



Paper

ACHIEVING UGANDA'S NDP III GOALS:

**HOW INTELLECTUAL PROPERTY, DIGITAL
TRADE AND THE 4IR CAN FACILITATE
AN INCLUSIVE AND ROBUST DIGITAL
ECONOMY**

By Kenneth Muhangi

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**PAPER PRESENTED TO THE PERMANENT SECRETARY,
SECRETARY TO THE TREASURY AND PERMANENT SECRETARY
MINISTRY OF ICT ON ACHIEVING UGANDA'S NDP III
GOALS: HOW INTELLECTUAL PROPERTY, DIGITAL TRADE AND
THE 4IR CAN FACILITATE AN INCLUSIVE AND ROBUST
DIGITAL ECONOMY**

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THE FOURTH INDUSTRIAL REVOLUTION AT THE WORLD
ECONOMIC FORUM**

SYNOPSIS

Technological innovations fusing the physical, digital and biological domains and labelled as the “Fourth Industrial Revolution” (“**4IR**”) have created opportunities that have fueled economic and social systems in a manner thought unattainable by previous industrial revolutions.¹

The 4IR is characterized by the growing utilization of new technologies such as artificial intelligence, cloud computing, blockchain, robotics, 3D printing, the Internet of Things, and advanced wireless technologies; the use of legally enforceable property-like rights to encourage innovations of various kinds is perhaps the oldest institutional arrangement that has facilitated technological advancement. Intellectual Property (**IP**) is the mereological sum of inventions, literary and artistic works, designs and symbols, names and images used in commerce; Intellectual Property is to creations of the mind as technology is to the Fourth Industrial Revolution (4IR).

In common parlance, these Intellectual Property Rights (“**IPRs**”), comprising old types of rights such as patents and utility models (*for inventions that are solutions to technological problems*), trade secrets, copyrights, trademarks, and design rights, together with newer ones such as plant varieties, geographical indications, image rights and database rights² have long legal and economic histories, often with concomitant controversies.

Inversely and despite their long history, until recently IPRs did not occupy a central place in debates over economic policy, national competitiveness, or social welfare. In the last quarter of the twentieth century, however, a new era—dubbed the pro-patent or pro-IP era—emerged, first in the US and then globally. These changes provided policy makers in both developed and developing countries with new opportunities to leverage on these innovations and technology to fast track inclusive and robust digital economies.

¹ The Leapfrog Model: What Technology Can Do for Africa, The Economist, November 11th 2017 edition available at <https://www.economist.com/special-report/2017/11/10/what-technology-can-do-for-africa>

² O. Granstrand, The Oxford Handbook of Innovation (2003)

This paper introduces and makes a case for intellectual property as the haecceity or “thisness” of Uganda’s digital economy. With IP at the forefront of policy, Uganda and her people can effectively harness financial technologies, big data, digital trade among the many areas of the Fourth Industrial Revolution (4IR). IP at the center stage of Uganda’s industrialization will fast-track an inclusive economy in conformity with the Third National Development Plan (**NDPIII**) 2020/21 – 2024/25.

NDPIII OVERVIEW AND PROBLEM STATEMENT

The East African Community (“**EAC**”) is made up of six countries: Uganda, Kenya, Tanzania, Rwanda, Burundi, and South Sudan. It is comprised of approximately 177 million people (as at 2019) with 22% of this being an urban population. This population generates a combined GDP of USD 193.7 billion (according to the EAC statistics 2019)³.

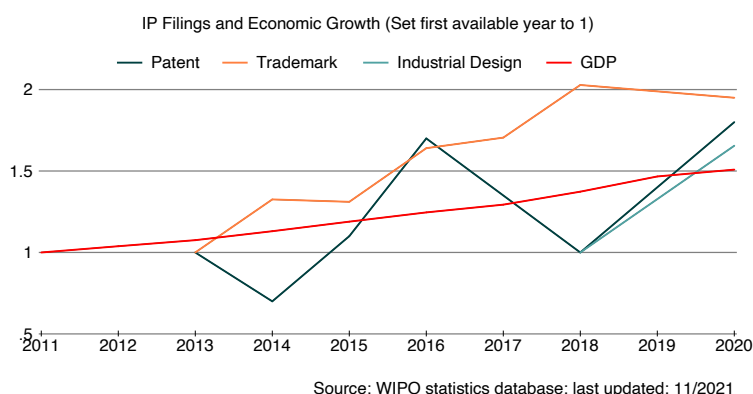
Within the East African Community, Uganda is a landlocked country and situated north and northwest of Lake Victoria. It has a total area of 236,040 sq. km (91,136 sq. mi). Uganda was conferred the title, Pearl of Africa as if to conversely ratify a collaboration between a chaos and a necessity, present in 36,330 sq. km (14,027 mi) of inland fresh water and the 19,000 sq. km of picturesque national parks and wildlife reserves. Her population of 46.3 million people, as of January 2021⁴, boasts of an adult literacy rate of 76.53% and internet penetration as of January 2020, of 26.2% (12.16 million users).

Uganda’s geographical location has in the recent past affected its balance of trade position. Notwithstanding the wealth of resources abundant In the pearl of Africa, Uganda’s exports fare poorly against her imports. It is unclear whether it is her land-locked nature or her tumultuous post-colonial history that birthed a culture that produced less and consumes more but, it is this culture of exporting her raw materials and importing finished products that has left Uganda at a disadvantaged bargaining position in the global economy.

³ <https://www.eac.int/eac-quick-facts>

⁴ *ibid*

According to the World Intellectual Property Organization (**WIPO**) Global Innovation Index 2020, Uganda ranked 114th out of 135 countries. In 2019 she ranked at 102 and in 2018 at 103. According to **WIPO**⁵, by 2020, Uganda had only 18 Patent filings (with GDP at 99.61 Billion US\$ (2020)) compared to 424 in Kenya (with GDP at USD226.94B) and 1,457 in South Africa (GDP at 680 Billion USD). Although we are somewhat atoned by the number of Trademark applications; (1,593), this is disconcerting compared to the 2,058 in Zambia, the 6,323 in Kenya and the whopping 35,323 in South Africa. The disparity is alarming and should inform debate to examine the causes of this challenge.



The devil is in the detail, and there is a clear correlation between GDP and IP. Countries with high IP filings and with IP policy at their core, have a higher GDP than those with low numbers and little or no emphasis on policy. The people of Uganda are yet to harness the true potential of Intellectual Property (IP) and the knowledge gap between the learned and unlearned leaves a lot to be desired in as far as leveraging IP to increase household incomes is concerned. Stakeholders, policy makers and government should make deliberate effort to sensitize people about the opportunities that lie in Intellectual Property and the Fourth Industrial Revolution (4IR).

Uganda's NDP III envisions a transformed Ugandan society from a peasant to a modern and prosperous economy. NDP III is the third of six

⁵ https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=UG

NDPs that will guide the nation and deliver the aspirations of the people of Uganda, as articulated in Uganda Vision 2040, EAC Vision 2050, Africa Agenda 2063 as well as the Sustainable Development Goals (SDGs).

The Third National Development Plan also consolidates the achievements of the previous Plans. Since 1986, the National Resistance Movement (NRM) Government has been steadfast in providing an enabling environment for the private sector and Ugandans as a whole. The country has much to be proud of most notably in the areas of security, expansion of economic and social infrastructure in Information and Communication Technologies (ICTs) and access to social services. This is evidenced by the doubled size of her economy's GDP from UGX 64.23 trillion in 2010/11 to UGX 128.49 trillion in 2018/19⁶.

Uganda's NDPIII is themed, ***“Sustainable Industrialization for Inclusive Growth, Employment and Wealth Creation”*** and emphasizes resource-led industrialization. According to Dr. Ramathan Ggoobi⁷, the Permanent Secretary and Secretary to the Treasury (PSST), resource-led and sustainable industrialization will enable value addition to key growth opportunities in agriculture, tourism, minerals and trigger structural change and eventual movement of labor from low-paid agriculture to relatively better paid industrial employment. This transition should stimulate increased incomes and demand for agricultural output, quality education and health services which in turn translates to improved quality of life of Ugandans.

Chapter 13 NDPIII⁸ addresses innovation, technology development and technology transfer as drivers to an inclusive and robust digital economy. It is imperative that Uganda's policy makers add Intellectual Property among the key drivers to a developed economy.

⁶ Ministry of Finance, Planning and Economic Development (2019). National Budget Framework Paper FY 2020/21 - FY 2024/25

⁷ Remarks to CEO's at the 1st CEO Delegates Retreat at the National Leadership Institute Kyankwanzi 3-5th December, 2021

⁸ *ibid*

INTELLECTUAL PROPERTY AS FUEL FOR AN INCLUSIVE AND ROBUST DIGITAL ECONOMY

In the 21st Century, IP & 4IR are not mutually exclusive but complement each other. For the 4IR to flourish, IP must remain at the forefront of policy and must be imbued in the very nature of innovation. Since time immemorial, Intellectual Property has played a key role in society, trade and commerce in Uganda. In society, songs from icons such as Elly Wamala and Philly Bongole Lutaaya have regaled celebratory fireplaces during the Christmas season and are played on nearly each radio station. In trade and commerce, our coffee, rice and tea are revered world over for their signature taste and texture, our Ankole long horned cow is treasured for its resilience to disease and durable artifacts molded from its horns. These are just a few of the many unique areas that represent opportunities for intellectual property in Uganda. The same opportunities also expose the dire requirement for intellectual property protection.

Whereas the world was inadvertently brought to a halt because of the Covid19 pandemic, the new normal propelled and created a demand for services that were made possible by the 4IR. During the government-imposed lockdown in Uganda, E-commerce became the preferred mode of trade as Ugandans who stayed home and consumed curated entertainment all required essential services that could be accessed through the internet and social media. COVID-19 also showed policy makers that intellectual property and technology are vital precipitators for research and development and access to medicines.

NDP III in addressing the necessity for innovation, technology development, and technology transfer as drivers to an inclusive and robust digital economy offers support to the operationalization of the Security in Moveable Property Act, 2019 that allows creatives to use their IP as collateral for loans. The Act operates conjointly with the National Intellectual Property Policy which speaks to the commercialization of intellectual property through establishment of appropriate infrastructure that supports innovation and creativity, development of human capital for the intellectual property value chain and enhancement of the utilization of the intellectual property system.

CASE STUDY: IP & THE ENTERTAINMENT INDUSTRY

IP through protection of copyright, trademarks, broadcasting and other neighboring rights has provided employment, stable livelihood and household incomes for creatives and innovators in the entertainment industry, created healthy and non-monopolized local, regional and international competition and created a new revenue stream that has widened Uganda's tax base.

Globally, entities such as the **International Federation of the Phonographic Industry (IFPI)** continue to campaign for a better IP legal environment for its member record companies to conduct business in around the world, their work often involving fighting for and defending the rights of those that make music possible. For example, a long-term campaign in China bore fruit last year when its government established full performance rights and as such for the first time, revenue for right holders will be generated for the use of recordings in public performances and broadcasts, enabling further re-investment into the music community in the country.

In 2020, the global recorded music market grew by 7.4%; in addition subscriptions to music streaming platforms rose by 18.5% with increase in revenue to USD \$443m. This marked the sixth consecutive year of increasing revenues, thanks to a continued rise in paid subscription streaming revenues which offset a decline in physical and performance rights revenues.

There was growth in eight of the top 10 markets globally, largely driven by streaming. Revenues from subscription streaming, in particular, increased across the board. Record companies' ongoing hard work and investment laid the foundations for a now predominantly digital industry and helped to ensure its resilience against the extraordinary circumstances of 2020. The top 10 music markets of 2020 according to IFPI were the USA, Japan, the UK, Germany, France, South Korea, China, Canada, Australia and the Netherlands. In Africa, recorded music revenues increased by 8.4% in 2020 with streaming dominating (with revenues up to 36.4%) in South Africa.¹⁹ It is estimated that the UK is the

largest digital music market in Europe and generated approximately \$1 billion in revenue in 2020 alone⁹.

According to the UK parliament¹⁰, prior to the Covid-19 pandemic, the creative industries added between £110 and £130 billion to the UK economy, supported over two million jobs and, since 2010, grew at nearly twice the rate of the economy as a whole. The UK music industry contributes an estimated £5.2 billion in gross value added (GVA) to the UK economy per year, of which recorded music generates approximately £1.5 billion in retail revenues: a figure that is also growing year-on-year.

The industry employs over 200,000 people, ranging from music creators (*including over 50,000 UK artists*) and their ecosystems, music venue and touring staff and employees of record labels, music publishers, music streaming services and collecting societies, based in every nation and region of the UK, stimulating local economies across the country. Annually, the sector generates £2.7 billion in exports, and recorded music specifically generates £500 million in export revenues.¹¹

Uganda's music industry has the potential to compete at this scale through intellectual property. There are two distinct bundles of rights that are exploited when music is streamed: the copyright in the song lyrics and music and the copyright in the performance (*referred to as "the recording/master" or "recording/master rights"*)¹². A song can often benefit from being performed and recorded multiple times by different artists over time. Songwriters and composers work with music publishing companies to exploit song rights, whilst performers work with record labels to exploit recording rights. Recording rights are licensed directly to streaming services by record labels or aggregators and distributors, whilst song rights are licensed collectively through collecting societies, which are bodies that license copyrighted works on behalf of rightsholders and ensure these rightsholders are remunerated for such usage in return for administrative fees.

⁹ <https://publications.parliament.uk/pa/cm5802/cmselect/cmcmums/50/5005.htm>

¹⁰ Ibid 9

¹¹ Ibid 9

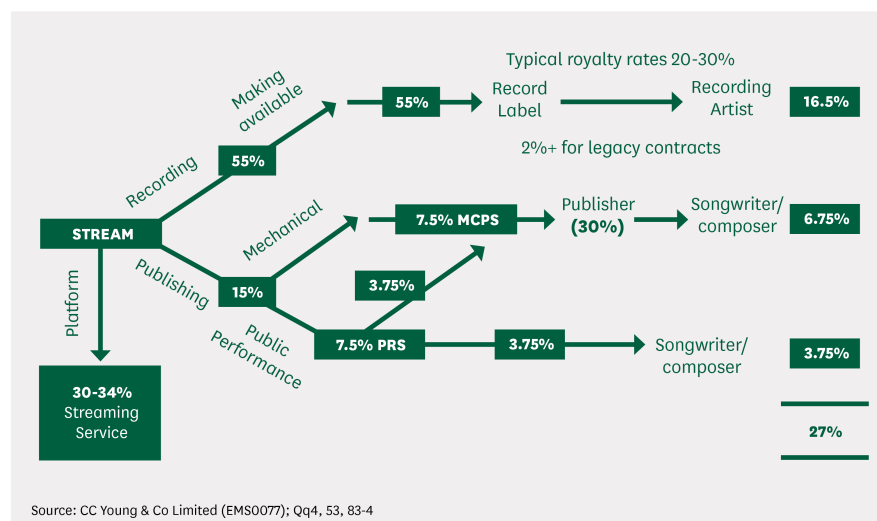
¹² Ibid 9

Through copyright registration, artists and creatives are encouraged to professionalize their music business in the form of license agreements and assignments and on the flip side, Uganda can receive revenue from organized/recognized music streaming subscriptions in the form of value-added tax (VAT), which is an indirect tax levied on most goods and services in Uganda, at the standard rate of 18% percent. The remaining share is translated to royalties going to the rights holders.

Music is intrinsically about culture which illuminates the issues that in the collection and quantification of such statistics, the whole process is dominated by a western music model that Uganda is not close to, matching in structure and is therefore inevitably excluded from. Secondly, the renaissance of the general African Independent business in the influence of a post-colonial hybridity has seen countries like South Africa and Nigeria because of their structuralizing rising and earning greatly into the global music market (with about \$38 Million earned in Nigeria in 2020)¹³ In Uganda, this must begin with an infiltration into the already existing music culture through IP policy that will give creatives the opportunity to exist as they are.

Allocation of revenues from music streaming (after VAT)

All percentages are approximate or illustrative



¹³ • [Nigeria music market revenue 2023 | Statista](#)

While intellectual property law has been majorly used as a tool to protect creations of the mind such as artistic works, designs, invention and symbols; the emergence of intellectual property-based financing creates an opportunity for accessing credit that ought to be explored.

The Companies Act 2012 under **Section 105** requires companies registered in Uganda to register every charge created and among the charges referred to, includes a charge on goodwill, on a patent or a license under a patent, on a trade mark or on a copyright or a license under a copyright. It is important to note that under the definition section of the Companies Act 2012, a **charge** means "a form of security for the payment of a debt or performance of an obligation consisting of the right of a creditor to receive payment out of some specific fund or out of the proceeds of the realization of specific property."

Creatives in Uganda can now pledge their intellectual property to secure funding. **The Security Interest in Movable Property Act 2019 (SIMPO)**, defines intangible assets to include intellectual property and under the Act, intellectual property means literary, scientific and artistic works protected under **The Copyright and Neighboring Rights Act, 2006**, industrial property rights protected **The Industrial Property Act, 2014**, trademarks as protected in **The Trademarks Act, 2010** and any other related rights that may include a trade secret as protected under the **Trade Secrets Protection Act, 2009**.

SIMPO, has the potential to provide Uganda's creatives, who are mainly urban youth, access to revenue and accord them a stronger position to include intellectual property in their business components and intentionally foster innovation as they can now see it as a bankable asset.

SIMPO is complemented by **IP valuation** where the value of an IP asset essentially comes from the right the owner of that asset has to exclude competitors from using it. For an IP asset to have a quantifiable value it should; generate a measurable number of economic benefits to its owner/user; and enhance the value of other assets with which it is associated. However, Uganda lacks IP valuation capabilities with IP valuation traditionally almost exclusively a preserve of the Courts in

Uganda. For example, in the case of **Kakoma v The Attorney General (Civil Suit 197 of 2008)**, the only valuation tool for a musical work was the estimate of the shs.2000/= commission for the composition of the musical work (with the current presumed value of shs.50,000.000/=) as well as "the time taken and effort expended on the song" as the *ratio* payable to the Plaintiff as he signed off the residue of his interest in the national anthems copyright in favor of the Defendant for its exclusive use thereafter.

These IP valuation variations are further illustrated in the divaricating case of **Katatumba v Anti-Corruption Coalition Uganda (Civil Suit 307 of 2011)** decidedly judged in consideration of the aforesaid Kakoma case where the fact that the Plaintiff owned the copyright to her song exclusively (unlike in the Kakoma case where the copyright was jointly held by the plaintiff and the Defendant), secondly, that she had not received any monetary recompense from the defense and thirdly, that she produced the song purely for business reasons, determined a much higher sum to the tune of **UGX 25,000,000** for general damages, aggravated damages of **UGX 30,000,000/=**.

Even while such rationale for the basis of damages is justifiable by case law and precedent, it is clear that there are no clear-cutting methods even for the courts of law to value IP assets in contentious matters. This is an opportunity for the Government of Uganda to leverage knowledge transfer mechanisms (*for example through the World Intellectual Property Organization and the World Trade Organization*) by merging internationalized standards of IP asset valuation with existing considerations.

It follows that with such standards of valuation, music and the creative arts will truly become assets that could be mortgaged/hypothecated to credit institutions, which in turn contributes to GDP and increases household income.

Furthermore, in attracting partners, venture capitalists need to know the value of that company's IP. Proper valuation of IP assets can therefore help win over such potential investors, who tend to look for maximal return and minimal risk. In addition, if you're considering a joint venture,

strategic alliance, merger or acquisition, IP valuation can assist in understanding how much value the IP assets of all parties contribute to the partnership. Even in Licensing and franchising, having a thorough understanding of IP assets before licensing negotiations will help ensure that the rights holder makes informed decisions.

CASE STUDY: IP & AGRICULTURE

Outside of the creative industry, IP valuation creates an opportunity for increasing the value of packaged/branded agricultural products. In 2020, agriculture contributed around 24.03 percent to the GDP of Uganda, 26.18 percent came from the industry, and 43.01 percent from the services sector.

According to the United States International Trade Administration (ITA)¹⁴, Investors consider Uganda's agricultural potential to be among the best in Africa with multiple crop harvests per year owed to Uganda's low temperature variability, fertile soils, and two rainy seasons over much of the country. Uganda produces a wide range of agricultural products including: coffee, tea, sugar, livestock, fish, edible oils, cotton, tobacco, plantains, corn, beans, cassava, sweet potatoes, cassava, millet, sorghum, and groundnuts. In fiscal year 2020/2021, agriculture accounted for 31% of export earnings juxtaposed against UBOS estimates that about 70% of Uganda's working population is employed in agriculture¹⁵.

The ITA opines that commercialization of the sector is impeded *inter-alia* by the lack of quality packaging capabilities, shortage of agricultural credit and limited knowledge of modern production practices. Ugandan producers often find it difficult to meet sanitary and phytosanitary standards required to export goods to Europe and the United States. In March 2021, Kenya banned the importation of maize from Uganda, noting that it contained high levels of aflatoxins. After the ban, only grain exports tested and certified by accredited labs in Uganda to meet acceptable safety levels are permitted into Kenya.

¹⁴ <https://www.trade.gov/country-commercial-guides/uganda-agricultural-sector>

¹⁵ Ibid 13

IP leaning policy focused on trademarks for packaged agricultural products increases the value of the product and will increase Uganda's exports. For example, archaeological evidence suggests that salt-making at Kibiro around Lake Albert in Uganda has been practiced for about 700–800 years. Listed as a UNESCO World Heritage Site, Kibiro salt mining and production, was one of the key economic trade resources of Ancient Bunyoro-Kitara and sustained her people for more than 700 years¹⁶. However, as at December, 2019 Uganda imported Shs94.7b (\$25m) worth of salt.¹⁷ For an ordinary Ugandan consumer, salt will most likely be bought in packaged form from a local duuka (grocery) or supermarket shelf.

According to Uganda Coffee Development Authority, coffee exports between March 2020 to February 2021 totalled to 5.56 million bags worth US 511.21 million compared to 4,74 million bags worth US\$ 459.47 million the previous year. This represents 17% and 11% increase in quantity and value respectively. 74% of the total volume was exported by 10 exporters, out of 37 companies which performed during the month compared to 72% in January 2021, reflecting increased concentration¹⁸.

Coffee processors at different levels in the processing can benefit from exploiting the value of geographical indications, plant varieties, trademarks, certification and collective marks. To increase her export base, Uganda's coffee farmers including seed producers and nursery operators should be informed of the value in exploiting speciality coffee blends; very fine quality coffee shall fetch high returns when a branding and licensing strategy to exploit IP rights is employed. Cooperatives, umbrella groups and trade associations are key institutions through whom Uganda's government can teach the benefits of IP commodification.

¹⁶ <https://bunyorokitarakingdom.org/2017/07/24/kibiro-salt-mining-one-of-the-bunyoro-kitaras-ancient-trade-activities/>

¹⁷ <https://www.monitor.co.ug/uganda/business/commodities/annual-salt-imports-grow-to-shs94-7billion-1891874?view=htmlamp>

¹⁸ <https://ugandacoffee.go.ug/sites/default/files/monthly-reports/February%202021.pdf>

Intellectual Property protection requires strategic legal and business expertise to carefully and calculatedly protect an agricultural product in all its facets and in all stages of the production value chain. The justification for Intellectual property is a fair reward for effort; It protects the commercial value of a product through the grant of exclusive rights to the owner to use the mark. This “use” extends to use of the mark in branding, as a logo and in the overall market strategy.

A brand strategy focused on geographical indications and trademarks further offers Uganda’s agriculturalists and industrialists the advantage of exploiting products unique to her geography. A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. In order to function as a GI, a sign must identify a product as originating in a given place¹⁹. GI’s will protect coffee and other unique products that originate from Uganda ranging from bamboo shoots (Malewa) in Eastern Uganda, bark cloth (Lubugo) from Buganda and the Ankole cow, to mention a few.

In particular, barkcloth locally known as *olubugo*, is made using ancient techniques that the people of Buganda Kingdom have preserved for centuries and this process of making bark-cloth predates the invention of weaving²⁰. Recognition and protection of GI’s would ensure that fabric and footwear producers²¹ acquire barkcloth from registered and recognized farming societies/communities in Uganda which in turn increases value, bolsters foreign exchange whilst curbing knowledge transfers and preserving heritage.

Without branding and trademarks, Uganda will continue to export raw materials and import salt and other consumables that could be locally produced, packaged and sold locally and globally.

Branding and packaging increases brand loyalty and guarantees competitiveness and increased tradability. For industrialization and *Buy Uganda, Build Uganda (BUBU)* to work, Uganda must brand and

¹⁹ https://www.wipo.int/geo_indications/en/

²⁰ <https://ich.unesco.org/en/RL/barkcloth-making-in-uganda-00139>

²¹ <https://www.nationalgeographic.com/travel/article/bark-cloth-textile-clothing-unesco>

package her products well. Humans are psychologically more disposed to follow a brand as opposed to an ambiguous concept; for example, the national flag of Uganda is the national brand of Uganda by which her citizens patriotically rally behind. Trademarks and industrial design have the potential to change the status quo and increase tradability in Ugandan products.

UGANDA'S IP LEGAL AND POLICY FRAMEWORK

Table A- Domestic Laws

Uganda	Kenya	Tanzania	Rwanda	Burundi	South Sudan
The Industrial Property Act, 2014	Industrial Property Act, 2001. Together with amendments.	Copy Right and Neighboring Rights Act, 1999	Law No. 31/2009 of 26/10/2009 on the Protection of Intellectual Property	Law No. 1/13 of July 28, on Industrial Property in Burundi	The Copyright and Neighboring Rights Protection Act, 1996
The Geographical Indications Act, 2013	Trademark Act, Cap 506	The Patents (Registration) Act, 1995		Law No. 1/021 of December 30, 2005, on the Protection of Copyright and Related Rights in Burundi.	Literary and Artistic Works Act, 2008
The Trade Marks Act, 2010	Anti-Counterfeiting Act, 2008	The Trade and Service Marks, Act, 1986			Industrial Designs Law No. 18 of 1974
The Trade Secrets Protections Act, 2009	Copyright Act, No.12 of 2001	Merchandise Marks Act, 1963 (Act No, 20)			Patent Law No.58 1971

The Copyright and Neighboring Rights Act, 2006	The Seeds and Plant Varieties Act, Cap 326	Trademark Law No. 8 of 1969
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The above laws are interpreted hand in hand with other supporting Acts, Regulations and Amendments made thereunder.

Table B- Regional Treaties

Applicable Treaty	Uganda	Kenya	Tanzania	Burundi	Rwanda	South Sudan.
Banjul Protocol on Marks within the Framework on the Regional Industrial Property	✓		✓			
Cultural Charter for Africa	✓		✓	✓	✓	✓
Harare Protocol on Patents and Industrial Designs within the Framework of the African Regional Industrial Property Organization.	✓	✓	✓		✓	✓
Lusaka Agreement on the Creation of the African Regional Intellectual	✓	✓	✓		✓	✓

Property Office.						
Treaty for the Establishment of the East African Community	✓	✓	✓	✓	✓	✓
Treaty Establishing the Common Market for Common Market for Eastern and Southern Africa.	✓	✓	✓	✓	✓	✓

Table C- International Treaties

Treaties	Uganda	Kenya	Tanzania	Rwanda	Burundi	South Sudan
Patent Cooperation Treaty	✓	✓	✓	✓		✓
Convention Establishing the World Intellectual Property Organization	✓	✓	✓	✓	✓	
Paris Convention for the Protection of Industrial Property	✓	✓	✓	✓	✓	✓
Nairobi Treaty on the Protection of	✓	✓				

**Olympic
Symbols**

Marrakesh

✓

✓

**Treaty to
facilitate
Access to
Published
Works for
Persons Who
are Blind,
Visually
Impaired or
Otherwise
Print Disabled.**

Madrid

✓

✓

**Agreement
Concerning
the
International
Registration of
Marks**

Berne

✓

✓

✓

✓

✓

**Convention
for the
Protection of
Literary and
Artistic Works**

Nice

✓

**Agreement
Concerning
the
International
Classification
of Goods and
Services for
the Purposes
of the
Registration of
Marks.**

Hague

✓

Agreement

CASE STUDY IP & FINANCIAL TECHNOLOGY, DIGITAL TRADE AND BIG DATA

Uganda has over 28.01 million mobile connections that increased by 1.1 million between January 2020 and January 2021²²; this number correlates to 60.3% of the total population. The devil is in the detail, or in this case the numbers as it is no surprise that Uganda's Financial Technology (FinTech) sector as of 2016, had a transaction volume of USD 4.7 billion (17.6 trillion).

Without point-of-sale machines and online/mobile banking expediting entry into our national parks, tourism would most likely contribute less than the 3% it currently contributes to Uganda's GDP. Without mobile money, global remittance, and payment platforms (that are also key enablers for e-commerce and ride hailing), Uganda's GDP would be less than its current USD 99.61 Billion. Without blockchain (and other distributed ledger technologies) big data, cloud computing and Artificial intelligence that are at the core of FinTech, developments such as credit scoring and analytics would remain a preserve for the western world. Without virtual private networks and two factor authentication to secure online payments, Uganda's digital economy would practically be obsolete.

There has been and will continue to be a significant boom in innovation and technology in the 4IR in Uganda. From the disruption of payment systems through financial technologies like mobile money, Safe Boda Cashless, Jumia Pay, Chap Chap, Multigate and TBP; the accessibility of music and films through streaming services like Kiasi TV, creation and design through 3D and AI and to advancements in medical drone

²² <https://datareportal.com/reports/digital-2021-uganda#>

delivery with Zipline & Infectious Diseases Institute, Makerere all of which have intellectual property at their core.

The co-dependence that has caused Uganda's technology ecosystem to thrive within the fourth industrial revolution is so, first and foremost because of regulation. Uganda enjoys an evidence-based approach to regulation, and this has allowed investment in sectors like digital trade and FinTech to permeate all of Uganda's key income sectors. The regulation of innovation sandboxes for example, under the National Payment Systems Act, 2020 (NPS) has allowed investors in FinTech to live-test novel innovations that are interoperable within the traditional banking industry.

The NPS Act regulates payment system operators, payment service providers (who among others include electronic money issuers), and issuers of payment instruments. Section 5 of the Act gives powers to Bank of Uganda to regulate, supervise and oversee operations of payment systems and this has by advertence, opened previously over regulated sectors such as banking.

FinTech is and will continue to remain a staple for Uganda's digital economy. With mobile money penetration beyond 40% of the adult population in Uganda, traditional banking must continue its collaboration with FinTech. October 4, 1957, saw The Soviet Union achieve the first successful ever launch of a satellite into orbit with Sputnik 1²³. The launch precipitated the start of a long and expensive space race/war with the United States of America that yielded little for the collective good of the Planet save for furthering an obtrusive political and ideological agenda. Contrariwise, it was their mutual collaboration decades later that supported altruistic space exploration which has invaluablely added to the fields of astronomy, physics, biology and even philosophy.

Other laws like the Electronic Transactions Act, 2011 (ETA) have directly enabled the shift from traditional banking by authorizing the use, security, facilitation and regulation of P2P transfers, electronic

²³ <https://history.nasa.gov/sputnik.html>

communications, and other online transactions. The ETA (together with the Electronic Signatures Act, 2011) also significantly provides for the legal recognition of electronic transactions, records & signatures, which guarantees effective enforcement of the rights of consumers, if infringed.

The Data Protection and Privacy Act, 2019 (DPPA) has also increased consumer confidence and participation in FinTech by regulating the use and transfer of personal data. Data protection and Fintech inter-are. Personal data²⁴ is defined as any information relating to an identified or identifiable person (a data subject) and is at the core of FinTech. Without personal data, FinTech algorithms would not be able to perform or conclude payment instructions as it would be impossible to distinguish one data subject from another without the use of personal identifiers.

Data protection revolves around several principles encapsulated by notions that a data controller/processor should be accountable to the data subject for data collected, processed, held or used; data should be collected in a lawful and fair manner; it should be adequate, minimal and not excessive, accurate, not misleading & up to-date, collected transparently, should not be kept longer than necessary, should be secure and overall should only be used for the purpose for which it is collected.

The Data Protection regime also allows FinTech domiciled outside Uganda to utilize standard contractual clauses (SCCs) that allow the lawful cross-border transfer of data into and out of Uganda. SCCs are standard form clauses pre-approved by an oversight data protection agency that govern the relationship between a data subject and collector/processor in relation to the use and transfer of personal data. SCC's may enable a payment platform to exploit advanced cloud computing infrastructure outside of its jurisdiction without fear of reprisal from oversight Data Protection Agencies. Without SCC's it would be difficult for many of the world's leading FinTech-payment platforms that leverage personal data as a tool of trade, to operate in multiple markets whilst following best practice in regards to privacy and data protection.

²⁴ Section 2 of the Data Protection and Privacy Act, 2019.

The DPPA does not specifically provide for SCCs but under Section 7 (2)(C), personal data may be collected and/or processed in furtherance of a contract to which the data subject is party and under 17 (2)(e) of the DPPA 2019, a person who processes personal data shall consider the contractual rights and obligations between the data subject and processor.

In the vehicle mobility industry, companies like Kiira Motors Corporation Uganda can harness the power of AI & data to develop automobile software such as Comma.ai that in 2017 launched an \$88 universal car interface called Panda. It plugs into a vehicle's OBD port to collect and record driving data. Panda comes equipped with USB and Wi-Fi capabilities. It was also demonstrated with two other software: Chffr and Cabana²⁵. Chffr is an app that can record driving data. Cabana is a software used to interpret that data. Today, Comma.ai boasts more than four million miles driven without driver input.

Data processed from software downloaded into these machines may be employed in improving road networks and in overall service delivery.

Uganda's E-commerce industry collectively handles large volumes of data sets on spending patterns across all sectors of society/industry and which data sets can be used by policy makers to encourage local production of popular consumables.

Big data analysis has the potential to show with certainty Uganda's policy makers the needs and preferences of her people. This in turn can improve service delivery in healthcare and other key sectors such as education, agriculture and manufacturing.

Uganda's government can leverage on collaborations with private sector organizations such as the E-trade Association of Uganda²⁶ to utilize data sets with predictive analytics that can aid in service delivery. Analysis of big data allows decision makers in Uganda to track development progress in real time, improve social protection, and

²⁵ <https://comma-ai.medium.com/a-panda-and-a-cabana-comma-ai->

²⁶ This is an association of members in the digital trade (e-commerce) industry such as Jumia, Safeboda, KTA Advocates and Glovo.

understand where existing policies and programs require adjustment taking into account the salient features of her people.

In April 2021, The Infectious Diseases Institute at Makerere University, Uganda launched a project to pilot the use of medical drone technology in the West Nile districts of Moyo and Adjumani. Data sets from the project will support surveillance mechanisms, early reporting of any health threats or outbreak indicators within the systems, including rapid response to COVID-19²⁷.

Tanzania's drone-based mapping project of Zanzibar, in collaboration with the World Bank, has enabled open sharing of collected data with local communities and this has since helped promote innovative approaches for data usage in disaster management²⁸.

Elsewhere, India has established an open government data platform to provide public data to analysts, researchers and practitioners and in Europe, several leaders have called for investments in big data analytics to modernize services and improve their economies.²⁹

CONCLUSION

Overall, the biggest hindrance to IP and 4IR growth in Uganda seems to be the limited awareness of the population about the importance and value of IP as assets. This shows that the government still has a big role to play in facilitating its citizenry to embrace IP and join the rest of the world in reaping the rewards of IP.

The pursuit of an inclusive and robust digital economy will remain a challenge for Uganda if the collaboration between intellectual property, digital trade and the 4IR to facilitate an inclusive and robust digital economy is not emphasized.

²⁷ <https://www.uncdf.org/article/7275/leveraging-drone-technology-in-the-covid-19-rapid-response-in-rural-areas-of-uganda>

²⁸ <https://www.bbc.com/news/business-46801668>

²⁹ [Forbes Insights: Analytics Paves the Way for Better Government](#)

SECTOR SPECIFIC RECOMMENDATIONS

- Uganda could train her policy makers and develop an inward facing IP policy for key ministries and government departments overseeing sectors in the 4IR. In relation to software development for example, IP policies would ensure Uganda adopts a default position of retaining copyright and other related rights in commissioned software. Uganda could choose to retain copyright in software developed for reasons of national security, if the IP included or contained her citizens personal data, if the IP applied to a critical Government ICT system or if it related to a complex system. Such ownership would make it cheaper and easier for Uganda to have more oversight and control over software as an asset deployed in sensitive areas within the service delivery ecosystem.
- In order to nurture innovation in the ICT sector Uganda may also adopt a hybrid approach by allowing developers outside the aforementioned areas to retain intellectual property ownership in exchange for a perpetual, irrevocable, world-wide, royalty free, fully paid up license to the software. This would include a right to sub-license it to other Government agencies- other than those using software to commercially compete in the free market. Such a hybrid policy would not apply to open source software or to cases where Government has developed the underlying idea and provided the developer with a system to upgrade or build on.
- As Uganda leverages the 4IR, strategic partnerships with IP experts and private sector actors will be key to realizing knowledge transfer across all key Government agencies and ministries. Partnerships that foster conversations geared at enhancing a safer and sustainable digital economy such as, KTA Advocates' Annual Symposiums on Innovation and Intellectual Property, <https://www.symposium-iptech.com> (a convergence of thought leaders from different industry spheres, public and private discussing policy and the value of IP) facilitate dialogue on how best the rights arising from intellectual property can be utilized in this 4IR.

- Partnerships with private sector organizations such as the Internet Service Providers association of Uganda, the E-trade Association of Uganda and actors such as Jumia and Safeboda in the digital trade (e-commerce) industry, will enable Government harness big data in the form of predictive analytics that will be useful in effective and meaningful service delivery. For example, Jumia Uganda had an average of 5, 000 unique sellers and an average of 2,600,000 customers in Kampala by June 2020³⁰. These customers purchase and consume a variety of goods ranging from food to other essential needs as well as making luxury purchases. Government could set up a national data bank with data sets from key private sector entities that will be useful in service delivery.
- Uganda should utilize International organizations such as the World Intellectual Property Organization and World Trade Organization for knowledge and skills transfer.
- Uganda could also leverage legal experts to operationalize laws like **Security Interest in Movable Property Act 2019 (SIMPO)**, Geographical Indications Act and Plant Varieties. The Plant Varieties Act was enacted in June, 2014 to protect plant variety rights in Uganda which in turn would incentivize technological innovation, stimulate creativity and increase income through planned export of plant genetic resources.
- Stakeholders, policy makers and government should make deliberate effort to sensitize people about the opportunities presented by Intellectual Property and the Fourth Industrial Revolution (4IR).
- Uganda could adopt a brand strategy focused on geographical indications and trademarks which offers Uganda's agriculturalists and industrialists the advantage of exploiting products unique to her geography. Geographical Indications will protect coffee and other unique products originating from Uganda ranging from the Ankole cow, bamboo shoots (Malewa) from Eastern Uganda, and

³⁰ <https://www.independent.co.ug/jumias-8-years-in-uganda/>

bark cloth (Lubugo) from Buganda to mention a few.

- Branding and packaging also increases brand loyalty and guarantees competitiveness and increased tradability. For industrialization and *Buy Uganda, Build Uganda (BUBU)* to work, Uganda must brand and package her products well. Humans are psychologically more disposed to follow a brand as opposed to an ambiguous concept; for example, the national flag of Uganda is the national brand of Uganda by which her citizens patriotically rally behind. Trademarks and industrial design have the potential to change the status quo and increase tradability in Ugandan products.
- To foster innovation and increase digital trade, Government should consider fully waiving taxes on digital platforms since they are the mediums over which e-commerce companies and other digital traders (who would resultantly contribute more to the tax base) operate. The onset of Covid saw the majority of businesses in Uganda move to advertising on social media and turning places like Facebook into market arenas where the sellers exhibited products while the buyers haggled over and bought the same. Facebook was banned in January 2021 in Uganda and this has since adversely affected business in Uganda. Facebook is a highly popular social media network with a varied audience of 2, 379,000 Facebook users as at January 2019, accounting for 4.7% of Uganda's entire population³¹. According to Oberlo, there were more than 65 million businesses using Facebook business as of 2020³². It is recommended that Government lifts the ban on Facebook to foster digital trade.
- Uganda could also intention to fully utilize aspects of the 4IR such as drones, internet of things and artificial intelligence to improve service delivery.
- Government could invest in skilling and training to traders,

³¹ <https://napoleoncat.com/stats/facebook-users-in-uganda/2019/01/>

³² <https://pctechmag.com/2021/07/effect-of-the-facebook-ban-on-business-in-uganda/>

manufacturers and agriculturalists on IP and other related rights in collaboration with the Uganda Manufacturers Association.

- Government could also set up a digital trade fund whose role is to add value to businesses by helping them to register IP and sensitize the industry on the benefits of IP.
- Uganda's Government programs such as the, National ICT Initiatives Support program (NIISP) at the Ministry of Information and Communications Technology & National Guidance may also be fully utilized to drive Uganda's 4IR journey and enhance the value chain in intellectual property.

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