomfortably with disciplines that are unaware of the (not always positive) social impact of technological changes (Bozeman, Fay, & Slade, 2013; Derrick, Faria, Benneworth, Budtz-Petersen, & Sivertsen, 2018) with technological researchers unaware of their own highly normative worldview of the value of technological progress.

The third element relates to the urgency of social innovation expressed via internal allocative models, where a price/cost imbalance emerges: the "cost"—the time it takes individuals to produce social innovation outcomes—is less than the "price" their internal allocative systems pays for them. Synergies can be built, for examples where *students* deliver social innovation within education programmes, thereby generating an "income" in terms of study points. This special issue is concerned with non-core innovation, and it is perhaps unsurprising that non-core activities are under-rewarded in internal allocation models. These internal allocation models often reflect external pressures, such as funder demands or needs. Therefore, this suggests that encouraging universities to take social innovation (and other kinds of subaltern innovation more generally) seriously requires giving universities incentives to ensure their internal allocative models to supporting broader versions of innovation.

We also acknowledge that this is a European study and therefore addresses the connection between social innovation in a very Eurocentric way, reflecting the fact that universities have never really had formally societal missions, other than arguably in the 1970s to become oriented towards mass democracies (Daalder & Shils, 1982; Delanty, 2002). Tapia (2008) highlighted the fact that in Latin America, a series of protests spread out from universities starting in Cordoba, Argentina in 1919, against the elite closure of universities. This led to a series of reforms in these countries in which universities were connected much more closely to their societies, with much greater societal duties, even being used as a way of providing social services in remote places (e.g., Ramirez, 2011). We would, therefore, urge those interested in universities and social innovation to look to these examples of Latin American universities' social missions to better understand the way that university knowledge processes can support social innovation in various ways.

The case of social innovation provides a useful lens to understand a core question within this special issue, namely why non-core innovation systems have such difficulties attracting attention. We perceive in our case a peripherality effect for social innovation; because key innovation actors view social innovation as being marginal, this builds up to a systemic effect, mediated by institutions, in which it is made harder to achieve social innovation by inhibiting and damping enabling norms, values, and regulations. University internal rules are focused towards institutionally necessary transactions, and orienting those rules towards economic transactions & technological innovation makes social transactions much harder to fit into university. This is even true for researchers who are primarily or even

exclusively concerned with social innovation rather than technological innovation. But these dominant perspectives have become locked-into universities through their institutional logics. Although these institutional logics can change (and new institutional logics continually emerge), a non-core innovation approach faces these various pressures that delegitimise it and prevent its systematisation.

Our research is a relatively small intensive case study of two examples of universities that have missions, which are at least open for societal engagement, and this has two potential implications for applying our findings to other kinds of institutions. A first reading might be that these are young, dynamic institutions that made a serious effort to promote social innovation, and yet internal institutional logics hindered those efforts. One might thus expect more established universities to find it much harder than these new, young universities to stimulate social innovation. But an alternative possibility, related to the unthinking epistemological dominance of science and technology subjects at these newer universities is that older universities (particularly those founded before the 19th century) have traditionally had a much stronger core in the humanities and social sciences. That might remain visible in their contemporary institutional logics thereby helping those institutions to regard social innovation as a more legitimate and valuable university activity.

Clearly more work is required in understanding the institutional logics that shape engagement with non-core innovation activities in other kinds of universities, what Uyarra (2010) called the knowledge factories, the relational universities and systemic universities. And this allows us to make our general contribution to the topic of this special issue, in bringing systems approaches "out of their comfort zone." It has clearly been very "comfortable" to treat universities as strategically managed technology agencies rather than the complex constellation of knowledge coalitions that are continually finding ways of remaining working together within a single organisation. Universities are nebulous collectives of connections by individuals and teams with their very own knowledge needs and belief systems. These actors are in turn shaped by the institutional logics of the universities in which they sit, and that frames the ways they can respond to societal dilemmas, even where those framings are explicitly denied by strategic managers. We conclude with this challenging message, namely those studying how universities contribute to particular societal needs should pay more heed to the constraints imposed by those institutions' internal mechanisms and dynamics. Without moving outside the comfort zone, innovation studies will be ill-equipped to provide convincing explanations of the ways that universities can work within wider territorial coalitions to deliver the necessary societal transitions demanded by the 21st century's challenges.

CONFLICT OF INTEREST
Authors report that there is no potential conflict of interest.

ORCID
Ridvan Cinar https://orcid.org/0000-0002-5640-224X
Paul Benneworth https://orcid.org/0000-0003-0539-235X

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