

**Creating Investment Dynamism in Entrepreneurship:  
Experiences at the BA ISAGO University in Botswana**

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**Abstract**

*In current academic discourse, nothing is as timely as linking academic activity with economic growth. There are many reasons for the move in this direction. First, and foremost, the public, as the major sponsors of education, have long been calling for direct evidence that investment in education, especially higher education has a direct benefit for them beyond the obvious advantage that has been enjoyed by educated men and women over time – until recently, when unemployment encroached into the echelons of the graduate students. Secondly, universities around the globe are going entrepreneurial – not out of their own choice, but mainly because they must sustain themselves in a changing environment whereby governments are reducing their subventions for these institutions. Almost universally, universities have devised a new approach to education in their response to the two challenges highlighted above. That approach may take a different form and come by a different name from one institution to another, yet, engagement is the visible and indisputable umbrella under which everything hangs.*

*This paper details how BA ISAGO University continues on its journey to develop itself into an entrepreneurial university, initially through producing unique programmes and now through using the outputs from its graduate students to create startups and other forms of academic beneficiation as the students commercialize their research. This paper highlights the challenges met but will also reflect the manner in which those challenges are being overcome. As such, the lessons from the BA ISAGO University experience should serve as an encouragement to other universities that the move to an entrepreneurial university is not only possible but is the ideal model of the University of the Future.*

**Keywords:** higher education trends; entrepreneurial university; startup; engagement; economic growth.

**Word Counts:** 273

### **Introduction**

Higher education has been undergoing a change in several aspects. In the United Kingdom, while major changes can be traced back to two decades ago when some polytechnics were upgraded to universities on the one hand and other polytechnics merged with existing universities, the history of the evolution of higher education in that country goes back much further to the 1960s when the government opened polytechnics essentially as a social equity move that was meant primarily to accommodate the working class communities within the expanding tertiary education sector as a way of reducing socio-economic distinctions within the society (Bornmann 2013). Polytechnics focused mainly on providing the technical skills that were critical to the expansion of industry while universities offered academic education, which had a higher social status than the polytechnic qualifications. Consequently, university graduates commanded a higher social status in comparison with their counterparts who graduated from polytechnics.

The government then upgraded the polytechnics to fully-fledged universities. This move was not without consequences. A skills shortage resulting from upgrading polytechnics into universities called for a re-thinking of the organization of higher education. The result was a merger of universities and polytechnics, a move that was

expected to address both the problem of skills shortage and the class system resulting from the university – polytechnic divide.

Amid these developments, there was, on the one hand, a call from the general public for more visible benefits from higher education and, on the other hand, there was pressure from the government for universities to meet some of their operating expenses. Meanwhile, universities started to compete for pre-eminence among them, ostensibly as a ploy to attract students. The study by Bratianu and Stanciu (2010) posits that with the emerging competition among higher education providers, universities are looking for new organizational identities in a dynamic environment where the demands and expectations are ever-changing. The authors identify changing environment, public intervention, financing and competition as some of the factors that lead both public and private universities to become entrepreneurial universities.

The one major response of the universities to all these challenges has been to restructure themselves to meet a significant share of their expenses. This is the genesis of the concept of the entrepreneurial university, a concept that is now trending across the globe, increasing the pressure on public universities to bear increasing proportions of their expenses while simultaneously ensuring that they address the contemporary technology as well as the socio-economic problems of their communities. Because the problems that have given rise to the entrepreneurial university are universal, the move away from the conventional university that is heavily subsidized by the state to the entrepreneurial one with reduced state subvention is equally universal – and it has become a common feature of both the industrialized and the developing economies.

Over recent years, universities in developed countries have become more innovative and entrepreneurial. The labour market needs universities that are innovative and able to respond to societal changes through their new educational programmes. Also, Guerrero and Urbano (2014) add that an entrepreneurial university is where knowledge-based entrepreneurship has instigated as a driving force for economic growth, employment and competitiveness.

Nestled on this scenario, this paper presents a case study situational analysis of how BA ISAGO University, a private institution in

Botswana, is establishing itself as an entrepreneurial university, although admittedly it is yet to mature in that process.

The discussion is centred around academic programmes that are structured in unique ways that offer students singular qualifications based upon market demands and which academic programmes are not offered by other universities; how the University diversifies its income through short-term programmes that are required by industry from time to time; and finally how the University is planning to continuously link with industry and other stakeholders through a structured incubation centre where business ideas arising from students theses will be developed and incubated.

### **Towards an entrepreneurial BA ISAGO University**

Although it is relatively young in the information age, Botswana as a country has set itself the goal of being in the knowledge economy before the end of the current National Development Plan II (2017 – 2023). Whereas the knowledge economy is characterized principally by knowledge intensive economic activities which are based upon innovation, it is more simply explained as the commercialization of knowledge products such as research outputs as well as research-based innovations, all of which advance the economy through both the socio-economic and the technology-based activities. Research outputs take different forms and emerge at varying levels. At the lower end, they could constitute lower utility models such as business ideas with nothing more than mere proof of concept, while at the high end they could be patents.

It is crucial to bear in mind that while most developed countries will normally boast fourth industrial revolution technologies manifested through different indices including sophisticated service-based economies, most economies in the developing countries are at the most only operating at the manufacturing level using low levels of technology, characterized by undeveloped communications networks and sub-optimal physical infrastructure and poor organizational structures even though there may be a few signs of the fourth industrial revolution indices such as consulting and advanced ICT operations and facilities like swift money transfers (these are largely

owned by the industrialized firms that use them for linking with businesses and processes back home in the industrialized world).

The scenario above attests to the fact that the social milieu obtains in the developing countries is one in which high levels of technologies co-exist with basic ones. Such a combination of technologies is part of the explanation why there are socio-economic inequalities within the countries of the developing world. At an international level, the technological inequalities explain how globalization operates to create the global village in which the industrialized countries continue to advance at a disproportionately faster technological and socio-economic pace when compared with the developing ones.

Against this backdrop, BA ISAGO University aims to go entrepreneurial by creating an entrepreneurial facility through which it will sustain itself financially, while simultaneously addressing the growing problem of graduate unemployment. Botswana is a developing country. The preceding section has indicated that developing countries tend to have mixed economies, bringing together elements of basic technologies and those of the fourth industrial revolution that are characteristic feature of the first world.

A university can go entrepreneurial in several different ways. Some institutions do that through pursuing strong consultancy services while others develop short courses for providing skills required by industry and other stakeholders at a particular point in time. Other universities, especially in the developed countries, earn part of their third-stream income through commercializing their intellectual properties e.g. University of Dundee (Mazonde 2007). Some have varying combinations of these initiatives. A corollary of the socio-economic environment projected in the earlier paragraphs is that the type of entrepreneurial facility that BA ISAGO University has to come up with will straddle the developing world on the one hand and the developed or industrialised one on the other, with the hope that all in all, the facility will grow Botswana's economy.

## **The Framework of BA ISAGO University's entrepreneurial activities**

The approach of BA ISAGO University, which defines the framework and the scope of its entrepreneurial activities, is not an afterthought. Rather, it is a carefully planned approach that is driven by a multi-pronged business/revenue or entrepreneurial strategy which is undergirded by commitments, initiatives and imperatives that are spelt out in the *University Strategic Plan 2017 -2021*. These are:

**COMMITMENT NO. 2:** *Obtain revenue diversification through deliberately enhanced student mix, as well as developing significant non-student fee income/resources.*

**COMMITMENT NO. 5:** *Improve industry engagement, with significant access and professional visibility in chosen academic fields of practice.*

**COMMITMENT NO. 7:** *Secure dedicated financial resources to facilitate the successful implementation of the above commitments.*

In addition to these three commitments, there is an initiative that is quoted verbatim for emphasis:

**INITIATIVE #6:** *Under a new dedicated business unit, proactively focus and engage with industry (external customers and contacts) to exploit BA ISAGO intellectual property, generate profitable consultancy opportunities and secure CEPD mandates consistently. This includes ensuring the proper protection and preservation of BA ISAGO Intellectual Property.*

The following two imperatives also speak to entrepreneurship:

**IMPERATIVE #1:** *Generate a sufficient recurrent surplus to sustain the BA ISAGO's infrastructure, academic activities, external financing costs and shareholder returns.*

**IMPERATIVE #2:** *Allocate and invest unrestricted/surplus income towards the key priorities/ commitments and core strategies stated.*

**IMPERATIVE #3:** BA ISAGO presently is a low geared enterprise. We intend to secure external debt financing to support, acquire and construct new physical infrastructure as well as to undertake major value-adding improvements on existing real estate and spaces (BA ISAGO University Strategic Plan, 2016).

Through the establishment of the Department of Entrepreneurship, which is core to business, the establishment of the Centre for Professional Development and Consultancy (CPDC) and more recently the setting up and filling of the position of Manager for Research and Innovation, BA ISAGO University has already begun to implement the commitments, initiatives and imperatives highlighted above.

Yet whereas these commitments, initiatives and imperatives along with the establishment of the Entrepreneurship Department and the CPDU are a clear demonstration of the University's willingness to go entrepreneurial, they are nonetheless internal to the institution. In order for them to be successfully rolled out, they have to work in conjunction with external structures under various partnerships that provide various resources which are necessary for achieving the University's entrepreneurial goal.

These external structures include, *inter alia*,

- i. the Local Enterprise Authority (LEA), which provides specific training in incubating business startups,
- ii. the Citizenship Entrepreneurial Development Agency (CEDA), which is a potential source of the much needed financial capital given that there is no venture capital especially set aside by the government to facilitate business start-ups,
- iii. the Botswana Innovation Hub (BIH), provides two services a) enhances the innovation and technological acumen of the budding entrepreneurs including even those enterprises that fall outside the generic sphere of science and technology and b) potential source of funding through the Innovation Fund,
- iv. the Company Intellectual Property Authority (CIPA), which will assist the envisaged businesses to identify, protect and develop different forms and levels of intellectual property.

Given that BA ISAGO University collaborates with other universities and similar entities both nationally and across the borders, some of the inputs will be sourced from these partnerships in various forms, including benchmarking. Thus, the framework for BA ISAGO's entrepreneurial activities will be both local and outward-looking.

**How BA ISAGO University diversifies its income through short term programmes that are required by industry from time to time.**

Within the framework of BA ISAGO University's entrepreneurial activities, the institution has succeeded in establishing a portfolio for diversifying income through short term programmes that are required by industry from time to time. This was primarily in response to the fact that the long continual and stable stream of governmental funds through students' tuition fees has been drying up over the past decade. A need was felt, therefore, across all universities, to come up with ways of diversifying income.

Such ways of diversifying income are many. For example, Polish Universities and US Universities diversify their streams of income through revenues from teaching activities, revenue from research activities, financial endowment, sponsored support, gifting and royalties from trademarks, copyrights and patents. It is therefore relevant to mention that universities all over the world have felt the need to diversify their income streams (Rozmus and Cyran (2013).

Others have opined that the identification of new sources of income does not only build a bulwark against falling revenue from traditional sources, but also offers a strong upside: top-line growth, particularly in unrestricted funding, providing institutions with greater elasticity and financial freedom (Jhaveri and Assomull (2019).

Another measure has been for the universities to simply use the available funds with prudence (Teixeira, Biscaia and Rocha, 2014) in Chirica and Puscas 2018).

As a new but vibrant institution of higher learning, BA ISAGO University ensures and keeps ensuring that there is diversification through short programmes that are required by industry from time to time. The university deliberately established a Centre for Professional Development and Consultancy (CPDC) which is mandated to facilitate



the development of demand driven programmes to attract and service industry.

Since there is a need for this diversification of the institution's income, the division also serves as a hub for consultancy using expertise and capacity of various Faculties that make up BA ISAGO University programmes. The university has four Faculties and it draws its consultants from all of them. The four Faculties are Commerce; Education; Built Environment, Arts and Science, and, finally, the Faculty of Law and Paralegal Studies.

### **The structure and goal of the BA ISAGO University entrepreneurial facility**

The sections above have laid a foundation for this one by justifying the move of BA ISAGO University towards an entrepreneurial institution and then providing a framework within which that entrepreneurship is set to occur. This present section now takes the discussion further by focusing upon the key structure around which the entrepreneurial efforts of the University shall revolve. The major question here is what is the ideal type of that structure and how must it function, given the overarching aim of the University on the one hand and the national organizations with which the University must work on the other.

But before we focus upon this matter, we need first to revisit the manner and process in which knowledge transfer takes place from the research institutions to communities. Generally, society can reap the benefits of successful tertiary education only if its outputs (e.g. graduates, research and innovation results) and impact (e.g. the socio-economic outcomes) are converted into marketable and consumable products and services. That is why measuring the societal, cultural, economic and scientific impact of research is currently the priority of the major world research organs such as the National Science Foundation, European Commission and several research funding agencies. It was precisely for this reason that The United Kingdom's national research quality exercise, namely the Research Excellence Framework (REF) which came into force in 2014 replaced the earlier Research Assessment Exercise (RAE) which had limited itself to confining the value of research solely to numbers of research outputs (higher\_education\_system\_of\_uk.pdf), somewhat to the neglect of the

impact that research has on communities. Impact lies at the core of these efforts to benefit research. And the impact is something that has an effect on socio-economic change or something that adds value and benefit to the economy.

“Universities are seen as sources of knowledge, technologies and human capital and providers of environment for the development of innovative entrepreneurship. They are seen as being suitable for innovation and natural incubators, providing a support structure for both learners and teachers to initiate new endeavors (Marozav and Guerrero, 2019)”. While higher education will always continue to provide public good, based on the commitments, initiative and imperatives reflected above, the primary goal of BA ISAGO University in creating an entrepreneurial university is to ensure that society indirectly bears the cost of this public good in a manner that the same society can afford. Hence, in establishing itself as an entrepreneurial institution, a university has to balance financial autonomy with its social responsibility.

The purpose of BA ISAGO University's entrepreneurial facility must be aligned with the institution's overall entrepreneurial goal, which is to increase the institution's level of community influence. The impact has to be a product of engagement, quality of service and more financial independence for the university. This goal is underscored by the fact that this is a private University established as a family business. As such, BA ISAGO University is expected by its shareholders to make a profit. Consequently, it is only natural for the university to seek to be an entrepreneurial institution.

Contemporary universities have put in place different types of entrepreneurial structures in a bid to enhance entrepreneurship. While some universities in the industrialized countries (e.g. University of Dundee) maintain these structures internally, the most common arrangements is whereby there exists a partnership between a university and an external entrepreneurial facility such as a science and technology park (Mazonde 2009). For years, South Africa's University of Pretoria has been working closely with the Gauteng Innovation Hub to develop new technologies and also to incubate start-up companies using research products from the university staff and students (Mazonde ...*op cit*). The University of Dundee has a Technology Park

which is a structure and a process through which new technologies are developed by students from their research and then where there is sufficient proof of concept, the students are assisted to benefitiate the technologies either through patenting or through establishing start-ups. In certain cases, the University of Dundee works in collaboration with the Dundee Technopole to develop those aspects of technology that the University does not cover. The incubator aims to maximise the growth potential of the predominantly science and technology-based spin-out companies.

The University of Cape Town has an analogous case that is more local (UCT). In addition to topping the continent's university rankings, the University of Cape Town (UCT) also has one of the continent's universities with the most advanced innovation programs. Its Department of Contracts and Innovation (RC&I) grew out of what was formerly the Office of Research and Innovation. "RC&I assists with the commercialisation of technologies emanating from UCT's research, moving them through the different technology readiness levels until they can enter the market, either as a spin-off company, or via licensing. This assistance spans quite a number of phases which include market assessment, fund raising, reviewing business plans, techno-economic analysis as well as intellectual property due diligence (UCT Annual Report 2021)".

UCT operates within a well - resourced innovation ecosystem with a network of different incubators, access to various sources of venture capital and stakeholders who support it to enhance the possibility of Cape Town being the leading city and region of spin-off companies in South Africa (UCT Annual Report *op cit*). Through its Pre-Seed Fund, Innovation Builder Fund, University Technology Fund and the UCT Evergreen Fund and other internal funding mechanisms, UCT has an unprecedented advantage of strength to fund the advancement of its own innovation.

Consequently, in 2020, UCT innovation reported the success highlighted below:

- 23 intellectual property licenses
- 26 new patents granted
- 2 new spin-off companies and 20 spin-offs in 10 years
- University Technology Fund invested in 3 UCT ventures

- Licensing and intellectual property revenue of ZAR27.9 million in 10 years
- Value of equity held in 9 spin-off companies: more than ZAR100 million (University of Cape Town Annual Report (2021)).

The UCT example, successful as it is, is not an easy model for BA ISAGO University to emulate because of the disparities in both the level of resources that UCT commands and the innovation environment within which this South African university operates.

Gauteng Innovation Hub (GIH) provides an example that is both closer to the BA ISAGO University's context and easier for the University to adopt. GIH's example centres around a *CoachLab*, which is a post-graduate leadership programme for students typically but not solely in the science and engineering disciplines. For example, the green economy, which would include the urban planning segment of BA ISAGO University's Faculty of Built Environment, Arts and Science, has recently been added to the list of disciplines supported through the CoachLab. The programme is run from the Gauteng Innovation Hub, which is located in Pretoria, close enough to many universities that include the University of Pretoria, the University of the Witwatersrand in Johannesburg and Tshwane University of Technology in Pretoria. The CoachLab programme is supported by leading businesses in the Gauteng area and the government. It runs annually from March to November. During this period, the students work on their own individual projects, supervised by industry experts, personal coaches and mentors. The promoters of the CoachLab programme consider it to be one of the fastest ways of growing a local economy.

The process of putting together an entrepreneurial programme such as the one described in the University of Dundee in Scotland or in the case of the CoachLab in South Africa is very much involved because it brings in different aspects of expertises such as intellectual property processing, carrying out proof of concept on research outputs to determine which ones have the potential for being processed towards start-ups, arranging the necessary partnerships with stakeholders such as the business community and the likes of the Botswana Innovation Hub, Local Enterprise Authority (LEA), the

Citizen Entrepreneurial Development Authority (CEDA) etc etc. Ideally, it needs a Technology Transfer Office, or at least a full-time dedicated technology transfer officer or manager.

Neither of the two scenarios discussed above, the Universities of Dundee and Cape Town, would be an ideal or suitable structure for achieving BA ISAGO University's objective of creating an entrepreneurial facility. The dissimilarities and inequalities between them and BA ISAGO University are too wide.

Yet, the lessons from both cases still remain helpful because they point in the direction in which BA ISAGO University is moving. BA ISAGO University needs an incubation facility that will sift from the theses of the graduate and undergraduate students, those ideas with potential for business development, so that the students can be facilitated to turn their ideas into small and medium scale businesses. And as in the case of both University of Dundee and UCT, the businesses from BA ISAGO University students shall need to be incubated under close monitoring and assistance until they are ready to go into the market. Already, there is some experience with such incubation activity in Botswana because the phased-out Rural Industries Innovation Company (RIIC), though it was not itself a university, used to run such incubation companies for small businesses until 2013 when the parent company, the Rural Industries Promotion Company (RIPCO) was disbanded to give way to the current Botswana Institute for Technology Research and Innovation (Botswana Institute for Technology Research and Innovation 2014).

### **Specific activities of BA ISAGO University's incubation facility**

The normal innovation value chain proceeds from intellectual capital to commercialization in the manner shown in the diagram below:-



In line with the steps of the innovation value chain above, the following tasks will be carried out in the incubation facility:

- I. Sift undergraduate and graduate theses to determine proof of concept.

2. For those that meet the threshold according to proof of concept, determine in collaboration with the student the type of business to be developed.
3. Determine with help from the Companies Intellectual Property Authority (CIPA) whether there are any intellectual property issues to be attended to.
4. Work with LEA to provide additional and more specific entrepreneurial skills specific to the envisaged business and then produce a viable business plan.
5. Work with CEDA and the BIH to source the necessary venture capital.
6. Set up the small business (spin out or spin off) in the ideal locality (the ideal locality of any business will depend upon the nature of that business. Some businesses might locate inside the BIH).
7. Incubate the business through oversight and close monitoring of the relevant bodies (LEA, BIH or any other) until it is ready to go out of incubation into the market.

Universities can bring about the desired change in commercializing innovation and creating companies via forging the link between research, education and transfer of knowledge (Deshpande and Guthrie 2019). In an ideal set-up, the activities above are carried out in the Technology Transfer Office (or the Knowledge Transfer Office in the case where the institution is dealing with the development of enterprises that are not necessarily science and technology-based). But BA ISAGO University does not have to wait till it has a Technology or Knowledge Transfer Office. The University needs to start small and aim to gradually expand its entrepreneurial activity in a planned manner, informed by the experiences from other places.

Because innovation is the first attempt to carry out an entrepreneurial idea into practice, the Research and Innovation Unit of the School of Graduate Studies and Research seems to be the ideal location for the incubation facility, even though the facility will be for the entire university. Its mandate will expand as the flagship activities gain traction. For example, innovation and technology park segments can be added as the initial concept takes root and grows.

## **Conclusion**

Higher education has undergone radical changes over the past two decades, as universities the world over have been preparing themselves to be financially self-sustaining, addressing socio-economic needs and driving development. Yet, this emerging responsibility is still evolving. For many reasons, but especially because of the mounting demand to prepare students for the ambiguous and unpredictable workplace, universities must assume a central role in the creation of regional development programs. It is acknowledged that universities have taken on this new duty in response to decreasing funding and increased pressure from society for higher education to show more proof of a public value. Under these circumstances, higher education institutions have no way but to transfer knowledge to the market through creating entrepreneurial institutions that will grow the economy by preparing students for self-employment.

This paper, through its aim of providing a pathway for other higher education institutions, has demonstrated how BA ISAGO University is working within this changing environment to transit from a purely academic institution into an entrepreneurial one that drives the contemporary development agenda while aiming at financial independence and being an example and a model of the future university.

## **Recommendation for University stakeholders**

The concept behind being an entrepreneurial university means, being up to date with whatever is happening around you in the environment/community. It means being ready to react to any changes or signals from the said environment or community. Being an entrepreneurial university creates awareness that has useful application and mostly leads to being able to tackle some problems found in specific environments.

Recommendations for an entrepreneurial university:

1. Promotion of start-up business, that may, include business plan competitions which could be through panels of investors who are willing to invest their money and time.
2. Have a division that mainly focuses on grooming and mentoring students in professional academic challenges by virtue of

professional bodies and be able to offer their services to specific industries. For example, CFA research challenge and consultancy challenges by the Actuarial Science society.

3. Improvement of any university/college internal information flows. Internal administrative barriers can lead to a demoralized team meaning maintaining a viable communication bandwidth is time resource intensive for any researcher or entrepreneur. This also includes support from top management for the entrepreneurial mission: rewarding of those involved.
4. Invest in students. If students are given an opportunity and support needed, and also seen as creators of entrepreneurship support: this will help in boosting the moral of students, and also allow for students to be creative and innovative.
5. Invest in staff. Their knowledge, experience and attitude and the entrepreneur as a person matter. Organisation in preparation of workshops, programmes and career advisor awareness programme can be exhausting and time consuming. Reduced teaching loads, monetary rewards and/or excellence may lighten and motivate those involved. In addition, sponsorship to improve on skills needed to run the entrepreneurship unit, may lead to those involved being more innovative and always finding ways to increase revenue in the unit.

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