


# “The exploration of university ethos – neoliberalism versus entrepreneurial wisdom”

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# THE EXPLORATION OF UNIVERSITY ETHOS – NEOLIBERALISM VERSUS ENTREPRENEURIAL WISDOM

## Abstract

The exploration of the entrepreneurial university indicates a new model for higher education institutions. Despite the overwhelming resistance against this phenomenon in terms of neoliberalism, modern universities adapt to economic forces and the function of the imminent fourth industrial revolution. The changing ethos of universities in a time of super-complexity seems to be a natural phenomenon of our time regardless of the warnings against this revolution. The protection of academic integrity and quality of tuition needs not be a trade-off when the tuition mission of universities is being enlarged in terms of a new type of knowledge management and a fresh drive for applied research and intellectual property management. Universities become less isolated as an open system with the aim of building an enterprising state in which university partners co-innovate in order to solve global economic challenges. Most universities promote intrapreneurship and types of external academic engagement with industry while others have established technology transfer organisations and industry-science links as integral to the university. This paper explores perspectives against and for the phenomenon, with strong arguments and selected case examples in support of entrepreneurial universities.

## Keywords

entrepreneurial university; neoliberalism; university  
business cooperation (UBC); capitalism; the  
Matthew effect; higher education models; triple helix;  
co-production

**JEL Classification** O1

## INTRODUCTION

The business-like university is not associated with public institutions, although the third mission (to generate a third stream of income) of public higher education institutions (HEIs) is steadily becoming entrepreneurial. The entrepreneurial university (both public and private institutions) can be defined as a natural incubator that attempts to provide a beneficial environment in which the university community (students and academia) can explore and evaluate ideas that could be transformed into social and economic entrepreneurial initiatives, partnerships and benefits. Entrepreneurial universities are therefore open for engagement and therefore involved in partnerships, networks and other relationships to generate an umbrella for interaction, collaboration and co-operation with industry and government. Becoming an entrepreneurial university has been identified as not only necessary but also the solution for both economic and contemporary higher educational challenges. The idea of becoming an entrepreneurial university can be seen as the result of a broader globalized higher education (HE) sector within a new HE model. Traditional institution-specific characteristics of universities are not the only predomi-

nant factors determining what a university should do and how it should be organised. Although conventional traditions must be retained and carefully treasured, the implication is that universities will not remain the same since natural evolution and formal changes to university structures are transforming internal cultures, social relations and functional integration in new ways not yet foreseen.

Although complex, the phenomenon confronts the third mission of the university. Loi and Chiara Di Guardo (2015) refer to the third mission of universities in their investigation of the espoused values as “an invisible revolution”. They note different orientation patterns such as the need for coherence, exploitation, readiness to participate in external change and to satisfy external needs, and the old school focusing on entrepreneurial activities as a source of funding. It shows a complex phenomenon for the institutionalization of the third mission with respect to a simple binary public-private opposition.

In challenging the imposed order of things, Beckman and Cooper (2013) present a strong argument in terms of global neoliberalism and managerialism in HE in England. Van Niekerk (2016, p. 39-41) addressed this “market-corporate ethos” by using the works of Barnett and the recent work by Barnett (2015) specifically addresses the re-thinking of the university with a warning against the entrepreneurial movement defined by the era of its marketisation. Their concerns are the transformation of the student into a customer, and the false dichotomy of managerialism and collegiality. On the other side of the spectrum, several universities are beyond the debate in terms of justifying the natural evolution and development of entrepreneurial universities as much more than an idea of our time. Entrepreneurial university scorecards are introduced and progress can also be observed in terms of growing student employability and the global graduate attributes of the so-called entrepreneurial- and innovation-literate as dimensions of the university’s role towards a nation’s innovation engine. The recent UII conference (2017) in Dublin provided evidence of a study conducted in 34 countries indicating how academia increasingly gets involved in UBC with keynote speakers such as Todd Davey (Director of the Global UBC monitor) and Mark Jefferies (Chief of University Research) at Rolls Royce.

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## 1. PROBLEM STATEMENT

The lack of objective understanding of the entrepreneurial university phenomenon may lead to unnecessary conflict and confusion. The primary arguments for and against the phenomenon therefore need to be identified. Knowledge management must evolve and perspectives for both arguments are needed to clarify the problem. Neoliberalism, for example, is not the only argument against the entrepreneurial university. Similarly many other bodies of thought and different HE models promote the entrepreneurial university. Living in an age of super-complexity has already affected the ethos of the traditional university without a simple conclusion of its being good or bad. Entrepreneurship is not the solution to ‘everything’ but its importance can also not be denied. The untapped potential of higher education institutions (HEIs) is a known fact in terms of its inherent value relating to intellectual property and imbedded knowledge and research out-

puts that are not exploited or utilized to their full potential. This reality does invite more entrepreneurial thinking but it may not by default imply that the HEI must apply the commercialization thereof as core business. The university must be a producer of well-educated and employable students, but the modern university as an open system is acquiring the know-how to work ‘out of the box’ to commence with industry science links, to engage in the process of university business cooperation (UBC) in different terms and by means of technology transfer organisations. Most universities are in the business of complacent community engagement, but some are re-defining their third mission: seeking active networking, helping students to begin businesses and driving the HEI to financial independency. This practice could make a significant contribution to the multiple global economic challenges in need of solutions for economic growth. The arguments for and against the entrepreneurial phenomenon needed to be explored.

## 2. RESEARCH METHOD

To address the problem, a qualitative approach was used for the specific purpose of finding strong arguments for and against the phenomenon. Plowright (2011) supports integrated research methodologies with elements of observational research. The research was exploratory and did not commit to a singular paradigmatic research practice. The methods used to explore the problem were primarily based on different types of secondary data beyond scholarly articles. Saunders, Lewis and Thornhill (2012, p. 307) categorize these multiple types of secondary data into three categories, namely documentary, survey and multiple-source publications. In terms of the quality of the research process, the assumption of reliability and validity is a function of the source of data (such as the university itself), in terms of its origination, providing a true account of the phenomenon. The two primary sources utilized were:

- Secondary data in terms of longitudinal text, published literature, published websites and published conference proceedings of selected university cases available in the public domain. A mono-method in terms of qualitative exploratory research was therefore used in the literature study of published cases.
- Observation of institutional text documents, reports, non-text artefacts and exhibiting displays not readily available in the public domain was done by means of personal observation and personal networking during entrepreneurial university visits in Europe and the UK.

## 3. RESULTS

The results of all the sources are integrated, but categorised in terms of (1) bodies of thought against the entrepreneurial university, (2) bodies of thought regarding the entrepreneurial university and (3) examples of developments at entrepreneurial HEIs.

### 3.1. Bodies of thought against the entrepreneurial university

On the one extreme is the neoliberal view against the entrepreneurial university. Fundamental to this argument the researcher used the work of a senior professor in educational foundations from the University of South Africa (Unisa). For this perspective the work of Van Niekerk (2016) was thoroughly analysed by means of a personal interview (with full written consent) and her published work. In general her work strongly appeals against the related UBC and triple helix concepts as indicated.

#### 3.1.1. Neoliberalism

Beckman and Cooper (2013) refer to global neoliberalism that relates to the sentiments and work of Van Niekerk (2016) who in turn supports the work of Giroux (2014) on the war of neoliberalism on higher education. Beckman and Cooper's (2013) strong warning signals have merit even if merely for the sake of balance. They are concerned about a predominant consumerist value system and the neglect of teaching tasks in favor of quantifiable (incentivized) research outputs at the cost of teaching tasks. This mode of thinking works against the notion of commodification of education, and in academia the notions of 'publish or perish' and 'fast-tracking' to speed up promotions need to be seriously revisited (Van Niekerk, 2016, p. 43).

Van Niekerk (2016) is a strong advocate against the triple helix body of thought and therefore gave full consent to use her work. She supports a humane value system, promoting quality education, and an ethos of tolerance with a view to fostering the common good in society. The afore-mentioned authors' mode of thinking is based on humane values of compassion, human dignity and social justice, something which clearly differs from the reductionist commodification and profitability of knowledge favored by market fundamentalism and the grounding discourse for the current UBC alliances. She believes such a state of affairs eventually leads to a devaluing of learning as a lifelong process.

She reflects on the changing nature of the university during times of super-complexity. Her respected plea for an appropriate sense of slowness

and a focus on the academic core is commendable. She believes this will enable the institution to function more reflectively and appropriately (Van Niekerk, 2016, p. 27). She questions the prevalent market ethos of university education worldwide currently dominated by a discourse of a fixed market-like corporatism, where knowledge is largely commodified and the university is primarily seen as a profitable business accountable to its 'customers' and the State. She strongly draws on the works of Barnett (Van Niekerk, 2016, pp. 39-41) who describes the age of super-complexity as being characterised by uncertainty, unpredictability, challengeability and continual emerging interpretability, which all have an impact on self-identity. She argues that a dominant market mode of thinking in terms of the prevalent market-corporate ethos (Van Niekerk, 2016, p. 39) is not conducive to the optimal role universities have to fulfil. Neither is the business model adopted by universities conducive to innovative research and the creation of new knowledge.

Van Niekerk (2016, pp. 29-32) may contradict herself in her recent work, preferring universities not to be closed, but open, dynamic and complex systems. This opens potential engagement with external stakeholders who may need to work in partnership with universities. If this is done ethically, the university does not necessarily become a reductionist market-driven corporate entity. She acknowledges the importance of knowledge production, denying the importance of engaging with the market as an open system. She also acknowledges the changing technological world without recognizing the immense potential of university intellectual property created by the university and for the university in terms of commercialization.

She concludes her plea stating: "...an appropriate sense of slowness is especially advocated to promote good quality education, to retain our humanity, and to address the past injustices and promote an ethos of tolerance with a view to fostering the common good in society".

### **3.1.2. The deceptive beauty of entrepreneurship**

Regardless of the types of entrepreneurship in terms of social entrepreneurship to create social value or commercial entrepreneurship to make

a profit, entrepreneurship is not the solution to everything and the prolific work of Giroux (2014) challenges the entrepreneurial university movement allowing the forces of neoliberalism invading traditional higher education with its vicious and predatory excesses that have damaged the American economy. The hostile corporate takeover of higher education in North America is described as being relentless in its defense of a society in need of quality education. Giroux exposes the corporate forces at play and charts a new, inspired and sober course of action against the shadows of market-driven education. This warning against the 'deceptive beauty' of an entrepreneurial university culture are made clear in the phrases: 'dystopian education in a neoliberal society', 'universities gone wild', 'intellectual violence in the age of gated intellectuals' and 'urgency of public intellectuals in academia'.

### **3.1.3. University state independence**

The independent university signals a pure, entrepreneurial model regarded as extreme and unrealistic. Shattock (2010) refers to the entrepreneurial university as an idea for its time, but also describes the widespread influence of the entrepreneurial idea particularly in Europe and discusses its relevance a decade or so after its first formulation. The work argues that creating entrepreneurial universities had a major impact on the way European universities thought about the appropriate balance between institutional autonomy and state control. It caused a major concern for self-management which had hitherto lain dormant. It also raised the important question of the relationship between the organisational framework necessary to assist institutional self-reliance and the conduct of academic work.

Shattock (2010) comments on the work of Clark (2004) that has provided a starting gun for recapturing institutional self-reliance. Clark's assertion of the importance of organizational structures and culture and the way in which they shaped academic work was original and set up a whole new collection of research questions. He consequently set alight a flame of institutional independence in a way that no one else in the field of higher education study has done before.

### 3.1.4. *Capitalism of academia*

Taylor (2012) refers to Burton Clark's 1998 monograph (*Creating entrepreneurial universities: Organizational pathways of transformation*) as a seminal work in the literature on entrepreneurialism in universities. Although he affirms that the entrepreneurial culture that Clark identified more than a decade ago still persists at Warwick University, he also warns against academic capitalism. He states that an entrepreneurial university actively seeks to innovate in how it goes about its business but will need a substantial shift in organizational character so as to arrive at a more promising posture for the future. Although entrepreneurial universities seek to become 'stand-up' universities that are significant actors on their own terms, this may not be a realistic approach for everyone. In terms of the dangers of defining university entrepreneurialism more loosely, the university must realize the challenges to be dynamic, flexible, self-reliant and positively opportunistic whilst maintaining the highest academic standards. Academic leadership will have to be integrated with business leadership and no matter how dynamic and flexible the leadership of a university may be, simply engaging in forms of near-market activity as a kind of expanded developmental periphery and thereby developing a diversified funding base may lead a university into commercialism and a culture of 'academic capitalism' rather than entrepreneurialism. The love of money, however, does not make money immoral because all resources are amoral.

## 3.2. Bodies of thought for the entrepreneurial university

On the other extreme Ferreira and Steenkamp (2015) reported on perspectives in support of triple helix, UBC and the promotion of entrepreneurial universities based on a thorough content analysis of 45 case studies, triple helix concepts (the founder and institute), the general status of UBC in Europe, typology of UBC interactions and the core advantages of the entrepreneurial university in terms of additional value creation, the improvement of student employability and university responsiveness to market needs. This work, and recent related works, were analysed and used to

explain this other extreme perspective of the research problem if universities must be engaging entrepreneurial institutions.

### 3.2.1. *Triple helix*

The best universities in the world are engaged universities. The triple helix concept can be regarded as a body of thought referring to knowledge spaces brought about by inter-related roles of engagement by government, academia and business as triple helix actors. Multiple cases of institutionalised civic entrepreneurship through triple helix interactions exist and are shared on different platforms such as the annual UII conference.

Ferreira and Steenkamp (2015) explored the 'triple helix' concept in terms of corporate perspectives and corporate innovation. The triple helix concept and the Triple Helix Association ([www.triplehelixassociation.org](http://www.triplehelixassociation.org)) originated at Stanford University (one of the top three universities in the world) under the leadership of Professor Henry Etzkowitz who delivered a keynote address at the UII Conference (2013). The Massachusetts Institute of Technology (MIT) is rated the best university in the world and also the benchmark for triple helix consultation. They provide a body of knowledge to help universities to cooperate with industry and government, to develop innovative markets, to promote more innovation-friendly financial institutions and to make universities interactive entrepreneurial partners in the broad national innovation systems (Ferreira & Steenkamp, 2015, p. 497).

Ferreira and Steenkamp (2015, pp. 499-500) also notes that triple helix is the new wave of the future in terms an academic revolution. They describe this revolution with the fact that consulting professors are better teachers in terms of professors of practice (POP) and more industry PhDs are needed and the drive towards entrepreneurial universities will be assisted in future by professional bodies comprising of experts and accreditation programmes for entrepreneurship and engagement at institutional level. Related secondary sources are the Lahti University for Applied Sciences, the University of Adelaide (<http://ecic.adelaide.edu.au/>), Saxion University



of Applied Sciences (<http://www.saxion.edu>) and TTT (Technology Transfer Tactics) (<http://www.technologytransfertactics.com>).

### **3.2.2. Industrial revolution**

The imminent technological revolution will fundamentally alter the way we work, live and socialize. By the look of modern society and the speed of change, its scope, scale and complexity will be unlike anything the world has experienced before. A pro-active approach towards this transformation implies active attempts to anticipate change by the global polity, from the public and private sectors, academia, HEIs and civil society.

Audretsch (2014) refers to the entrepreneurial university for the entrepreneurial economy and examines how and why the role of the university in society has evolved over time. The paper argues that the forces shaping economic growth and performance have also influenced the corresponding role of the university. The economy has evolved from being driven by physical capital to knowledge and then again to being driven by entrepreneurship; indicating how the role of the university has also evolved over time. While the entrepreneurial university was a response to generate technology transfer and knowledge-based start-ups, the role of the university in the entrepreneurial society has broadened to focus on enhancing entrepreneurship capital and facilitating behaviour to prosper in an entrepreneurial society. As the university has evolved from the purity of the Humboldtian model, to the demands made on it as first a source for knowledge fueling economic growth, and subsequently as a hothouse for technology transfer and start-ups, and finally as a leader for thriving in the entrepreneurial society, the complexity and ambiguity in the mission of the university has also increased. Perhaps it is the ability of the university to both adhere to its traditional strengths and to adapt to the needs and concerns of society that has made it one of the most resilient institutions in society.

Lo Presti (2015) recently presented cases of microelectronics for the high technology evolution to support the fourth industrial revolution. The University of Adelaide promotes innovation through research, tuition and community engagement, by means of its entrepreneurship, com-

mmercialization and innovation centre (<http://adelaide.edu.au/>). Another example is the Saxion University in the Netherlands, with its research centre that focuses on innovation and entrepreneurship (<http://www.saxion.edu>). Some universities 'ride on smaller waves', as it was, but it is impossible to ignore the global waves of modern invention.

### **3.2.3. The Matthew effect**

Observations during university visits provided significant artefacts and documents. Technology transfer organisations could be observed and information could be obtained. These visits were all positive in terms of the entrepreneurial culture. The University of Strathclyde (Glasgow, Scotland) was awarded as the entrepreneurial university of the year and they confirmed a variety of entrepreneurial practices promoting research. Similar experiences were also gained in the Netherlands and Germany.

University management seeks a win-win situation by providing more opportunities for academia. Most HEIs provide exposure opportunities for staff for personal development, job creation and research. The logic of engaged academia predicts more exposure to practical learning and publishable research opportunities. Van Looy, Ranga, Callaert, Debackere and Zimmerman (2004) report on a study indicating how scientific performance and entrepreneurial activity among academia promote research outputs. The exposure to more creative opportunities and the types of industry – science links complements the areas of research and outputs. Van Looy et al. (2004, p. 438-439) state that as resources increase, this interaction becomes more significant, pointing towards a Matthew effect. They conclude that division members publish more than their faculty colleagues. The Matthew effect applies not only to the number publications, but also to the nature and variety described as differential publication rates.

### **3.2.4. Higher education models**

Sam and Van der Sijde (2014) help us to understand the concept of the entrepreneurial university from the perspective of higher education models. The idea of an entrepreneurial university is widely accepted, but not always well understood. Their re-

view of the taxonomy of the three European higher education models, namely the Humboldtian, Napoleonic, and Anglo-Saxon models, is followed by a discussion on the emergence of the Anglo-American model of higher education. These models were spread around the world during the colonial period (the nineteenth and twentieth century).

The Humboldtian model relates to research-based learning. Research becomes a central area of study with academic freedom in modern higher education research and learning. This model has a centralized system of governance. The Napoleonic model focuses on high-level vocational training. Vocational and technical training is crucial in preparing students for the rapidly professional changing labor markets. This model reflects a centralized system of governance. The Anglo-Saxon model focuses on personality development through liberal education. Soft skills are emphasized in modern higher education to enable students to act flexibly and intelligently in a changing and challenging environment. It is characterised by professionalism, institutional autonomy or self-governance.

The Anglo-American model encompasses all the basic features of the European models. Research, technical training and professionalism are being incorporated in contemporary higher education worldwide. This model supports a decentralized system of governance, and entrepreneurialism of higher education institutions is critical for the competitive academic market place. This model has been exported back to Europe and has now become the dominant system in the world as a whole in terms of massification, governance, program structure, and independent funding. It is clear that knowledge-based society has shaped the role of university. Despite the various definitions of the third mission, the one related to entrepreneurship for economic development is at the core.

### **3.2.5. Types and levels of university – industry interactions**

The options of choice are multiple and some universities may afford to remain conservatively isolated, although it seems as if no HEI can afford to remain under the old schools of thought. In principle, the different degrees of entrepreneurial activity surely provide for freedom of choice. Although many busi-

ness relationships commence on an informal basis, they may develop into taking things to a next level in terms of formal interactions. These interactions can be formulated differently. Ferreira and Steenkamp (2015, p. 498) refer to Baraldi and Forsberg (in UII Conference, 2013) who crafted variables of such interactions that contributed to a typology of university – industry interactions in terms of five main types, namely participation, co-operation, collaboration, relationships and potential interaction and based on dimensions such as depth, type of exchange, intensity and duration.

## **3.3. Examples of developments at entrepreneurial higher education institutions**

### **3.3.1. The Kennispark concept**

The Kennispark concept (similar to the science parks) is an open display of new inventions and innovation. This promotes networking and industry involvement. The University of Twente became number one in the valorization ranking of Dutch universities. This university was awarded the ‘Most Entrepreneurial University’ of the 13 Dutch universities and Twente had the highest number of spin-off companies (40) in 2012–2013. Wide-ranging incubator programs to create institutionalized ‘idea factories’ are part of the entrepreneurial university, breeding creativity to incubate new technologies. The University of Twente is regarded as the most enterprising university in the Netherlands, and a personal visit to the campus in Enschede and its unique Kennispark in 2015 provided significant data and artefactual evidence of the best Dutch business park. It is a creative, unconventional campus described as the ‘spin-off university of Twente’ in the most entrepreneurial high-tech region of the Netherlands. The head office of the UIIN (University Industry Innovation Network) is also situated next to the University of Amsterdam in the science park of Amsterdam. Another university in the Netherlands with its science processes on display is the De Haagse Hogeschool (part of the Delft university) who held their recent International Festival of Technology in June 2017. The Technische Universität München is also known as ‘the entrepreneurial university’ and takes part in more than 20 collaborative research centres.



It is one of the most research-focused universities in Germany and Europe, and has a subsidiary of a German university abroad, namely the German Institute of Science and Technology in Singapore.

### **3.3.2. Universities as enterprises (Uni-prise)**

The educational traditionalists will always be cautious to categorize HEIs as enterprises. Several universities, however, investigate the 'uni-prise' concept and the potential of universities for entrepreneurial ventures. The following are examples of academics who have shown an interest in such an approach: Claudia Bremer (Studium digitale, Zentrale eLearning-Einrichtung der Goethe-Universität Frankfurt/Main), Matthias G. Raith (Otto-von-Guericke-Universität Magdeburg, Interaktions-zentrum Entrepreneurship, Lehrstuhl für Entrepreneurship), Bodo Vogt (Otto-von-Guericke-Universität Magdeburg) and Johannes Wildt (Technische Universität Dortmund, Hochschul-didaktisches Zentrum) (UII Conference, 2013) in Ferreira and Steenkamp (2015, p. 505).

### **3.3.3. Fostering an entrepreneurial culture**

The visits to the entrepreneurial universities also entailed the experience of culture (the internal climate, norms, behaviour and internal personality of campuses). The campus environment and entrepreneurial atmosphere with science parks and entrepreneurial project displays are indicative of the culture of the university. Various reports (UII Conference, 2013) have noted work being done to promote an entrepreneurial culture at universities. Examples of such reports are subsequently highlighted.

Ferreira and Steenkamp (2015, p. 503) specifically notes Paul Coyle (University of Wales) who reports on fostering an entrepreneurial culture in universities in order to support university – industry interaction. The study reports on the model set of entrepreneurial attributes that have been applied to all staff in a university and a range of development activities for an entrepreneurial culture. The report provided a definition of entrepreneurial leadership and provides associated attributes in use at the University of Wales, Newport. The entrepreneurship office at the University of Koblenz-Landau (Gründungsbüro) has also developed an 'Index of entrepreneurial climate'.

Ferreira and Steenkamp (2015, p. 505) also note Simon Denny, Wray Irwin, Bill Toyer, Chris Durkin and Chris Moore (all from the University of Northampton) who reported on developing a socially entrepreneurial university. Higher education in the UK is facing unprecedented change and the report focuses on the genesis of the strategy, its key components and the elements that are needed to change a university into a socially entrepreneurial university. In addition Patricia Mannix-McNamara (Research Centre for Education and Professional Practice, University of Limerick), Tommy Foy (Human Resources, University of Limerick) and Pat Rockett (Employee Relations and Equality, University of Limerick) reported on promoting an entrepreneurial disposition through strategic planning and quality of work climate insights from the University of Limerick in Ireland and the level of job satisfaction was above the national HEI norms.

Practical experience is specifically underlined and Ferreira and Steenkamp (2015, p. 507) refer to the report by Victoria Galan Muros (Science-to-Business Marketing Research Centre) on the influence of experience in the degree of UBC. The increasing importance of the collaboration between the triple helix participants is clear, but the level of co-operation between academics is different. The survey among 4 321 academics from 33 European countries indicated that prior experience in business significantly increases the chances of academics having a higher level of co-operation in any format of UBC.

### **3.3.4. The entrepreneurial university scorecard**

Universities are now measured how well they do in terms of entrepreneurial dimensions. The work of Ferreira and Steenkamp (2015, p. 503) refer to the report by Kornelia van der Beek (University Koblenz-Landau) and Sandra Speer (University of Koblenz-Landau) on the evaluation of entrepreneurial universities (UII Conference, 2013). It elaborates on different existing evaluation approaches and introduce the University Entrepreneurial Scorecard and a guiding framework as a benchmarking ([www.entrepreneurialuniversities.eu](http://www.entrepreneurialuniversities.eu)). Another instrument has been developed at the University of Koblenz-Landau and is widely used in Germany.

### **3.3.5. Collaboration between small enterprises and researchers**

Another example of sharing knowledge used in the report by Ferreira and Steenkamp (2015, p. 504) relates to small to medium-sized enterprises in need of reinforcement for either survival or how universities can be the catalyst of growth for SMEs. The case (UII Conference, 2013) noted is an example of the important partnership between small business managers and the following university researchers, Bettina Dencker Hansen (Aarhus University), Flemming K. Fink (Aarhus University) and Rikke Wetterstrøm (Aarhus University) reports on the facilitation of knowledge collaborations between researchers and SMEs. The project is referred to as the Genvejtil Ny Viden launched in 2011 and funded by the Central Denmark Region and the European Union Regional Fund with the overall aim of the project to further innovation and development in SMEs through knowledge collaboration between SMEs and researchers from Danish and foreign universities. Genvejtil Ny Viden suggests a way to stimulate knowledge-based innovation and one of the prerequisites for success is that the process is demand-driven and tailor-made, and that collaboration between the partners is well facilitated.

### **3.3.6. Fostering innovation and co-production**

The following two example cases illustrate the importance of universities as open systems (in contrast with those who are against the triple helix movement) in terms of innovation and co-production. E. Keravnou-Papailiou and C. Chrysostomou (Cyprus University of Technology) report on fostering innovation and entrepreneurship through joint initiatives with industry (UII Conference, 2013) in

Ferreira and Steenkamp (2015, p. 506). The Cyprus University of Technology has set nine strategic goals for 2020 and one of these is the linkage with the productive fabric of the country. Secondly, Damir Isovich, Christine Gustafsson and Fredrik Wallin (Mälardalen University) report on the co-productive university: education and research in co-production with the wider community. Mälardalen University has a long history of a successful co-operation and co-production with the industry and public sector in Sweden and this has resulted in its becoming one of the leading higher education institutes in Sweden for excellent co-production.

### **3.3.7. The university – industry interaction (UII) conferences**

The well-attended annual UII conferences are indicative of the modern entrepreneurial university. The university industry innovation network brings together academia and practitioners based on five principles: a mixture of science and practice, experiencing the local culture and knowledge facilities, insights into the minds of renowned leaders, getting to work through hands-on workshops, and expanding networks and the knowledge base. The themes of the conference will in future focus on core functions of the new generation entrepreneurial universities, knowledge transfer between HEIs and industry, employability (graduate work readiness), work-based learning, leveraging global competencies for employability, technology transfer organizations, knowledge management, intellectual property, industry – science links and innovation for entrepreneurship ecosystems and related best practices – all very topical for universities that overcame the fear of neoliberalism.

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## **CONCLUSION**

The entrepreneurial university and the Anglo-American model of HE may be the norm in Europe but it is clearly not yet fully accepted world-wide. The explorative investigation addressed the problem to gain a better understanding of the phenomenon by means of arguments based on bodies of thought, facts and cases for and against the entrepreneurial university. The arguments against the entrepreneurial university seem to be grounded on the premise that a business and profit approach by public universities is predominantly bad, making a mockery of higher education. The primary concerns pertain to placing academic standards at risk, and the corporatization of the academy. The arguments are similar to those of Beckman and Cooper (2013), Barnett (2015) and Giroux (2014), who refer to dystopian education. The other arguments against the phenomenon are the deceptive beauty of entrepreneurship as the solution to everything, the notion to become a state-independent university and academic capitalism.

After examining the arguments it appears that there is not a war against higher education based on pure neoliberalism. The threats and dangers of entrepreneurial universities must rather be identified for risk management. Similarly one may argue that the same risk management approach must be followed for those who choose not to be entrepreneurial. The arguments for entrepreneurial universities in terms of UBC and the triple helix concept have a bearing on the eminent industrial revolution, the natural evolution of HEIs, the Matthew effect, the development of higher education models and the types and levels of university – industry interactions. The cases and developments of entrepreneurial HEIs were also indicative of the Anglo-American model of HE. The aspects highlighted were the triple helix concept, the Kennispark concept, universities as enterprises (Uni-prise), fostering an entrepreneurial culture in universities, the entrepreneurial university scorecard, collaboration between small enterprises and researchers, and fostering innovation and co-production between universities and industry. The modern university (and the top universities in the world such as MIT, Stanford and the University College of London) adopts a new kind of knowledge management (KM) with established industry – science links and technology transfer organisations actively engaging in different configurations of UBC. From the arguments of this explorative investigation one can create the hypothesis that the bodies of thought against the entrepreneurial university will not withstand the overwhelming progress made and advantages gained from the Anglo-American model of HE.

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