

Epistemological and Ontological Discourses on the Role of Universities in the 21st Century

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Abstract: Worldwide, institutions of higher learning are challenged to transform themselves to play a decisive role in an ever-changing environment. Viewed from an open system theory, these institutions like any other organizations are to discover, contextualise and employ appropriate and deliberate strategic planning, management strategies and tools to address the needs and aspirations imposed by these environments. As such, universities are compelled to configure and revisit their roles and models for them to impact positively on their immediate environment and wider stakeholders. Thus, the existence of universities as social institutions implicates them to transcend their traditional role from teaching and learning and improve their research and community engagement to using knowledge as a social tool to transform society. This paper therefore provides an ontological and epistemological analysis of the traditional and emerging roles played by universities in the 21st century. The author made use of various models to assess and understand evolving roles of universities and their implications for a wider societal transformation. These models range from the metaphysical, scientific, entrepreneurial and bureaucratic to liquid, therapeutic, authentic and ecological models. Within a single university, the research university, the entrepreneurial university, the bureaucratic university, and even the corporate university have a presence and influence. However, the question is how does the modern university navigate all this branding and roles, and still maintain its status and identity of being a university. Due to pressure from both the immediate and wider environment, the paper argues that universities have no option but to adopt to the ecological university model if they are concerned about playing an active and impactful role in transforming society.

Keywords: Developmental university, Ecological university, Epistemological, Ontological discourses, Role of Universities

1. Introduction

In the context of African universities, issues of transformation, access, quality and curriculum revamping are of the utmost importance. Within this transformative agenda for African universities, is the imperative for Africanising or endogenising these institutions to serve the intellectual and developmental needs of the African people (Crossman, 2004). In this context, Mamdani (1997, in Makgoba & Chetty, 2010:3) challenges African universities as an opportunity for 'producing knowledge' where the African condition and the African identity are considered as their central problem and which further recognises the African condition as historical. Mostly affected are the South African higher education institutions which for decades had operated under Bantu education designed to promote mediocre and inferior qualified scholars. This the kind of education Verwoed envisaged for the Blacks based on the view of them as 'hewers of wood and drawers of water' (in Sehume, 2018:15). The legacy of Bantu education and its adverse effects still continue to

undermine the potential of black students whom the majority of them attended mediocre and poorly managed schools. Considering the discriminatory system of Apartheid, imperatives for equity, redress and development of higher education was prioritized post-1994 era (Balintulo, 2004). This paper therefore provides an ontological and epistemological analysis of the traditional and emerging roles played by universities in the 21st century. The author made use of various models to assess and understand evolving roles of universities and their implications for a wider societal transformation.

2. Concept of a University

Universities are social institutions charged with the responsibilities of teaching and learning, conducting research and community engagement. Traditionally, these functions comprise the core business of the university (Uys *et al.*, 2010). Although teaching and research form the core business of the university, the university is also expected to be responsive to the communities in their proximity. The trio

functions of universities of teaching, research and community engagement underlie the traditional roles of universities. These functions help to define a university within the broader higher education institutions. From the developmental role, a university is associated as an ancillary, self-governing institution, an instrument with a development agenda, and as engine of development (van Schalkwyk & Bailey, 2013:157-158). As such, universities should be conceptualized as part of the broader institutions of higher learning designated to produce knowledge and disseminate such knowledge to a broader society. At the centre of the notion of a university is the production of knowledge with scientific and scholastic rigour. In essence, a university is a community of scholars, people who apart from teaching and learning, indulge in ground breaking research and further extend their scholarship through community or social engagement. A university is an institution of higher learning where learning takes place more from those people, those ideas, and those phenomena from unknown circumstances (Brink, 2016:115). Through institutions of higher learning, universities included, knowledge is generated and an environment for creativity and innovation is created to produce scholars and theorists. The Oxford Dictionary (1990:1339) defines a university as an educational institution designed for instruction, examination or both, of students in many branches of advanced learning, conferring degrees in various faculties and often embodying colleges and similar institutions. Beyond institutions of higher learning being custodians of knowledge, production and dissemination, these knowledge-based institutions also play an active role in helping individual citizens, governments and whole societies in their planning and managing of human capital. As a community of students, academics and support staff, their core business is directly or indirectly engaging in the educational process (Mkhize, 2014:108).

3. The Place of Universities in the South African Transformation Agenda

In South Africa, universities are central in developing capable and committed human resources within the parameters of social transformation (Tshishonga, 2016). The higher education sector since 1994 was envisaged to transform itself in order to bring about broader societal transformation. As such, Ramphele (2008:196) argues that higher education is a platform for the practice of high-level human and intellectual work and the training of current and

future generations of professionals, scientists and technological experts. However, it is not only imperative, but also a strategic deployment and capacity builder. Arguably, the Commonwealth Expert Group Report (1991:7) states that:

[t]he true challenge of human resources development in South Africa is to assist the process of political change, redress the inequalities and poverty bequeathed by the apartheid state, and contributes to transforming those mental stereotypes which foster vision and discord within the South African society.

In this regard, universities and other tertiary institutions play a pivotal role in building human resources towards creating a knowledgeable and responsible society. More than twenty years into democracy; South Africa is still suffering from poorly educated, unskilled and incompetent human resources. As evidenced through poor performance records regarding delivery of sustainable services, the public sector is crippled by poorly skilled and incompetent civil servants. Although Nengwekhulu (2009:351) notes that public service delivery failures should not be blamed only on skills deficiencies and shortages, but also on other critical factors. This situation is further aggravated by unfilled strategic posts across all the spheres of government which is also accompanied by a laissez faire type of leadership ill-equipped to make strategic decisions, particularly at a managerial level. In this regard, Ramphele (2008) suggests that in order for the public sector to address the legacy of apartheid, service delivery backlogs, skills and state capacity constraints, transformative leadership is imperative.

Human resource development is essential since skilled and competent human resources become central in terms of bringing about lasting and positive changes aimed at empowering both the employees and the institutions themselves. Human resource development in this context has the ultimate outcome of human betterment through achieving effective performance. Within the public sector, Ferreira (2008:204) advocates for a holistic approach towards the development of human resources to entail training, education, and staff rotation, attendance of workshops or conferences. In addition, human resource development is associated with effective and efficient service delivery to the public and in particular, poor communities who are wholly dependent on government institutions

(ibid, 205). Surprisingly, despite government public policies such as the Skills Development Act (1998) aimed at upskilling the South African workforce and the White Paper on Public Service Training and Education (1997) which provides a policy foundation aimed at transforming public service training and education into a dynamic, needs-based and proactive instrument, the South African workforce is still underperforming. Education for human development is fundamental to South African society, a society ridiculed by a dire need for skills, knowledge and competencies to run the country democratically and professionally. Given the Bantu history of apartheid, it is therefore no surprise that upon the advent of democracy as Picard (2005:117) argues that 'Black people in the main were not equipped, either by education or by temperament for success in the new South Africa'. Transforming higher education for human development rests on the imperative to 'enlarge people choices' and the process of enlarging people's choices according to the UNDP (1990) entails empowering them to achieve their potential to lead fuller and more productive lives. Similarly, as the human development paradigm is to higher education transformation, the development of human capabilities and empowerment of people is central as using those capabilities would enable them to participate in the development process (UNDP, 2000). According to UNDP (2000), transforming education for human development involves the creation and adherence of non-racialism, non-sexism, and a unified system with democracy and redress. Education in this regard is linked to the broader transformative agenda of South African society and further to enhance people's education for people's empowerment.

4. Ontological and Epistemological Role of a University

Scholars both nationally and internationally are in agreement that the role of universities in society needs to be enhanced and revisited in line with the developmental state and knowledge economy imposed by globalization (Universities are public entities funded from the public purse; hence, their role should transcend their immediate environment). The growing demand of accountability to society is justified. There are at least two reasons for these demands; the first one is based on the role that these universities played during the apartheid era. The National Party used them for the propagation and establishment of its policies

which discriminated against the black majority and excluded them from decision making processes. They were structured in a way that favoured white superiority. The second one is based on the needs and expectations of the current government that all higher education and training institutions should be responsive and accountable. The strategic plan of the current Department of Higher Education and Training (2010/11-2-14/15) envisages higher education and training institutions that have inclusive institutional cultures, respectful of differences, supporting learning and development. Institutions need to prepare students for a democratic and diverse society that are producing students who are socially conscious, have sense of citizenship and respect for human rights and democratic values. Arguably, unless the power relations and the structural inequalities are addressed, universities still have far to go before they can play a meaningful role in promoting citizenship and public good. Research shows that their structure, culture, attitudes and behaviours have not changed much from what they were during the apartheid era and this is constraining progress in fulfilling their role in the current dispensation. There has been commendable progress made by the Department of Higher Education and Training in terms of the policy framework and the creation of an environment suitable for the university to execute their social roles, and by the universities themselves in terms of the programmes and projects that they have implemented. However, there are still challenges which require the attention of all higher education stakeholders to deal with, particularly the unfinished business of transforming universities with an African identity. The students through the FeesMustFall campaign reminded the nation not only that South Africa is a middle income country, but its education system has not transformed adequately enough to offer accessible, quality education that is a panacea to most of (South) Africa's challenges.

In contemporary society, the production of knowledge, research and scholarship in universities should be located within transdisciplinary and interdisciplinary research (Holness, 2015). In this context, Habermas (in Du Plooy-Cilliers, 2014:21) differentiates three ways of generating knowledge namely; practical, technical and emancipatory knowledge. Importantly, this categorization of knowledge is social knowledge acquired through the process of living and human engagement. Technical knowledge represents scientific knowledge, such knowledge is

based on proven or scientific facts, and emancipatory knowledge is transformative in nature and is an amalgamation of both social and scientific knowledge (Hope & Timmel, 1984:14). Similarly, these types of knowledge are advanced in order to develop a critical awareness in society. Thus, the integration of knowledge areas is imperative for government to function effectively, efficiently and productively. Since government and its institutions affect people and other sectors such as private and civic problems researched, outputs are produced by scholars and students of public administration transcend linear disciplinary focal discourses. Two trends could be attached to the emerging transdisciplinary and interdisciplinary research focus. The first trend relates to the genesis of the New Public Management (NPM) and its reliance on models, approaches and practices as benchmarks from the private sector (Minogue, 1998). According to Baker (2004:42), NPM is orientated more towards cost cutting, tax reducing concerns of the developed states for capacity building and development. Thus, Garson and Overman cited in Vigoda (2003:2) associate NPM as an interdisciplinary study of the generic aspects of administration...a blend of the planning, organising and controlling of management with the management of human, financial, physical, informational and political sources. The second trend emanates from globalisation and its cross pollination of ideas and challenges across the globe through the advancement of technology. Due to globalisation, knowledge production through research assumes different forms and themes as the problems faced are encountered beyond the nation states. As a result, funding university collaborative research initiatives are encouraged within and among institutions of higher learning and other international knowledge production formations. Thus, knowledge production in an informational society is subjected to the scientific bodies for applicability, validity, and reliability. Universities and other institutions of higher education are challenged to produce postgraduates, especially PhDs in natural sciences and other faculties. However, with the crisis of governance and development overwhelming the public sector, especially in the developing world, universities are challenged to produce knowledge that would therefore impact on policies and developmental programmes. With the dawn of the fourth digital industrial revolution, Marwala (2018:17) advocates that South Africa should incorporate artificial intelligence into their education system. Stakeholders such as universities,

industries, the financial sector and society are considered as important stakeholders in taking the fourth industrial revolution. Marsala (2018) argues that the industrial revolution to succeed, education institutions should produce graduates that understand both humanities and technology as the industrial revolution is about the convergence of man and machines. Skill sets of the digital age such as problem solving, flexibility, judgement and decision-making are to be integrated into our curricula at primary, secondary and tertiary levels.

Neuman (2011:92) defines ontology as an area of philosophy which is concerned with the issue of what exists or the fundamental nature of reality. Ontology is underpinned by two positions, namely realist and nominalist (Neuman, 2011:92). On one hand, realists view the world as being 'out there' and the 'real world' exists independently of humans and their interpretations of it, while on the other hand, nominalists assume that humans never directly experience a reality. The role of the university within this framework is to use scientific methods to unravel the dynamics embedded in such a world. This reality shares common problems such as crime, HIV/AIDS, terrorism and migration, and solutions to these challenges require collaborative generation of solutions through inter-university collaboration. The inter-university collaborative nature is best explained by the concept of a transdisciplinary approach to intellectual discourse and research (Du Plessis, Sehume & Martin, 2011). As an approach that acknowledges a united and borderless intellectual engagement, Du Plessis et al. (2011:18-19) explain transdisciplinarity as 1) an integrative process of knowledge production and dissemination, 2) an approach that recognizes the complex character of realities which calls for more than one discipline in terms of interpretation and application, 3) about transgression beyond old methods and concerned with the cross-fertilization of experiences and skills as a road to the convergence of expertise. Operating within the transdisciplinarity framework, universities together with other knowledge producing institutions enter into bilateral agreements to advance intellectual discourses and scholarship (Sanpad, 2007). Research themes used to be the domain of public administration such as policy and governance cut across disciplines. According to Neuman (2011:93), epistemology is an area of philosophy concerned with the creation of knowledge by focusing on how we know what we know or what

are the most valid ways to reach reality. Thus, how we know and what we know has to be gauged through multiple lens embracing transdisciplinary and interdisciplinary research. This means that social scientific researchers are not only influenced by research methods, but also by ideas about how knowledge is generated (Treadwell, 2006). Epistemology literary means theories of knowledge whereby the researcher's beliefs determine the social world and the assumptions of how knowledge is generated.

Oakeshott (in Minogue, 2005) conceptualises the notion of a university as an association of persons, locally situated and engaged in caring for and attending to the whole intellectual capital which composes a civilization. He argues that the university does not merely concern itself with keeping an intellectual inheritance intact, but to be continuously recovering what has been lost, restoring what has been neglected, collecting together what has been dissipated, repairing what has been corrupted, reconsidering, reshaping, reorganizing, making more intelligible, reissuing and reinventing. This definition explicitly articulates the core business, especially in portraying universities as a production of knowledge. In this regard one of the academics at UKZN argued that:

Society requires the university as an essential part of the fabric of civilisation including the democratization and development of its human resources. Thus a university is central in our search for new knowledge and skills critical for a knowledge-based economy and for connecting the country to the outside knowledge centres (personal interview, 2018).

In essence, the university needs a society from where it can draw students as well as use for research purposes. Ironically, universities are located in cities but a majority of them are actually not part of these cities. They are literally detached and perhaps unfamiliar with the immediate needs of the surrounding communities. By the nature of their narrow pursuit of intellectual excellence to enhance their academic prestige, universities are almost imaginary, elitist and disconnected from the ordinary person (Dipholo, 2010).

Indeed, universities are often envisaged as associations of privileged few. Their sophistication, real or imagined, makes them somewhat mystical

institutions whose immensely talented employees have no idea of the realities of the outside world (Dipholo, 2010). In the same way, people outside of these renowned repositories of intellectualism and sources of abstract knowledge are fascinated, perplexed and overawed with what exactly goes on in there. Consequently, ordinary people have kept a distance from activities of universities fearing to expose their lack of a university education and perhaps humiliate themselves there.

But universities whilst rightfully engaged in intellectual pursuits should not do so for their own sake. They should consider themselves as vehicles of socio-economic change by participating in the process of forming values and setting reachable goals for society. Education plays a pivotal role, not only in preparing people for the labour market or creating their own job opportunities, but is also instrumental in fighting poverty. Chinnia (2018:9) argues that lack of education makes it difficult for people to escape the deprivation trap. Education for Chinnia has advantages for both individuals and society. For individuals, a better education can help improve to health and nutrition while broadening opportunities for finding work. At the societal level, education entails having a skilled workforce and improving productivity coupled with citizens who are skilled at reducing poverty and increases their income. Thus, universities should transcend their traditional roles of teaching and research and play an active role in positive change in the economy and society within South Africa and in the African continent.

5. A University Within Multiple Spaces

Universities as institutions of higher education are by their nature and existence operate within and across created and virtual spaces. These spaces can be located at the micro, meso and macro environment. Traditionally, universities are confined within geographical spaces such as campuses and colleges; however, due to the advancement of technology, these institutions are connected and interconnected beyond geographical spaces. Thus, the wider usage of technology renders institutions such as universities mobile and therefore assumes a virtual status as reflected in their visions and missions statements. These developments compelled those historically contact universities to adopt technologies that enables them to reach stakeholders far and wide and further advances scholarship in various fields of study.

Spaces upon which universities find themselves are determined by the environments and the interaction that takes, particularly in response to the needs and demands exerted by such environments. Various universities have strategically positioned themselves to survive amidst financial and human capital deficiencies and hardships. In essence, spaces of the university implicate the space for academic life in particular. It is within university spaces that academics are expected and demanded to multi-task, especially in finding ways upon which a single activity is designed to have multiple results (Marks, 2005). Thus, university spaces make sense within academic life and imposed time frames upon which is bound in one space, but is reflective of a multiplicity of spaces. The elastic nature of academic space-time interface is depicted through the notion of flexible time, where academics are not confined to a specific working time as long as they adhere to their teaching and consultation time schedules. Three sets of space/time formations are distinguished in the form of 1) practical time/practical space, 2) virtual time/virtual space and 3) the imagined time/imagined space (Barnett, 2011:78-79). Practical time/practical space reflects felt time and visible space as a convergence through a work diary and planned activities. The virtual time/virtual space though complex and less attractive due to its invisibility and private character, plays a balancing role between life and work among academics and professionals. Lastly, the imagined time/imagined space envisages possibilities through imagination with new spaces and timeframes. A corporate strategy of universities is a typical example where imaginative possibilities are presented vividly, thus stretching over frames of time. In this regard, Barnett argues that the expansion of academic life imposed working awkward times such as in the evenings and weekends. In their line of duty, Barnett (2011:76) highlighted that the demands of academic life include: [t]eaching, marking, evaluating, reading, researching, writing, conducting fieldwork or experiments, fulfilling administrative requirements and income generation, not to mention seeing visitors, running open days, forging links with local schools, colleges, firms and organizations.

These activities on their own occupy the academic life; hence, the reduction of spacious time. Barnett (2011) argues that academic time has the potential to open spaces through attending international conferences and engaging with other academics through the advancement of collaborative research

endeavours. Within this assertion, Lefebvre (1991:91) in his analysis of space indicated that spaces can multiply to encompass 'a geographical space, ethnological space and democratic space'.

Barnett (2011:76-77) identified four sets of spaces, namely intellectual and discursive, epistemological and scholarly, pedagogical and curricular and ontological worthy of deliberation in this paper. 1) The intellectual and discursive space is a space in which an academic through academic activities and community engagement, contributes to social discourse and the wider public sphere. Academics through their participation in civic life are able to engage and enlighten the public thereby, educating or conscientising people on socio-economic, environmental and cultural issues including political issues. 2) The epistemological space affords academics an opportunity to pursue their own research interests. These research interests could be in the form of engagement in the income streams, private and public sectors commissioned research projects who may exert control over the publication of the output. However, Barnett (2011) pointed out that an epistemological space is often constrained by pursuant partial interests and financial return, particularly when universities are driven by the knowledge economy. 3) The pedagogical and curricular space plays a decisive and pivotal role in determining the teaching and learning of pedagogical methods and strategies, and the curriculum relevant towards addressing current societal challenges. On one hand, the pedagogical space challenges course co-ordinators and lecturers to be innovative in devising new pedagogical techniques that encourage students-lecturer relationships and engagement. Thus, student-oriented methods not only forge alternative pathways for pedagogical relationships, but also for methods that are emancipator and liberatory in nature as advocated by Freire (1972). Curricular space on the other hand, challenges teams and coordinators to design courses and programmes free from ideological or discursive baggage. Through the FeesMustFall campaign, South African students challenged universities to transform themselves by making institutions of higher learning accessible, offering a quality and transformed curriculum. Central to the FeesMustFall campaign were challenges pertaining to tuition fee increment and free education compounded by low government funding, and a low pace of transformation and curriculum development (FitGerald & Seale,

2016; Pillay, 2016). It could be argued that the FeesMustFall Movement is a typical example vindicating universities to cease operating as ivory towers producing knowledge-for-itself, but to embrace the notion of the developmental university. The students and student movements in their demands highlighted that universities could a developmental role by ensuring learning that is accessible, an excellent quality, decolonized and have a transformed curriculum (Booyen, 2016). The last space is an ontological one, a space where academics occupy being academics. Accordingly, through the ontological space, academics assume multiple identities and play roles inclusive of entrepreneurs, mentors, managers, quality assessors, facilitators or curriculum designers. Barnett (2011) warns that the widening of the ontological space of academic life could result in either corruption or liberation with psychological and institutional repercussions.

6. Models Underpinning Universities

This section of the paper investigates a variety of models experimented with by institutions of higher learning to comprehend evolving roles which universities are guided by, thus including their implications for a wider transformed societal change. These models range from the metaphysical, scientific, entrepreneurial and bureaucratic to liquid, therapeutic, authentic and ecological models (Barnett, 2011). Within a single university, the research university, the entrepreneurial university, the bureaucratic university and even the corporate university have presence and influence. The four models of a university such as the metaphysical, scientific, entrepreneurial and bureaucratic are used aptly to understand and analyse the existence of the university in a contemporary world, while the other categorized sets such as the liquid, therapeutic, authentic and ecological models are projecting the possibilities of the university.

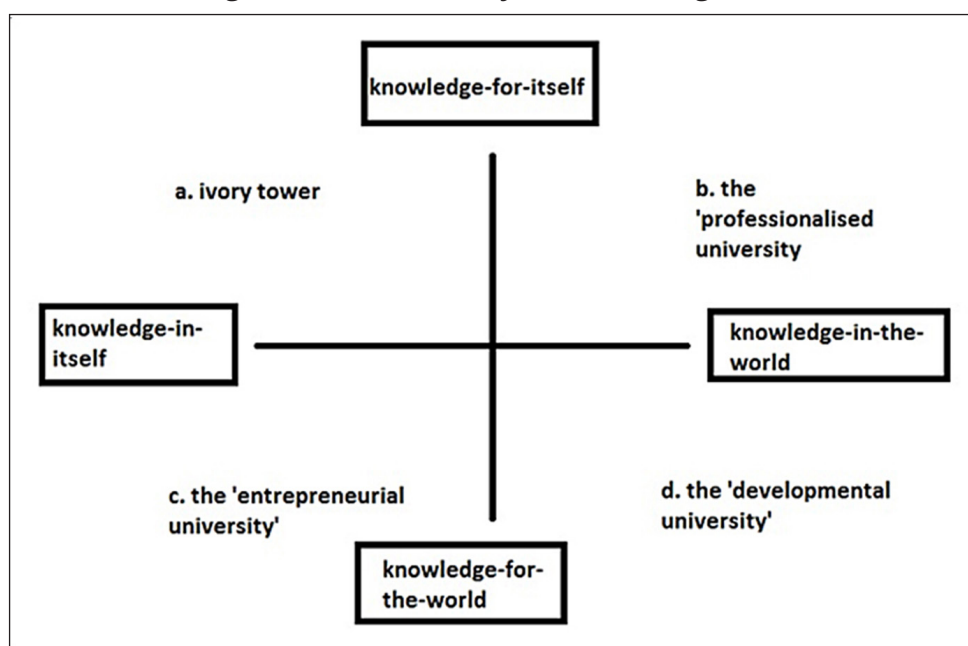
The first model is the metaphysical university and this is informed by the ideas emanating from university engagement with the universe or the world. Through the metaphysical approach, the university enlightens and socialises individuals in knowledge transference with the possibility of producing new individuals. Metaphysical ideas, though abstract, have images of new relationships that transcend the immediate world. For Audi (1999:563), the metaphysical university is open to the world and its

affinity to the universe enables it to investigate the nature, constitution and structure of reality. Barnett (2011:13) argues that university boundaries are constantly widening and becoming even more open to negotiation, and according to the author, the idea of a university encompasses knowledge, truth, discussion, inquiry, authenticity, care, understanding, veracity, application, persons, critique, development and action.

Secondly, the scientific university emerged post the abandonment of the metaphysical university. The scientific university resembles the research university with a bias towards what Barnett (2011:21) calls 'hard science' or knowledge produced within the 'natural sciences', especially engineering and medicine. This model is influenced by a knowledge society underpinned by a strong connection with the state and industry. Compared to the humanities, natural sciences have a bigger share of a university budget hence; the value for money is intrinsically linked to technological applications and economic growth. Universities of technology such as Durban University of Technology, Tswane University of Technology, Free State University of Technology, Mangosuthu University of Technology are exemplary of scientific institutions with a strong affinity to industries through their integrated work learning programmes. Most South African institutions of higher education proclaim to be research universities and that has become their measure for being rated nationally and internationally. Epistemologically, research universities are identifiable through their pursuit of research reflected in academic journals. Barnett (2011:31-32) categorises knowledge into four quadrants, thus, knowledge-for-itself, knowledge-in-itself, knowledge-in-the world and lastly, knowledge-for-the world.

Figure 1 on the following page is reflective of the knowledge grid based on Barnett's four quadrants. Quadrant (a): knowledge-for-itself/knowledge-in-itself depicts the ivory tower university where pure knowledge is produced apart from the world hence, its utility is considered. Quadrant (b): knowledge-for-itself/knowledge-in-the world is reflective of a professionalized university which is rooted in the world and professional knowledge related activities to advance the university's own interests. Quadrant (c) is knowledge-in-itself/knowledge-in-the world represents the entrepreneurial university and knowledge and its products in this form are largely produced apart from the world, either to be

Figure 1: The University and Knowledge Grid



Source: Barnett (2011: 31)

applied or sold to the world for profits or economic returns (Barnett, 2011:32). The last Quadrant (d) is knowledge-in-the world/knowledge-for-the world, and is unique in the sense that the university is active in the world and knowledge is generated by engaging in the world-embedded activities. The primary purpose of this Quadrant is to help improving the world; hence, knowledge production is actualised to work for-the-world.

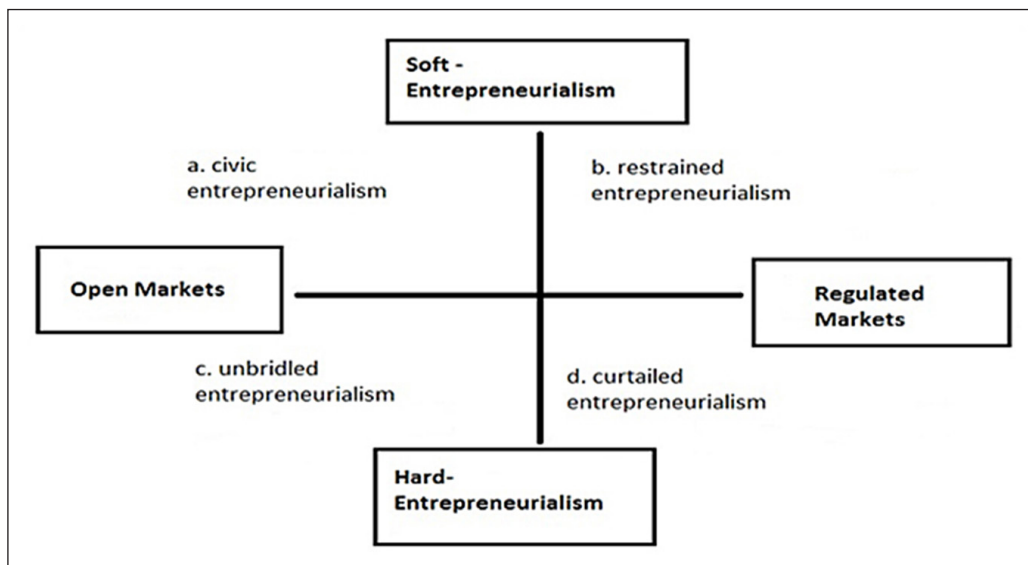
The third model is the entrepreneurial university as proposed by the work of Clark (1998 & 2004). It is argued that due to financial constraints and financial hardships experienced by students, universities are forced to consider entrepreneurialism as the pathways of their sustenance. From the entrepreneurial model, a university is perceived as a set of spaces and it enters into spaces of an entrepreneurial ethos and its practical manifestations (Barnett, 2011:36). Entrepreneurship within universities differentiates hard and soft models. Hard models fall within those forms of entrepreneurship with definite intention to secure an economic return while the soft models are those forms not driven primarily by income generation. See Figure 2 on the following page.

The financial dependency of universities to the state and private sector has led to a managerialism approach to governing these entities. Managerialism according to Maake (2011) is new

jargon of higher education which mirrors the private sector unleashing and entrenching some oppressive culture. The repercussions for such dependency have resulted in the demise of academic freedom and lack of autonomy. Through entrepreneurialism, universities encourage their staff, especially academics and income units to get involved in ventures and programmes aimed at maximizing profit are within and across disciplines. Entrepreneurial universities by their nature avoid using their capital for unproductive use hence; they are more prone to generate some of form of returns for their own efforts. Entrepreneurial branded universities invest through their capital hence, their quest for capital growth and expansion of intellectual capital (Barnett, 2011:34). Despite the economic return attached to entrepreneurial activities, universities embark on such ventures to profile themselves for their image, reputation and positioning in the outside world.

The university as bureaucratic is the fourth model and is often associated with the corporate nature of a university. Through a bureaucratic university, institutions of higher learning are run resembling businesses with bureaucratic procedures and processes imposed on academic life. Some of these procedures entail student admissions, the appointment of staff, and the balance of academic activities, examinations, research applications, curriculum structures, recording of research activities

Figure 2: Forms of Entrepreneurship in Higher Education

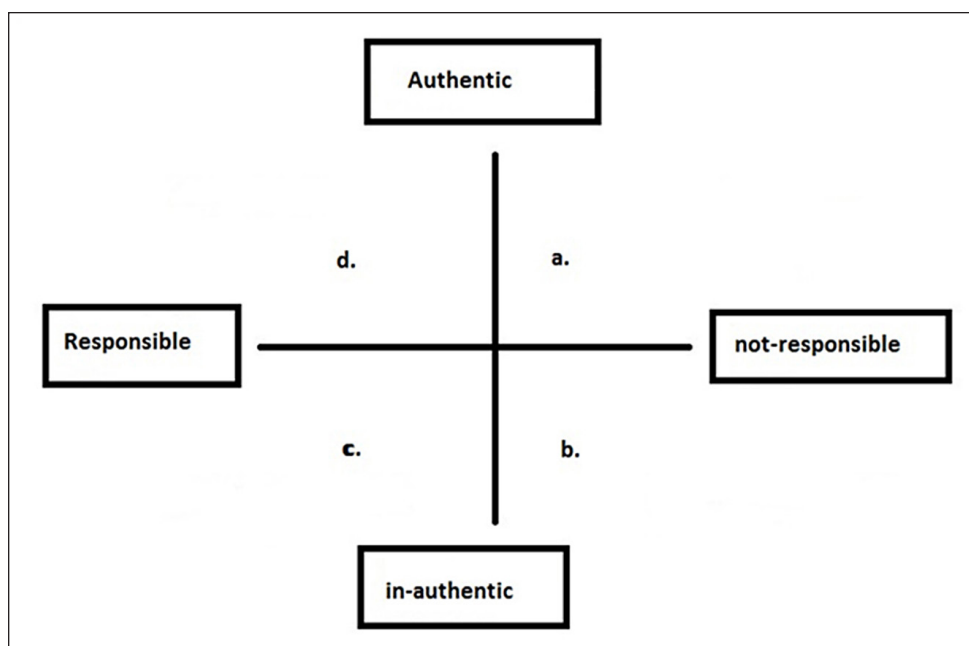


Source: Barnett (2011: 38)

and publications, teaching hours and meeting with research students (Barnett, 2011:45-46). The expansion of these bureaucratic procedures saw the regulation of academic activities with the difference that non-academic staff who happened to be administrators and managers constructs such procedures. The university in 'becoming possible' is categorised within the following set of models such as the liquid university, the therapeutic university, the authentic university and the ecological university. The liquid university is fluid hence; it continues to unfold for future possibilities. Epistemologically, Barnett (2011:110) equates a liquid university with amoeba and the argument is that such a university is always on the move and it interacts with its environment. This model of university is described by a never-ending succession of shapes and it is not shapeless. Accordingly, a liquid university is always on the pathway to a continuous process of assimilation and accommodation. In becoming a university, it presents itself with new income opportunities from the state agency, changes in a funding stream and students' expectations. These elements interact dynamically in an environment that is complex enough hence, adaptable to move through the processes of assimilation. Universities also have to modify themselves to stay relevant to their call of duty. Despite the assimilation process, institutions of higher learning have to accommodate the changing environment and this entails being proactive in responding to the funding deficiencies faced by students. For example, the recent FeesMustFall campaign was staged by South

African students was based on a lack of funding for students to access quality education. Another model is a therapeutic university and this version of a university according to Bahti (1992:68) resembles an injured modern university with a need for therapy. According to Barnett (2011:120), a therapeutic university has a caring element, especially for human beings and caring for the university community thus, so too its staff and students. The author went on to place this model within the marketisation of higher education where students are located and underpinned by a market relationship with their institutions. Almost all universities have units and programmes that offer psychological services to students who face some trauma and hardships at both an educational and personal level. Uniquely, due to some challenges students' encounter traditionally, the University of KwaZulu-Natal (UKZN) decided to establish indigenous services in 2007 within the UKZN community thus, staff and students are afforded an opportunity to consult a traditional healer or songoma. Mkhize (2017), a woman in charge of providing indigenous counselling highlighted during an interview that: The indigenous services are offered mainly to all, especially the students who encounter challenges beyond what Western medical doctors and student psychological counselling could provide. However, the therapeutic university creates both ontological and epistemological uncertainties. Ontologically, students are exposed to a changing world which causes insecurities pertaining to who exactly they are and what they are.

Figure 3: The University Authenticity and Responsibility



Source: Barnett (2011: 103)

One post-graduate student lamented that:

Without prospects for securing a job in the labour market, universities have become the breeding ground for producing unemployed graduates. Without tangible skills and competencies relevant to the workforce, students turn to become wasted resources with degrees which cannot enable them to be employed or self-employed.

Thus, universities are caught in between advancing intellectual scholarship and offering marketable skills and knowledge for their students to be employable or create their own jobs once graduated. On the idea of graduate students creating their own jobs, Rudigi (2018) in a seminar hosted by the UKZN Centre for Civil society, titled 'Entrepreneurship through research – converting research into community projects' argued that: While the role of universities is to transfer knowledge and prepare graduates for the labour market, I argue that this role should also be of shaping the labour market by entrenching new ideas and innovations. In essence, universities should play the role of creating jobs rather than just creating job seekers. He further asserts that:

This can be achieved by ensuring that graduates are equipped with necessary knowledge and skills beyond producing academic work. This approach could create an enabling environment

for graduates to identify and close the gap between knowledge and socio-economic problems. It means graduates should have first-hand experience in advancing and experimenting with new knowledge produced through research. They should also be equipped to see problems in their communities and be able to come up with viable lasting solutions.

It is crucial for newly registered students to develop critical analytical skills, self-awareness, and to socialise themselves through various engagements in the university environment. The third model is the authentic university model which is an idealist one, which strives to comprehend its place in a multi-layered world. For Barnett (2011:135), an authentic university projects itself into future possibilities and as such, it lives in the past, the present and the future all at once. Since this university is not existence yet, the context, proposed enquiry and learning, the envisaged responsibilities and conditions are some of the core ingredients for an authentic version of the university. See Figure 3.

An authentic university is a model, where learning and enquiry are driven and inspired for the purposes of understanding, reflection and inquiry across society assisting itself to have a better grasp of the real world (Finnegan, 2005; Barnett, 2011). Barnett (2011:132) identified four conditions under which the authentic university is created. Firstly,

are the contingent-and-general conditions, where being part of a global learning economy; universities subject themselves to similar callings and subjugations. Secondly, are the contingent-and-particular conditions which compel universities to position themselves, thus considering the markets, income flows, reputation, mix of teaching and research and their epistemologies. Thirdly, are the specific value conditions regarding the precariousness of the authentic university, thus, based on the space and responsibility, universities are able to forge their own value position and such value position has to be sustained. Lastly, are the general value conditions. The precariousness is for universities to live up to the expectations for being part of the global family of universities (Barnett, 2011:132). For an authentic university to be actualised, it should be rooted in the real world with its own self-image navigated through forces and expectations of it. In addition, Barnett (2011:135) argues that an authentic university could realize its authenticity through: 1) a grasp of the level of the world; 2) a sense of the complex interplay of factors affecting it; 3) a crystallisation of its own hopes and self-image; 4) an ethical undemanding of itself reflecting on a value position and 5) time as authenticity is realised over time and through time.

The fourth and the last model is the ecological university and this model symbolizes a radical shift from other models where traditionally, the university places emphasis of on enquiry based on the advancement of scientific scholarship. Unlike the other models, the ecological version of a university according to Barnett (2011) calls for 'an openness of mind and open society'. The notion of ecologic is centered on the wellbeing and interconnectedness of the environment, with care for the environment being the central framework (Barnett, 2011:139). The ecological university is rooted on a real urgency towards the world as its ethical responsibility. Such a university comprehends itself as having a responsibility towards networks and interconnections (Guattari, 2005:34). Thus, a university which is ecologically grounded has the capacity to promote understanding through learning and inquiry. The author further argues that being and becoming ecological is a huge project, as it takes the university into a new order of being, thus inhibiting 'a new ecosophy, at once applied and theoretical, ethno-political and aesthetic' (Guattari, 2005:67). The ecological model challenges modern universities to cease operating as ivory towers amidst societal

misery, gross underdevelopment and injustices. A university within this model becomes an entity, which constantly engages with itself and its adjacent environment in order to remain relevant and be part of the solutions to societal challenges.

Dauids and Waghid (2018:27) designates an ecological university to be a university that: [h]as spaces of agency and remains on the look-out for large deficiencies in its own research and in the wider world. It has an ethical concern to promote democratic interests to help people to understand one another, coexist and make sense of the world in which they live. As espoused by Buber (1958), such a type of university enters into a dialogue and the pursuit of its core business to advance intellectual scholarship anchored on robust teaching and learning, research and community engagement. The philosophy of dialogue encourages the university to create a dialogical environment upon which people embrace their co-existence as people able to relate to each other in seeking alternative remedies to their challenges (Buber, 1958). The ecological university and its quest for dialogical engagement distances itself from the relationship based on the dichotomy of 'I' and 'it' as a separate entities. For instance, research is engaged for mere purposes of gathering information, for grounding concepts and proving or disproving set hypotheses (Dauids & Waghid, 2018). This created dichotomy dictates a university to be understood as a place where only knowledge is produced, thus expanding a gap between the researcher and knowledge within the 'I-it' relationship. Contrary to the forged 'I-it' relationship, is the 'I-thou' relationship which unfolds through a university's encounter with the world and its humanity in full integration. This co-existence is reflective of the philosophy of Ubuntu, which is underpinned by an Nguni phrase 'I am because you are'. The university operating within the context of Ubuntu does so integrally and in uniform through people's collective action and solidarity (Msila, 2015).

7. Navigating Various Roles Imposed by these Models and the Environment at Large

The metaphysical, scientific, entrepreneurial, bureaucratic, liquid, therapeutic, authentic and ecological are models which universities navigate for their survival (Barnett, 2011). In responding to global challenges, a single university could assume various models such as a research university, an

entrepreneurial university, a bureaucratic university, and even the corporate university. However, the question is how does the modern university navigates all these roles and branding, and still maintains its status and identity of being a university. Due to pressure from both the immediate and wider environment, the paper argues that universities have no option but to adopt to the ecological university model if they are concerned about playing an active and divisive role in transforming society through social and economic development (Davids & Waghid, 2018). With the fourth industrialisation, universities and other knowledge-based institutions are challenged to make their research relevant in dealing with industrialisation-imposed challenges. Unless developing nations, South Africa included, elevate themselves to the opportunities and challenges imposed by the fourth industrial revolution where technology and machines play a leading role, thus inclusive of artificial intelligence, it will supersede human intelligence (Marwala, 2018:15). While social sciences are imperative for redressing old and emerging problems imposed by neo-liberalism and globalisation, South Africa should balance its education by investing in mathematics, sciences, agricultural and technological related fields (Twenty Year Review, 1994-2014). The mastery in these fields would spark academic interest among students to pursue qualifications that would make South Africa competitive while developing strategies to deal with locally based challenges.

Evidence shows that engagement between universities and industry would produce a skilled and competent workforce. Ebong (2004) advocates for industry and universities to go into partnerships together to improve the curricula and review programmes. Universities provide the bulk of basic research which contributes to applied research and development (Ebong, 2004: 569). Research beginning at university laboratories ends up being utilised by industries, particularly in the medical field. It is thus imperative that universities and industry work together in order to produce innovative and a technologically skilled workforce. Navigating all these role and responsibilities as deliberated above, institutions of higher learning should be aware of their capacity and capabilities to set both strategic and programmatic visions and goals. This demands that these institutions commit themselves to develop a future generation of scholars who are capable not only of securing employment for themselves, but are competent to contribute to knowledge

production that could be utilised to solve complex challenges and issues besetting the African continent, and beyond its borders.

8. On Being and Becoming an Ecological University

Universities worldwide are in transition, from being to becoming institutions of learning and robust engagement in knowledge production, management and dissemination. This transformation has presented these social and knowledge based institutions with both opportunities and challenges (Cebekhulu, 2013). The quest for being and becoming presents universities with the opportunities for introspection. Thus, universities are tasked to revisit their mandate with the purpose of renewing and revamping themselves as agents of societal change. In the case of South African universities, a transformation agenda is imperative, especially considering that the apartheid system had imposed racial and ethnic lines policies on universities (Anderson, 2018). For example, the formation of the University of Durban Westville, University of the Western Cape (Coloureds), University of Venda (Vhavenda), University of Transkei (Xhosas), University of Cape Town, Rhodes University, University of Natal (English), Stellenbosch University, University of Pretoria, Rand Afrikaanse University, University of Free State (Afrikaans medium universities), University for Bophuthatswana (Tswanas) (Maake, 2011). The post-apartheid era presented these institutions with an ever-needed opportunity to transform them with a transformational agenda as inclusive, accessible and quality institutions of higher learning. This situation depicts the 'being' as the existence of universities during the colonial-apartheid era. The being of universities is centered on their core existence and their fundamental purpose both in their immediate environment and the broader socio-economic and political environment. Fundamental and central questions are what purpose do universities serve and how effective are they in executing their role? Do they have necessary capacity and resources at their disposal to effectively execute their mandate? What is their impact in the socio-economic and political landscape?

For the higher education sector, the post-apartheid era, presented itself with deserving opportunities for sector transformation and reconfiguration (Cebekhulu, 2013). Imperative to this transformational opportunity is the transition of universities

from their apartheid status as instruments of the apartheid state to a tool with a transformative agenda. (Johnson, 2013:55). Despite the mergers of these institutions, institutions of higher learning are still caught in a vortex of overt and passive resistance to transformation. This resistance is evident in areas such as language and curriculum development. For instance, a university such the University of Free State has been in and out of court in defence of the Afrikaans language as medium of instruction for learning and academic engagement. Both during and post-apartheid eras, language has been used as a way to prevent access to higher education, particularly against previously disadvantaged students. The imposition of Afrikaans to black students resulted in the 1976 national insurgence where students challenged the apartheid government to abolish Afrikaans as a medium of instruction in both schools and universities (Johnson & Jacobs, 2012).

9. Conclusion and Recommendations

The paper has provided an ontological and epistemological analysis of the traditional and emerging roles played by universities in the 21st century. Various models underpinning universities have been explored with the primary purpose of navigating the dynamics and roles universities are designated to play in transforming themselves and society at large. These models range from the metaphysical, scientific, entrepreneurial and bureaucratic to the liquid, therapeutic, authentic and ecological models. These models have become determining factors upon which institutions of higher learning, universities in particular, could exercise their socio-economic and intellectual mandate. The privatisation of universities and the adoption of a managerialism approach (Chetty, 2013) to governing these entities have exerted tremendous pressure on universities to assimilate and accommodate various roles. As argues in this paper, these changes and challenges led to the emergence and re-emergence of three-tier system intensive universities. The categorization of universities includes a small upper tier that continue to do well (UCT, Wits, Stellenbosch, UKZN, etc.), a larger middle tier with mainly teaching universities (WSU, Limpopo), and often struggle to survive. The third category is teaching-only universities with low performance in both advancing scholarship and research output (Venda, Zululand, etc.). These tiers of universities are differentiated by their abilities and capabilities to make effective use of the new possibilities created by information technology.

Among small upper tier universities are the previously advantaged institutions which over the years (apartheid era) have managed to accumulate a vast scholarship ethos and wealth. Some of the universities counted in this category entail the University of Cape Town (UCT), the University of Pretoria (UP), the University of Witwatersrand (Wits), Rhodes University (RU), the University of Johannesburg (UJ), and the University of KwaZulu-Natal (UKZN). Due to the intellectual and financial capacity at their disposal, they are able to accommodate most of models such as the metaphysical, scientific, entrepreneurial and bureaucratic to the liquid, therapeutic, authentic and ecological identities. Historically, these universities were previously and some are still white dominated. Contrary to a smaller tier, larger middle tier universities although cannot be categorized entirely as teaching only universities, their ranking is low especially when it comes to research output. Due to pressure from both the immediate and wider environment, this paper argues that universities have no option but to adopt, assimilate and accommodate the ecological university as the model for them play an active and impactful role in transforming society. In the context of all these deliberations advanced in this paper, the question remains: To what extent does the modern university navigate all these roles and branding, and still maintains its status and identity of being or of becoming an ecological university?

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