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Innovation and Intellectual Property in Zimbabwe: A Discussion

GAMALIEL MABHODYERA¹, JUDITH MACHAKA² AND MARKNOUGHLER CHIPETIWA³

Abstract

Modern day financial corruption, poverty, ineffective social security, coupled with rapid increase in globalisation has, for years, left a detrimental dent on innovation and development. Generally, education, knowledge and skill are key to the development of country's economies. The article argues that the snail pace innovation in Zimbabwe has been a result of poor education policies which centred more on research than industrialisation. The article, therefore, discusses the evolution of the education system in Zimbabwe towards production and its relation to the law of intellectual property (IP). The goal of innovation is to have local, national and global impacts which can correspond to the stability of the economy. The study demonstrated how the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development has been instrumental towards the uplifting of the education system. Furthermore, the Education 5.0 curriculum has been viewed as an important aspect towards problem-solving, whereby tertiary institutions play an important role in a common journey of development. The second part of the article unmasks the extent to which the existence of IP as a pro field of innovation has been lagging behind due to the disrespect and ill-consideration of IP rights. The article establishes the relationship between creativity and innovation, which when new ideas are proposed, new skills are implemented based on thorough research. What remains as a catalyst

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is the rate at which such an idea can be successfully implemented. Therefore, on the final part, having outlined the existing dilemmas and problems, the article provides; lessons and recommendations on how the two (innovation and creativity) integral aspects of development can be used wisely for the betterment of social and economic fields.

Keywords: information and technology, development, synergies, creativity, education.

INTRODUCTION

A strong 'culture of development' and progressive innovation have been the modern phenomena adopted by different developed and developing countries, while doing away with plain teaching and research methods which offend total industrialisation. Zimbabwe is among the countries taking heed, and steps towards achieving an upper-middle economy by 2030, which saw the introduction and implementation of the Education 5.0 educational framework, attests to the extent to which Zimbabwe seeks to recalibrate the teaching and learning landscape in universities and higher learning institutions to the end of driving socio-economic development. The last few decades have witnessed a boom of digital transformation and new technology in our day-to-day living. Artificial intelligence (AI), the Internet of Things (IT), data processing and other tools have been embedded in our lives and in companies (Sydle, 2023). The system of Education 5.0 places reliable emphasis on individuals with cognitive skill, emotional intelligence, who are eager and hungry to produce effective results. Almost a decade ago, Education 5.0 has got a huge acceptance in the academic environment because it was linked with the development of suitable and appropriate technology (Sharma, 2019). The major poisonous idea Zimbabwe took before and after independence was dependence on of a poor system of education model which, instead of promoting development, produced after-school graduates with no practical skills. The call for improvement in policy education was heard, adopted and implemented only 35 years

after independence. The decline in Zimbabwe's economy has been attributed to a slow and ineffective implementation and modern education policies which seek to eradicate unemployment. Ineffective intellectual creativity automatically can bring to a halt innovation transformative trajectory. IP rights refer to legal rights given to the inventor or creator to protect his/her invention on creation for a certain period of time (Singh, 2004). The article at the end, gives recommendations on the best way to improve the two intertwined disciplinary fields since a slow in intellectual creativity records a slow in innovation and industrialisation.

CONCEPTUAL FRAMEWORK

IP is an integral part for successful innovation and industrialisation. The article has adopted and used the diffusion of innovation theory, also called the development theory. The theory was developed by Rogers, a communication theorist at the University of New Mexico in 1962. This is a hypothesis outlining how new technological and other advancements spread throughout societies and cultures from introduction to widespread adoption (Halton, 2023). The theory explains that for innovation to take place, there is need for creation of new ideas, while bearing in mind how the new idea is likely to suffer from development barriers. At any event, in decision making process, an individual might decide against adopting an innovation, usually due to some kind of barrier. These barriers are usually the usage or value of the innovation, the risk of adopting something new and psychological factors such as cultural stigma (Halton, 2023). Usually, the adoption of a new idea, behaviour or product does not happen simultaneously in a social system. Rather it is a process whereby some people are more apt to adopt the innovation than others (Behavioural Change Model, 2023). This theory helps in analysis that for innovation to take effect, there should be a creation of new idea. The process of innovation consists mainly of five stages, being knowledge, persuasion, decision, implementation and confirmation (Glover *et al.*, 2019). The article, by use of this theory,

has come to an understanding that the implementation stage after a new idea has been created, has been the most difficult stage as most African states are reluctant to confirm and implement an idea.

METHODOLOGY

The study employs and adopts innovation and development theories contemplated by thorough research analysis. Intellectual property policy provides a mechanism structure and framework that can be used to promote the generation of IP in a research and technology organisation (WIPO, 2014). The article uses secondary data from already published international journals, tool kits, reports from WIPO and other IP international bodies and organisations. The article makes use of primary data by one of the authors who conducted interviews in different state institutions across Zimbabwe, whose report on innovation and establishment of innovation hubs, was helpful. Information from the Ministry of Higher and Tertiary Education, Science and Technology Development is also used since the Higher and Education ministry spearheaded the introduction and implementation of Education Policy 5.0. This, when used together, created a robust, solid research paper which filled the gaps and questions on how intellectual creativity is inseparable from innovation and development.

LITERATURE REVIEW

Experts and surveys of literature on innovation have gone through different definitions, all but having precise meanings. The article adopts a twofold approach review of literature, literature relating to the understanding on innovation and literature relating to IP. The wide variety of literature and language used about innovation adds to different interpretations and understandings about basic concepts about the meaning of innovation. Baregheh found around 60 definitions in different scientific papers, while in 2014 survey, he found over 40 (Edison and Torker, 2014). Innovation can be understood as the practical implementation of ideas (Morrison, 2018). Literature from different scholars somewhat contradicts with

the literature published from the world IP organisations, but such contradiction, however, does not render a nullity the proposed definitions. IP is normally defined as a set of products protected under laws, associated with copyright, patent, trademark, industrial design and trade secrets (Liebowitz, 2011). Schumpeter (1934) asserts that innovation is the creation of new combinations of existing resources, while Godin (2008) understood innovation as the process of having ideas, implementing them, developing new and improving existing ways of doing things which has been part of mankind. It then means, the creating of new ideas cannot be separated from innovation. Godin (*ibid.*) argues that the meaning of the term innovation in the 20th century has been a resolution between two contrasting terms of limitation and invention.

While Schumpeter did not mention in his definition, that there is an inherent limitation of resources which can slowdown innovation process, Godin (2008) is firm in asserting that the creation of new ideas depends on available resources. The UK government defines innovation as the successful exploitation of new ideas or ones adopted from other sectors or organisations (Evers and Brandsen, 2014). The UK government working definition on innovation views innovation as something affecting the external environment and, if ideas are not implemented, it can affect the external environment. For some, innovation is the process by which new ideas turn into practical value in the world (NESTA 2012). For the purposes of this article, innovation can be understood as the creation of new ideas that must be implemented to produce practical inventions. At the end, such literature used, although conflicting, is influential in establishing the relation between innovation and IP.

UNDERSTANDING INNOVATION: A GUIDE

The meaning of innovation has been an area of interest, both for scientists and various ventures, including among legal scholars. One of the serious issues in innovation management is that there is not a solitary and exhaustive definition between specialists, and between

policy-makers and specialists. Innovation means making new things (Afuah, 1998). Researchers and various ventures utilised a different methodology according to numerous points of view regarding the meaning of development, remembering revolutionary or gradual changes for items, cycles and markets. Defining innovation decides the degree and nature of innovation in a specific association or organisation or industry. For example, there can be innovation in indigenous IP such as the patenting of indigenous traditional medicines of Africa (Mposhi *et al*, 2013). Innovation, because of the advancement interaction, is emphatically impacted by how associations characterise the idea of development.

This reality features various basic ramifications for associations and makes another request for the administration of advancement. The innovation process is very complex and multi-dimensional since many factors interact to make possible the emergence of this process (Popa *et al.*, 2010). The capacity to advance is addressed by the capacity to constantly change information and thoughts into new items, cycles and frameworks, to the advantage of both the association and the investors (Evers and Brandsen 2014). The article's aim is to offer an examination of the idea of advancement, considering it as a sole option in regard to the associations' endurance and support of seriousness. Innovation is one of the most important and most complex issues organisations face today. It is the success key for organisations.

OVERVIEW

All persons in Zimbabwe are entitled to acquire, hold, occupy, use, transfer, lease or dispose of all forms of property, also covering IP as provisioned by the Constitution of Zimbabwe of 2013. Innovation security is essential since it permits makers or proprietors of IP to profit from their speculation and manifestations by giving them command over how their property is utilised. Zimbabwean intellectual property law is harboured mainly in the Copyright and Neighbouring Rights Act [Chapter 26:05]. A list of IPs recognised by

Zimbabwean laws include literary works, musical works, artistic works, audio-visual works, sound recordings, broadcasts, published editions (Copyright and Neighbouring Rights Act, section 10). These laws were ratified and adopted by Zimbabwe, which is a signatory to the United Nations organisations and international laws on IP which are significant towards the protection and securing of Intellectual Property Rights (hereinafter referred to as IPRs) and these international instruments are binding in Zimbabwe.

SYNOPSIS OF INTELLECTUAL PROPERTY

There are different ways or systems in which owners of IP receive the rewards from advancements as credit. There are, likewise, different ways or institutional means for a general nation to attempt to cultivate streams of innovation in rates and headings remembered to be legitimate. Regardless of this indecision, essentially, most societies and jurisdictions appear to welcome innovations. One might dare to say that innovation might have made means to remunerate trailblazers by giving them early benefits through a higher probability of prospective success. To comprehend development under the notion of patented innovation rights is objective and unavoidable. Patents provide incentives to individuals by recognising their creativity and offering the possibility of material rewards for their marketable inventions. These incentives encourage innovation that, in turn, enhances the quality of human life (WIPO, 2012).

INTELLECTUAL PROPERTY LAW AS PROTECTION.

Ownership of innovations is incumbent to the operation of the IP law. Intellectual property law carries with it, the aspect of registration of rights over IP, for example, trademarks. Businesses or organisations get to register trademarks as their symbol to distinguished trade in the market. Regardless of whether knowledge can be kept a mystery and exploited, there actually might be a disincentive to contribute on the off chance that there is a huge gamble of independent creation by others. By contrast, without even a trace of a critical risk of independent inventions, on the off chance that the innovator can

exploit information while holding mystery, it is reasonable to do as such. However, that the secrecy can be a practicable system for a singular actor, it is not guaranteed as valuable to the development effort as a whole (Cienega, 2007). Put to perspective, that is exactly how noble IP law is to innovation.

Intellectual property law is triggered when one proves they are the sole creator of an innovative creation of the mind. For such innovation, humanity sees to it that it should be rewarded to the innovator accordingly and no other person may claim ownership or rights over the IP without the creator's or owner's consent, nor without adhering to the correct pedigree of acquiring rights over a piece of IP. Innovation is key to the success of any organisation. Innovation also stems from within company or organisation structures and management, manufacturing and service delivery, production and task undertaking. It is the differentiated aspects of an idea that qualifies it into market for business booming (Crossley and Holmes, 2001). Usually, trade secrets may be registered, for example, food recipes used for production and distinguished characterisation of food products or medicines which booms the product in the target market. It happens that a formula to medicine production can be registered to an individual or collective organisation for private financial benefit that accrues from transferring rights over those formulas to other companies.

Innovation appears in one of these forms: introducing or commercialising new or improved product or service in the application of existing products and services, introducing new production processes or improve existing business processes, opening doors for new markets, developing new supply sources such as materials, equipment and other inputs, fundamental changes in industrial structures and organisation (Tohidi, 2011). Realising the billion-dollar aspect of innovation, IP is essential to the protection and management of innovation within any industry or organisational

sector. IP regulates custody and enjoyment of benefits that accrue from innovation. In the absence of IP rights, there is reluctance to invest in innovation and knowledge whose practical application results in disclosure.

INTELLECTUAL PROTECTION ON KNOWLEDGE RESEARCH AND IMPLEMENTATION OF INDIGENOUS KNOWLEDGE AS INTELLECTUAL PROPERTY

The public domain likewise shrivels with the worldwide extension of IPRs, for example, the presentation of licenses for drugs, or copyright on instructive works in nations that did not already perceive IPRs (World Trade Organisation, 2018). It establishes the minimum standards for the regulation by national governments of different forms of IP as applied to nationals of other World Trade organisation (WTO) member nations (TRIPS, Article 3).

The required international IP norms have never been matched by commanded innovation transfer or research and development interest in non-industrial nations or LDCs (Least Developed Nations). This is simply a matter for private decision-making. The subsequent awkwardness has seen calls to link intellectual property ownership to national command over assets. The hereditary biodiversity, which the biotech business requires, is predominantly situated in emerging nations and LDCs.

ZIMBABWE EDUCATION SYSTEM: THE CRY OR DIE PERIOD

The Zimbabwean education system revolved more around teaching literacy and community service. The adoption of Education 3.0 by the Government of Zimbabwe went a step higher in adding research to the goals of Zimbabwe's education services in tertiary education. With research, comes innovation, and new ideas. Crossley and Holmes (2001) posit that educational research is being increasingly challenged for not contributing effectively enough to the improvement of policy and practice worldwide. Emphasis should be put on the word, "practice". Elsemon (1998) asserts that Africa's educational research capacity has increased enormously in recent

years, despite the crisis in higher education in many African countries and the lack of enthusiasm for education. He goes further to explain the deficiency in innovation, saying that the management and monitoring emphasis of its prescriptions for qualitative improvement of primary and secondary education does not address many issues of fundamental importance to educational policy, the first one being research to nurture innovation within society. It is common reasoning that colonial education in Zimbabwe focused on equipping employees, the substratum being literacy and arithmetic understanding of tasks save for innovative thinking within students.

Now the advent of Education 5.0 in Zimbabwe served the purpose of equipping tertiary education institutions with innovation hubs at state universities, a fair stride towards innovation which, however, discriminated against private universities. A good example stated by Waswa *et al.* (2023) is that one of the universities was manufacturing electricity transformers, which is never a form of industrialisation, but implementation of intellectual designs already on the market. In essence, it denotes industrialisation, no better than Rhodesian education system (*The Herald*, 27 June 2019). Education 3.0 was a rigid educational system (Prof. A. Murwira). The development of the Education 3.0 curriculum still carried with it political connotations in laying proper black bases in the employment sector. The Rhodesian structure of education tended to be biased against the black majority. Ziwira (2020) posits that in institutions of higher learning, the curriculum is determined not only by social forces or the defining traits of what constitutes or lack thereof, but also by growth and development. Likewise, the coming in of the Ministry of Higher and Tertiary Education, Science and Technology Development, under the authority of Professor Amon Murwira, revamped the bias in institutions of higher learning by replacing Education 3.0 with Education 5.0. Prior to the introduction and adoption of Education 5.0, one needs to note the limited play of IP law.

THE GENESIS OF THE EDUCATION 5.0 AND INNOVATION: A SUCCESSFUL MINISTERIAL TRAJECTORY

Mpepereki (2021) states that Education 5.0 came with the mantra, 'our heritage is our tangible and intangible asset' (*The Herald*, October 19, 2023). He further submits that the prevalence of employment is because of the colonisers who designed Education 3.0 to supply labour to their factories and enterprises, which have since closed shop. It is this realisation of the rigid nature of Education 3.0 that stirred the need for Education 5.0, which focused on national development activities towards a competitive, modern and industrialised Zimbabwe. Education 5.0 looks deeply into threatening disruptive technologies such as the Internet of Things (IoT), advanced robotics and the automation of knowledge work that continue to dramatically reshape global business and social landscape (Jonathan, 2022). These institutions, by combining critical thinking, creative thinking, innovative and an entrepreneurial mindset to the technological knowhow can provide national economy impacting industrial solutions (Jonathan, 2022). IP is there to protect the proceeds of such innovation, bred within Zimbabwe. It is not so clear through legal regulation of the procedure for university students and university alumni how to register ownership of IP. Mapara (2009) asserts that the law remains silent on whether a university student will benefit adequately from the IP that they enjoy ownership of, after using state university resources for research. That remains an area of contention in trying to harmonise innovation and IP law under Education 5.0.

INTELLECTUAL PROPERTY ON TRADITIONAL MEDICINES KNOWLEDGE

Traditional knowledge has played a significant role in the research and development programme of industry and continues to be a substantial factor in the commercialisation of natural products. The growing interest in traditional medicines and their economic importance has stirred up a wide range of public policy issues including those associated with IP protection (ARIPO, 2012). One needs to ponder on whether IP laws in Zimbabwe have developed to cover emerging disputes over IPRs. Mutandwa and Moyse (2003)

discuss that despite the formulation and enactment of laws concerning benefit-sharing, only an extremely small percentage of a company's profits are given to the nation from which the resource is derived.

CONCLUSION AND RECOMMENDATIONS

The interplay between innovation and IP is that of a creation and a custodian. IP remains key to encourage and guarantee innovation in any industrial setup. IP in Zimbabwe, as a constitutional right, remains protected by statute and public policy towards rewarding efforts made to realisation of creations of the mind. IP law in Zimbabwe is requisite in its most advanced and efficient form to protect innovations around indigenous medicines of Africa and Zimbabwe at large and also determining financial success to innovative university students equipped through Education 5.0. However, institutionalised research is prone to political bias and manipulation to the effect that IP should be adequately armed to combat such undue bias.

Innovation can never be separated from the topic of IP. In essence, IP law is the mechanism in which innovation is encouraged, secured and protected accordingly, without a follow up surviving hurdle. As Scotchmer (1991) alludes, IPs are creations of the mind which can be owned and their use can be restricted by the creator of the IP. Just as real property, the owner of IP gets to determine the rights and obligations that comes with it, such as ownership, disposal and transfer of rights temporarily through leasing or permanently through transfer of ownership. Characterising innovation in the standard manner as a new creation, demonstrated to be valuable, be it specialised, authoritative, financial, institutional or social, obviously gains development the reason for headway or development in all areas of human undertaking. At that point, it then, happens to stay substratum to track down ways of considering forward a stream of developments and innovation in creation of property, including IP.

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