

The concept of the entrepreneurial university for analysing the organisational transformation of higher education institutions

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Introduction

The term *entrepreneurial* has not traditionally been used in the context of European universities. Instead, the goals and values of business enterprises have been seen to exist in strong contradiction to the academic and cultural values of universities (e.g. Shattock 2010). Moreover, the special characteristics of higher education institutions (HEIs), universities in particular, have been illustrated by identifying how they differ from the peculiarities of business enterprises (Birnbaum 1988). Universities have traditionally been characterised as specific loosely-coupled professional organisations, which have decentralised internal authority and structures, and where central organisational policies, leadership and control have been weaker compared to business organisations (Birnbaum 1988; Bleiklie, Enders & Lepori 2017).

However, during the last few decades, the higher education sector has grown and diversified, and its social and economic significance has increased (e.g. Bleiklie, Enders & Lepori 2013). The policies of the European Union (EU)

and national governments emphasise the knowledge production and diffusion of universities as an engine of social and economic development (e.g. Shattock 2008). The EU's renewed agenda for higher education further notes that a wide cultural change is needed to support HEIs to become entrepreneurial actors (European Commission 2017). To support the active role of universities in society, national governments have aimed to reform universities to make them more efficient, responsive and business-like organisations in several European countries (e.g. Bleiklie et al. 2013; 2017; Chanphirun & van der Sijde 2014; Pinheiro & Stensaker 2013).

Since the 1990s, the transformation of universities and other HEIs in our knowledge-based society has been increasingly examined in higher education research. The conceptualisation of an entrepreneurial university has become one of the analytical tools of researchers to illustrate and analyse the transformation of HEIs in the current knowledge-based society (e.g. Chanphirun & van der Sijde 2014; Clark 1998, 2004; Etzkowitz 1983; Etzkowitz et al. 2008; Marginson & Considine 2000; Nelles & Vorley 2010).

The chapter aims to analyse how the concept of the entrepreneurial university describes the current transformation of universities. The chapter begins with a short historical overview of the entrepreneurial university concept: when and why the concept was introduced in higher education studies. It then introduces and illustrates different approaches to study the entrepreneurial transformation of universities, focusing especially on Burton Clark's (1998) conception of the entrepreneurial university. Finally, the chapter engages in a discussion and summary of the kinds of challenges and possibilities regarding the application of the concept to the higher education setting, especially in the context of European universities.

Foundations of the concept of the entrepreneurial university

Kerr (1963) coined the concept of *multiversity* to illustrate a vision of the future of universities, which consists of a diversified set of activities and is responsive to the different needs of society (see also Etzkowitz 2001). Although Kerr

did not speak about entrepreneurialism or entrepreneurial universities, his idea regarding multiversity has widely been considered as a predecessor of the concept of the entrepreneurial university (see Etzkowitz 2001; Nelles & Vorley 2010).

Since the 1970s, academic research on the role of universities in innovation processes and as institutional actors in innovation systems has grown rapidly. This was related to the development of higher education and science policies, which pushed and encouraged HEIs to establish links with business and industry for efficient knowledge production at universities for use in several industrialised countries (Mowery & Sampat 2005). Etzkowitz (1983) was the first to use the concept of the entrepreneurial university in his article “Entrepreneurial Scientists and Entrepreneurial Universities in American Academic Science”. He illustrated the entrepreneurial transformation of universities and science, primarily from economic and commercial viewpoints by analysing the efforts of university scientists in seeking and raising external funding, establishing scientific enterprises and in the commercial utilisation of academic science (Nelles & Vorley 2010).

Entrepreneurial orientation has been characteristic of American universities, in particular. However, changes in the environment and higher education reforms in the late 1980s and 1990s provided an impulse and backdrop for the idea of the entrepreneurial university in European countries (Rhoades 2017). Large-scale reforms have been carried out in several European countries to strengthen the entrepreneurial role of HEIs in socio-economic development. In practice, this has meant an extension of HEI research and teaching tasks by incorporating economic and social development as a university mission (the so-called third mission), e.g. in the form of marketable products and new knowledge-based companies (Etzkowitz et al. 2000; Nelles & Vorley 2010). This transition is called the “entrepreneurial turn” or “second academic revolution” in higher education and science studies; it has also offered a basis for developing the conceptual frames of entrepreneurial universities (Etzkowitz et al. 2000; 2008; Nelles & Vorley 2010). The scale of the changes has been compared to the “first academic revolution”, which dates back to the

turn of 19th and 20th centuries, when research was integrated into the mission of universities along with teaching (Etzkowitz 2001).

Different perspectives on studying the entrepreneurial university transformation

Since the late 1990s, higher education researchers have made numerous attempts to understand and explain how higher education institutions change as part of the knowledge-based society (Miettinen & Tuunainen 2006, 16; Mowery & Sampat 2005). The triple helix relationship among universities, industry and government (Etzkowitz & Leydesdorff 1997), the entrepreneurial and enterprise university models (e.g. Clark 1998, 2004; Marginson & Considine 2000), the concept of academic capitalism (Slaughter & Leslie 1997; Slaughter & Rhoades 2004) as well as the Mode 1—Mode 2 thesis of changing knowledge production (Gibbons et al. 1994) are the best known and most influential attempts at redefining and describing the entrepreneurial turn of HEIs in the current knowledge-based society (see also Miettinen & Tuunainen 2006).

These concepts and models emphasise different approaches and foci to entrepreneurial transformation in the university context. The triple helix model—introduced by Etzkowitz and Leydesdorff (1997) in their book *Universities and the Global Knowledge Economy: A Triple Helix of University-Industry-Government Relations*—sees interactions among universities, industry and government as a seedbed for new innovations. The task of universities is to produce new knowledge, while industry is in charge of production and government of contractual relationships. However, the assumption of the triple helix model is that there has been transformation both internally within each of the helices as well as in the relationship among them. In the knowledge-based society, the role of universities has expanded and strengthened as entrepreneurs and promoters of innovation, alongside industry and government. A similar transformation is ongoing in industry and the government sector. The helices influence each other, and in the next stage of

the triple helix relationship, new kinds of trilateral networks and organisations will be created based on the interaction among the helixes (Etzkowitz 2003; Etzkowitz et al. 2008). Since the late 1990s, the triple helix model has been further developed and widely applied in the study of trilateral relationships in different geographical contexts and branches of science and business (e.g. Benner & Sandström 2000; Etzkowitz et al. 2008; Kaukonen & Nieminen 1999).

Slaughter and Leslie (1997) analysed the entrepreneurial university from the viewpoint of changes in academic labour in public universities in Australia, Canada, the United Kingdom and the United States in their well-known book *Politics, Policies and the Entrepreneurial University and Academic Capitalism*. The main concept of their study was *academic capitalism*, which they defined as the market and market-like behaviour of universities and academic staff in securing external funding. Market-like behaviour refers to competition for external funding, whereas market behaviour entails the for-profit activity of universities, such as patenting, spin-off companies or sales of services. The main arguments of Slaughter and Leslie were that academic work is changing in response to global markets and declining public funding and that academic capitalism was a consequence of that development. The changes vary among disciplines: disciplines that operate in closest proximity to markets benefit from academic capitalism more than others do, for example, through research funding directed to techno-science fields. This can lead to internal differentiation within universities (Slaughter & Leslie 1997; Slaughter & Rhoades 2004). Slaughter and Rhoades (2004) continued with the examination of academic capitalism with the later publication of *Academic Capitalism and the New Economy*, with the concept subsequently gaining wide application in the study of forms and varieties of academic capitalism in different countries.

Gibbons et al. (1994) analysed the entrepreneurial transformation of universities from the viewpoint of science and research in their well-known publication *The New Production of Knowledge: the Dynamics of Science and Research in Contemporary Societies*. Their main thesis was that the modes of knowledge production have changed: alongside traditional disciplinary-based

basic research, the significance of transdisciplinary and applied research has grown. Knowledge is increasingly produced in interaction among the actors representing different disciplines, including actors outside the academic community and in organisationally diversified contexts aiming at solving topical problems of society. The quality and impact of research is also being evaluated—in addition to being based on academic criteria and peer review—on the basis of the social impact of research.

Clark's (1998) study *Creating Entrepreneurial Universities: Organizational Pathways of Transformation* analysed entrepreneurial universities from the viewpoint of management and organisation. The next section of the chapter focuses on analysing the entrepreneurial university concept from the viewpoint of Clark's study. Clark's study has been chosen because it analyses the management and organisation of universities—universities as entrepreneurial organisations. In addition, his study has been widely considered as a pioneer on entrepreneurial universities (Shattock 2008). It has also had implications for university development in Europe (Rhoades 2017; Shattock 2008).

Burton Clark's study on entrepreneurial universities

Creating Entrepreneurial Universities: Organizational Pathways of Transformation focused on European universities¹ which were intentionally aimed at becoming more entrepreneurial (Clark 1998). By means of five case studies, Clark identified how universities had changed their organisation and practices to become more entrepreneurial. He was especially interested in whether there were common pathways to transformation.

Clark emphasised entrepreneurship as a characteristic of the social system, the higher education institution and its units, rather than as a characteristic of an individual academic, which had been the traditional conception of entrepreneurship. Accordingly, he saw collective entrepreneurial action and initiatives as the core impulse of transformation (Clark 1998; Shattock 2010).

¹ University of Warwick, University of Twente, University of Strathclyde, University of Chalmers and University of Joensuu.

Second, Clark noted that he did not see entrepreneurialism as hard business-oriented and profit-seeking activity, but instead, he defined an entrepreneurial university as an institution that actively and wilfully builds its organisation, seeks a special organisational identity, innovates and takes risks in terms of how it carries out its activities. Thus, his conception of the entrepreneurial university was akin to that of being innovative. Clark did not see academic and collegial values as subordinate to managerial values, but he emphasised that an essential aspect is to seek balance between collegial and managerial values and goals.

Clark's approach was inductive, proceeding from practice to theory. As a result of the case studies, which were based on interviews, observations and analyses of documentary data, he summarised five organisational elements that he saw as important in transforming universities towards more entrepreneurial ways of action. These elements are *the strengthened steering core, the expanded developmental periphery, the diversified funding base, the stimulated academic heartland* and *the integrated entrepreneurial culture* (Clark 1998).

The strengthened steering core is essential because universities continuously encounter pressures to become quicker, more flexible and responsive in their reactions. According to Clark (1998), *the strengthened steering core* refers to an HEI's efforts to strengthen and systematise its managerial capacities. Although the strengthened steering core may assume different forms, it should include both central managerial and academic groups in order to reconcile managerial and traditional academic values. Moreover, it is administratively strong at all levels of organisation (Clark 1998; 2004).

The entrepreneurial university also actively crosses the traditional boundaries of the organisation to create linkages and collaboration with external stakeholders. The aim of this boundary-spanning is, for example, to mediate between academic departments and the external environment to promote new competencies, acquire information or generate income. Boundary-spanning typically takes the forms of administrative offices, new academic units and programmes, interdisciplinary research centres, teaching outreach, which tasks can include, e.g. supply of teaching and research services, knowledge and technology transfer, university-industry collaboration,

fundraising and alumni relations. Clark (1994; 2004) calls this *the expanded developmental periphery*.

When the government's core funding decreases, *diversifying funding base* becomes important in enhancing the self-regulative capacities of HEIs and creating opportunities for new initiatives. Clark divides this into second and third stream funding sources. Second stream funding sources refer to funding from governmental research councils (competitive research funding), while third stream funding means all other governmental funding sources, private organised sources as well as university-generated income, such as endowments, alumni fundraising and tuition fees. According to Clark, third stream funding sources represent real financial diversification (Clark 1998; 2004).

To initiate change, the ultimate question is how the academic units responsible for teaching and research and formed around disciplines or fields of education are oriented to change. *Academic heartlands* are places where academic values are most strongly rooted and where change often occurs last. Change requires new forms of knowledge production (applied research and development work) and diversification of funding sources to meet new social demands (Clark 1998; 2004).

As the integrative concept, Clark uses the *integrated entrepreneurial culture*, meaning that entrepreneurial universities also develop a work culture that embraces and is oriented to change. Transformation can start from an idea to a set of beliefs, which can later become university-wide culture (Clark 1998).

In his later publication, *Sustaining Change in Universities: Continuities in Case Studies and Concepts*, Clark (2004) expanded the case studies to countries and universities in Africa, Latin America, Australia and North America and further defined the transformation elements. The focus of the study was to analyse how elements of transformation become elements of sustainability. Clark summarised the dynamics of sustainability in three principles. According to him, organisational transformation elements become elements of sustainability when they combine into a basic organisational character. Second, the university keeps in motion by means of incremental, experimental

and gradual adjustment to changing demands and opportunities. Third, ambitious collegial will is essential for sustaining change. Clark's conclusion was that the capacity to carry on changing is essential for the entrepreneurial university (Clark 2004, 90–93).

Discussion and conclusion

This sub-chapter discusses and sums up how the concept and transformation elements of the entrepreneurial university (Clark 1998) illustrate the organisational transformation of European universities, what kinds of challenges and possibilities exist in applying the entrepreneurial university concept and its transformation elements to the university context.

It is important to note that the idea and concept of an entrepreneurial university originated from the United States, where the role of markets has traditionally been strong, the control of the state over universities low and where universities are more autonomous, which have, for their part, forced universities to become more entrepreneurial and responsive to the socio-economic environment (Ben-David 1968; Mowery & Sampat 2005). The emergence of entrepreneurial universities in the United States has also been a bottom-up phenomenon (Etzkowitz 2003). Conversely, European universities have a long tradition as public organisations; they have a public mission to offer services that produce benefits to the wider society (Jongbloed, Enders & Salerno 2008), values which are opposite to those of business enterprises, e.g. profit maximisation, commercialisation and the adoption of market principles (e.g. Shattock 2010). The role of the state has also been strong in steering European universities, and universities have been dependent on state funding. Moreover, Europe did not have the same entrepreneurial cultural traditions as those of the United States (Jongbloed et al. 2008).

However, Clark's book was published as the situation was gradually starting to change: the direct regulative role of the state was diminishing, and the autonomy of universities was increasing (Jongbloed et al. 2008; Shattock 2010). This changing relationship between the state and HEIs also directed the

focus of attention to the question of how universities as organisations respond to the new challenges (Rhoades 2017). According to Shattock (2010), Clark's book has had an impact, especially on the way in which EU and European universities ponder the appropriate balance between institutional autonomy and state control: the European Commission quickly adopted the ideas of the entrepreneurial university in its policy documents (e.g. CEC 2003; CEC 2005; CEC 2006). Similarly, the Organisation for Economic Co-operation and Development (OECD) devoted one conference to Clark's book in 2000 (Rhoades 2017). Thereafter, Clark's ideas have been applied in several ways, not least as a reference point in higher education reforms and change (Rhoades 2017).

During recent decades, several European countries have reformed their higher education systems in a way that emphasises entrepreneurial ways of action. According to Mora and Vieira (2009), the main change trends in university governance in European countries include increased institutional autonomy and diminished state regulation, the consequences of which have been, e.g. strengthened university leadership, greater accountability and more detailed quality assurance procedures. At the same time, the role of markets and co-operation with different stakeholders has grown. Universities have widely incorporated a third mission alongside their teaching and research tasks, and these university-society linkages are of a more institutional nature (Geuna & Muscio 2009). It can be said that the current funding instruments, such as strategic research programmes and government analysis, assessment and research activities in the Finnish context, also stimulate academics to conduct applied research and pay attention to the social impact of research. All of these change trends share commonalities with Clark's organisational transformation dimensions.

Clark's book gained a substantial amount of attention when it was published, and it has become a world renown and widely cited publication, which has also stimulated further studies by higher education researchers. Researchers have applied the entrepreneurial university concept to describe the different forms of transformation in the higher education sector (Rhoades

2017). Organisational transformation elements of the entrepreneurial university have been applied and further developed to studying and evaluating entrepreneurship and the entrepreneurial transformation of universities and universities of applied sciences in different countries (e.g. Shattock 2009; Gjerding et al. 2006; Marginson & Considine 2000; Lyytinen 2011).

Clark's organisational transformation elements of the entrepreneurial university can be criticised for being descriptive and overly simplified, having been derived from inductive analyses of a few cases. They also lack conceptual profundity and integration to theoretical traditions. However, Clark's main contribution is not theoretical, but practical. The strength of the book is that it has awakened discussion on university development at the European level and has impacted the policy and practices of HEIs (see also Shattock 2010). Another special contribution of Clark's approach was that he did not define and analyse the entrepreneurial university only from economic viewpoints, but also from academic standpoints, taking different dimensions of the university organisation into consideration, and by emphasising balance between managerial and academic values and goals, which fit European universities well. Second, Clark's new contribution was also the organisational viewpoint: he analysed entrepreneurialism as a characteristic of the organisation and social system rather than as a characteristic of an individual academic or discipline (Shattock 2010).

It can be said that Clark's idea of the entrepreneurial university is still topical in Europe, although the book was published 20 years ago. Rhoades (2017) has even argued that the impact of Clark's book has been stronger in Europe than in the United States. According to Shattock (2010), Clark's book has further legitimised the concept of the entrepreneurial in the university context (Shattock 2010). However, although the transformation elements do present challenges, which have been faced by European universities in one way or another, and describe well some of the main development trends in university governance, they cannot be straightforwardly and uncritically transferred to different country contexts and HEIs. Instead, each country is to find entrepreneurial ways of action that are appropriate to its HEI system and society.

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